

Columbus Campus

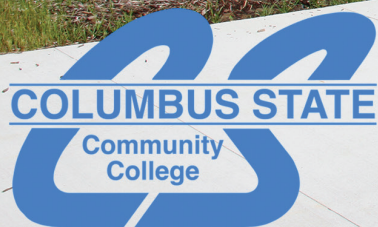
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2010-2011

# CATALOG



Delaware Campus



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**Columbus State Community College makes every effort to present accurate/current information in this catalog at the time of its publication. However, the college reserves the right to make changes to the information contained herein as deemed necessary. Such changes will be reflected in the online college catalog, which is deemed the official college catalog and is maintained at [www.csc.edu](http://www.csc.edu). For academic planning purposes, the online catalog should be consulted to verify the currency of the information presented herein.**

## Nondiscrimination Policy

It is the established policy of Columbus State Community College not to discriminate against any individual or group of individuals for reasons of race, color, sex, religion, ancestry, national origin, disability or veteran status. The college is fully committed to providing equal opportunities in all employment-related activities, educational programs, and other activities of the college. Columbus State promotes equal opportunities through a positive and continuing Affirmative Action Program. Columbus State Community College will fully comply with all federal, state, and local laws and regulations to guarantee equal opportunities.

## Reasonable Accommodations

It is the Columbus State Community College policy to provide reasonable accommodation to students with disabilities. If you would like to request such accommodation because of a physical, mental, or learning disability, please contact Disability Services, Eibling Hall, Room 101, (614) 287-2570 (VOICE/TTY).

## Accreditation

Columbus State Community College is accredited by The Higher Learning Commission of the North Central Association of Colleges and Schools, 30 N. LaSalle Street, Suite 2400, Chicago, Illinois 60602-2504, (312) 263-0456 or 1-800- 621-7440.

# Message from the President

Dear Columbus State Student:

Welcome!

Your education is a lifelong adventure, full of challenges and rewards. By enrolling at Columbus State, you've shown your commitment to the journey. Congratulations for taking your first step on the path of higher education at Columbus State Community College.

Columbus State is committed to student success as an overall goal and an individual service. To that end, we have gathered the resources you need to make your success more than just a possibility. Dedicated faculty and advisors, helpful staff, comprehensive programs and services, cutting-edge technology, and community and university connections—all are ready to facilitate your success here. I urge you to tap into these resources as often as you can and to take full advantage of them.

This catalog can help you do that. It contains information on every one of our 200-plus degree and certificate programs, as well as the many transfer options, degree completion possibilities, and continuing education opportunities available to students. Within these pages, you'll also find details on the varied services and campus activities that will enhance your time at Columbus State.

Whether you are new to the college experience or are returning to change careers, please know that at Columbus State, we will do everything in our power to provide a rich learning environment to help you succeed. We have been experiencing record enrollments because students just like you recognize the value of Columbus State. But we promise not to lose sight of the individual—you. If we can help in any way, please let us know. Your success is our success, too.



Sincerely,

David T. Harrison, Ph.D.  
President

# Columbus State Directory

Department.....	Location.....	Phone.....
Academic Enrichment/GED.....	WD 1090.....	287-5858
Academic Health Records.....	UN 134A.....	287-2450
ACT/Skills Max Center.....	WD 223.....	287-5750
Admissions.....	MA 101.....	287-2669
Advising Services.....	AQ 116.....	287-2668
Cashiers and Student Accounting.....	RH 2 <sup>nd</sup> Floor.....	287-2414
Campus Tours.....	MA 101.....	287-2669
Career Placement Center (Acloché).....	NH 119.....	287-5279
Career Services (Advising).....	AQ 116.....	287-5327
Child Development Center.....	CDC.....	287-3600
Columbus State Bookstore (DX).....	DX.....	287-2427
Community Outreach.....	FR 132.....	287-5433
Copy and Print Shop (DX).....	DX/Lower Level.....	287-5652
Counseling Services.....	AQ 116.....	287-2668
Delaware Campus..... (Moeller Hall)	MO..... (740)	203-8000
Developmental Education.....	AQ 215.....	287-5193
Disability Services.....	EB 101.....	287-2570
Distance Learning/Instr. Tech.....	CT 108.....	287-5991
Diversity/Study Abroad/TRiO Programs.....	FH 223.....	287-5648
Dublin Center.....	DB.....	287-7050
Educational Resources Center (Library).....	ERC.....	287-2465
Financial Aid.....	RH Ground Fl.....	287-2648
Food Court.....	DE.....	287-2483
Gahanna Center.....	GH.....	476-4711
Human Resources.....	RH 115.....	287-2408
IT Support Services.....	ERC.....	287-5050
Intramural Sports.....	DE 134.....	287-5348
K-12 Initiatives.....	SX.....	287-5961
Knowledge Resources and Planning.....	FR 122.....	287-3837
Language Institute.....	WD 1090.....	287-5858
Library (Educational Resource Center).....	ERC.....	287-2465
Marysville Center.....	ML..... (937)	6441616
Off-Campus Programs.....	DE 103.....	287-2696
Parking and Student IDs.....	DE 047.....	287-2525
Pickaway Center (Teays Valley H.S.).....	PC..... (740)	983-5086
Public Safety (Both Campuses).....	DE 047.....	287-2525
Records and Registration.....	MA 201.....	287-5353
Recreational Facilities.....	DE 134.....	287-2445
ROTC.....		236-6649
Southeast Center.....	SE.....	287-7200
Southwest Center (Bolton Field).....	SW.....	287-7102
South-Western Center (Grove City).....	GC.....	801-3385
Student Activities.....	NH 116.....	287-3656
Student Athletics.....	DE 134.....	287-5092
Student Life.....	EH 201.....	287-5299
TechLink Program.....	DE 259.....	287-5318
Tech Prep-Heart of Ohio Consortium.....	NH 022.....	287-2452
Telephone Information Center.....	TIC.....	287-5353
Testing Center (Columbus Campus).....	AQ 002.....	287-2478
Tolles Center.....	TC.....	287-2696
Tutoring Services.....	AQ 241.....	287-2474
Veterans Services.....	RH 138.....	287-2644
Westerville Center.....	WV.....	287-7000

## Academic Programs

Arts and Sciences Division.....	NH 425.....	287-2512
Biological Sciences.....	NH 432.....	287-2522
Communication.....	NH 420.....	287-3630
Developmental Education.....	AQ 215.....	287-5193
English.....	NH 420.....	287-2531
Humanities.....	NH 408.....	287-5043
Mathematics.....	DH 415.....	287-5313
Modern Languages.....	FR 206A.....	287-5400

Psychology.....	TL 309.....	287-2040
Physical Sciences.....	NH 432.....	287-2522
Social Sciences.....	TL 309.....	287-5005
Technical Communication.....	NH 420.....	287-3630/2531

## Career and Technical Programs

Career and Technical Division.....	EB 201.....	287-2550
Accounting.....	NH 432.....	287-5420
Architecture.....	DH 205.....	287-5030
Automotive Technology.....	DE 259.....	287-5318
Aviation Maintenance Technology.....	SW.....	287-7100
Business Management.....	DE 240.....	287-5351
Business Office Applications.....	DE 259.....	287-5009/5351
Civil Engineering Technology.....	DH 205.....	287-5030
Computer Information Technology.....	EB 312.....	287-5376/5009
Construction Management.....	DH 205.....	287-5030
Dental Hygiene.....	UN 407.....	287-3655
Dental Laboratory Technology/ Small Business Management.....	UN 407.....	287-3655
Digital Design and Graphics.....	EB 401F.....	287-3697
Digital Photography.....	EB 401E.....	287-5045
Early Childhood Development.....	UN 219.....	287-2540
Electro-Mech. Engineering Technology.....	EB 312.....	287-5350
Electronic Engineering Technology.....	EB 312.....	287-5350
Emergency Medical Serv. Technology.....	GA 001.....	287-3812
EMS/Fire Science.....	GA 001.....	287-3812
Environmental Sci., Safety & Health.....	DH 205.....	287-5030
Finance.....	NH 432.....	287-5420
Fire Science.....	GA 001.....	287-3812
Geographic Information Systems.....	DH 205.....	287-5030
Health Information Mgmt. Technology.....	UN 316.....	287-2541
Heating, Ventilating & A/C Technology.....	DE 243.....	287-2657
Hospitality Management.....	EB 136.....	287-5126
Human Resources Mgmt. Technology.....	DE 240.....	287-5351
Interactive Media.....	EB 401.....	287-5010
Interpreting/Amer. Sign Language Edu.....	UN 219.....	287-2540
Landscape Design/Build.....	DH 205.....	287-5030
Law Enforcement.....	FR 206B.....	287-2591
Marketing.....	EB 418.....	287-2559
Massage Therapy.....	UN 410.....	287-5786
Mechanical Engineering Technology.....	EB 312.....	287-5350
Medical Assisting.....	UN 318.....	287-3638
Medical Laboratory Technology.....	UN 320A.....	287-5152
Mental Health/Addiction Studies/ Developmental Disabilities.....	UN 219.....	287-2540
Multi-Competency Health.....	UN 310.....	287-2608
Nuclear Medicine Technology.....	GR 109.....	287-5215
Nursing.....	UN 507.....	287-2506
Paralegal Studies.....	FR 206B.....	287-2591
Quality Assurance Technology.....	EB 312.....	287-5350
Radiography.....	GR 109.....	287-5215
Real Estate (includes Appraisal).....	WD 1099.....	287-5397
Respiratory Care.....	UN 317.....	287-2633
Skilled Trades Technology.....	DE 259.....	287-5211
Sport and Exercise Studies.....	DE 007.....	287-2189
Sterile Processing Technology.....	UN 407.....	287-3655
Supply Chain Management.....	EB 401G.....	287-5175
Surgical Technology.....	UN 407.....	287-3655
Veterinary Technology.....	VT 104.....	287-5135

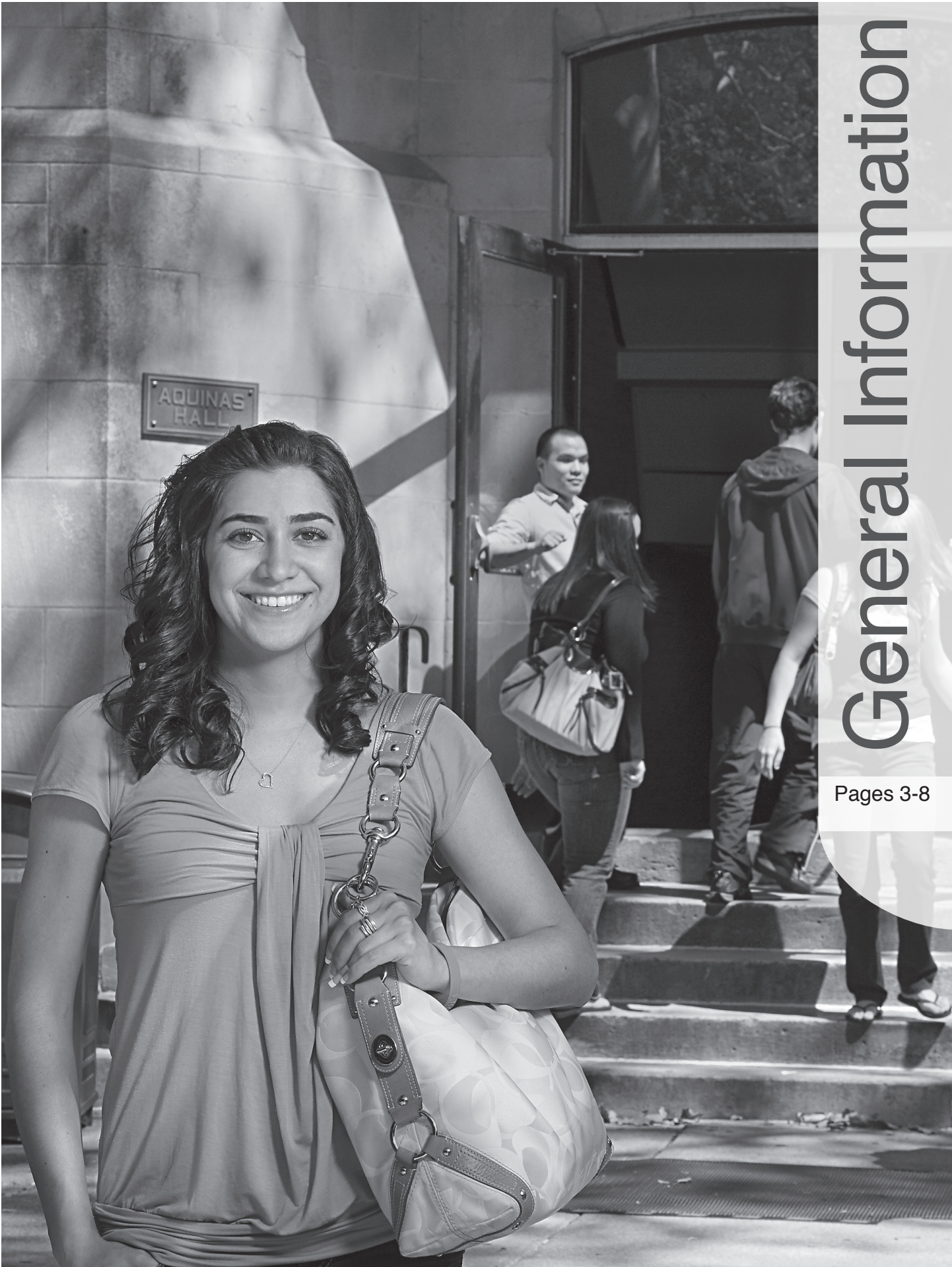
## Community Education and Workforce Development

Community Educ. and Workforce Development Division.....	WD 1090.....	287-2571
Center for Workforce Development.....	WD 317.....	287-5000
Transitional Workforce.....	WD 1099.....	287-5858
Conference Center.....	WD.....	287-5500

## Building Codes

AQ.....	Aquinas Hall
AV.....	Aviation Facility (Bolton Field)
CDC.....	Child Dev. Center
CO.....	Columbus Hall
CT.....	Center for Teaching and Learning Innovation
DA.....	Delaware Administration Bldg.
DB.....	Dublin Center
DE.....	Delaware Hall
DH.....	Davidson Hall
DX.....	Discovery Exchange Bookstore
EB.....	Eibling Hall
FR.....	Franklin Hall
GA.....	375 N. Grant Ave.
GC.....	South-Western Center
GH.....	Gahanna Center
GR.....	389 N. Grant Ave

MA.....	Madison Hall
ML.....	Marysville Center
MO.....	Moeller Hall (Delaware Academic Bldg.)
NH.....	Nestor Hall
PC.....	Pickaway Center (Teays Valley H.S.)
PG.....	Parking Garage
RH.....	Rhodes Hall
SE.....	Southeast Center
SW.....	Southwest Center (Bolton Field)
SX.....	366/370 6th St.
TC.....	Tolles Center
TL.....	Center for Technology and Learning
UN.....	Union Hall
VT.....	384 N. 6th St.
WD.....	Center for Workforce Development
WV.....	Westerville Center



# General Information

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# Academic Calendar

## Summer Quarter 2010

June 28, 2010 – September 11, 2010

April 26, 2010 (M) ..... Summer Quarter 2010 registration begins  
April 26, 2010 (M) ..... Readmission Deadline for Academic  
Dismissal and Academic Review-SU10  
June 28, 2010 (M) ..... \*Eight-week term classes begin  
June 28, 2010 (M) ..... \*First 4-week term classes begin  
June 28, 2010 (M) ..... \*First-term classes begin  
June 28, 2010 (M) ..... \*Full term classes begin  
July 5, 2010 (M) ..... Independence Day – Campus closed  
July 9, 2010 (F) ..... SU10 Petition to Graduate Deadline due in  
Records & Registration by 4:30 pm  
July 14, 2010 (W) ..... Last day to drop from first 4-week term  
classes  
July 20, 2010 (T) ..... Last day to drop from first-term classes  
July 25, 2010 (SU) ..... First 4-week term classes end  
July 26, 2010 (M) ..... \*Second 4-week term classes begin  
July 26, 2010 (M) ..... Readmission Deadline for Academic  
Dismissal and Academic Review-AU10  
July 31, 2010 (S) ..... Last day to drop from Eight-week term  
classes  
August 4, 2010 (W) ..... First-term classes end  
August 5, 2010 (TH) ..... \*Second term classes begin  
August 7, 2010 (S) ..... Last day to remove Incompletes (I)  
incurred Spring Quarter 2010  
August 11, 2010 (W) ..... Last day to drop from second 4-week term  
classes  
August 12, 2010 (TH) ..... Last day to drop from full term classes  
August 22, 2010 (SU) ..... Second 4-week term and Eight-week term  
classes end  
August 27, 2010 (F) ..... Last day to drop from second term classes  
September 6, 2010 (M) ..... Labor Day – Campus closed  
September 10, 2010 (F) .. Graduation ceremony  
September 11, 2010 (S) .. Full term classes and Second term  
classes end  
September 11, 2010 (S) .. Summer Quarter 2010 ends

## Autumn Quarter 2010

September 22, 2010 – December 11, 2010

July 26, 2010 (M) ..... Autumn Quarter 2010 registration begins  
July 26, 2010 (M) ..... Readmission Deadline for Academic  
Dismissal and Academic Review-AU10  
September 22, 2010 (W) . \*Eight-week term classes begin  
September 22, 2010 (W) . \*First 4-week term classes begin  
September 22, 2010 (W) . \*First-term classes begin  
September 22, 2010 (W) . \*Full term classes begin  
October 1, 2010 (F) ..... AU10 Petition to Graduate Deadline due in  
Records & Registration by 4:30 pm  
October 8, 2010 (F) ..... Last day to drop from first 4-week term  
classes  
October 11, 2010 (M) ..... Columbus Day – Campus closed  
October 14, 2010 (TH) ..... Last day to drop from first-term classes  
October 19, 2010 (T) ..... First 4-week term classes end  
October 20, 2010 (W) ..... \*Second 4-week term classes begin  
October 25, 2010 (M) ..... Last day to drop from Eight-week term  
classes  
October 25, 2010 (M) ..... Readmission Deadline for Academic Dis-  
missal and Academic Review-WI11  
October 27, 2010 (W) ..... In-Service Day – Offices closed,  
no day classes  
October 30, 2010 (S) ..... First-term classes end  
October 30, 2010 (S) ..... Last day to remove Incompletes (I)  
incurred Summer Quarter 2010  
November 1, 2010 (M) ..... \*Second term classes begin  
November 5, 2010 (F) ..... Last day to drop from second 4-week term  
classes  
November 9, 2010 (T) ..... Last day to drop from full term classes  
November 11, 2010 (TH) . Veterans Day – Campus closed  
November 16, 2010 (T) ... Second 4-week term and Eight-week term  
classes end  
November 25, 2010 (TH) . Last day to drop from second term classes  
November 25-28, 2010 ... Thanksgiving Holiday – Campus closed  
(TH, F, S, SU)  
December 10, 2010 (F) ... Graduation ceremony  
December 11, 2010 (S) ... Full term classes and Second term  
classes end  
December 11, 2010 (S) ... Autumn Quarter 2010 end

Please refer to the college website [www.csc.c.edu](http://www.csc.c.edu) for additional detailed information. Note the Financial Aid deadline dates.

\*Instructor signature required to add a course after the term begins.

**Note:** Tuition refunds are based upon the percentage of time elapsed in each course. If the course is dropped within 10% of the time elapsed in the course, a 100% tuition refund will be issued. If the course is dropped within 20% of the time elapsed in the course, a 50% tuition refund will be issued. If the course is dropped within 30% of the time elapsed in the course, a 25% tuition refund will be issued.

**Note:** A course must be dropped before 20% of the course has elapsed in order to avoid a “W” appearing on the academic transcript.

Columbus State Community College reserves the right to change this calendar if appropriate.

# Academic Calendar

## Winter Quarter 2011

January 3, 2011 – March 19, 2011

October 25, 2010 (M) ..... Winter Quarter 2011 registration begins  
October 25, 2010 (M) ..... Readmission Deadline for Academic  
Dismissal and Academic Review-WI11  
December 24-25, 2010.... Christmas Eve/Day – Campus closed (F, S)  
December 31, 2010 (F) ... New Year's Eve – Campus closed  
January 1, 2011 (S) ..... New Year's Day – Campus closed  
January 3, 2011 (M)..... \*Eight-week term classes begin  
January 3, 2011 (M)..... \*First 4-week term classes begin  
January 3, 2011 (M)..... \*First-term classes begin  
January 3, 2011 (M)..... \*Full term classes begin  
January 14, 2011 (F) ..... WI11 Petition to Graduate Deadline due in  
Records & Registration by 4:30 pm  
January 17, 2011 (M)..... Dr. Martin Luther King, Jr. Day –  
Campus closed  
January 19, 2011 (W) ..... Last day to drop from first 4-week term  
classes  
January 25, 2011 (T) ..... Last day to drop from first-term classes  
January 30, 2011 (SU)..... First 4-week term classes end  
January 31, 2011 (M)..... \*Second 4-week term classes begin  
January 31, 2011 (M)..... Readmission Deadline for Academic  
Dismissal and Academic Review-SP11  
February 5, 2011 (S)..... Last day to drop from Eight-week term  
classes  
February 9, 2011 (W)..... First-term classes end  
February 10, 2011 (TH) ... \*Second term classes begin  
February 12, 2011 (S)..... Last day to remove Incompletes (I)  
incurred Autumn Quarter 2010  
February 16, 2011 (W)..... Last day to drop from second 4-week term  
classes  
February 17, 2011 (TH) ... Last day to drop from full term classes  
February 25, 2011 (F)..... Presidents' Day – Campus closed  
February 27, 2011 (SU) ... Second 4-week term and Eight-week term  
classes end  
March 4, 2011 (F) ..... Last day to drop from second term classes  
March 18, 2011 (F) ..... Graduation ceremony  
March 19, 2011 (S) ..... Full term classes and Second term  
classes end  
March 19, 2011 (S) ..... Winter Quarter 2011 ends

## Spring Quarter 2011

March 28, 2011 – June 11, 2011

January 31, 2011 (M)..... Spring Quarter 2011 registration begins  
January 31, 2011 (M)..... Readmission Deadline for Academic  
Dismissal and Academic Review-SP11  
March 28, 2011 (M) ..... \*Eight-week term classes begin  
March 28, 2011 (M) ..... \*First 4-week term classes begin  
March 28, 2011 (M) ..... \*First-term classes begin  
March 28, 2011 (M) ..... \*Full term classes begin  
April 8, 2011 (F) ..... SP11 Petition to Graduate Deadline due in  
Records & Registration by 4:30 pm  
April 13, 2011 (W) ..... Last day to drop from first 4-week term  
classes  
April 19, 2011 (T) ..... Last day to drop from first-term classes  
April 22, 2011 (F) ..... In-Service Day – Offices closed, no day  
classes  
April 24, 2011 (SU) ..... Easter Sunday – Campus closed  
April 24, 2011 (SU) ..... First 4-week term classes end  
April 25, 2011 (M) ..... \*Second 4-week term classes begin  
April 25, 2011 (M) ..... Readmission Deadline for Academic  
Dismissal and Academic Review-SU11  
April 30, 2011 (S) ..... Last day to drop from Eight-week term  
classes  
May 4, 2011 (W) ..... First-term classes end  
May 5, 2011 (TH) ..... \*Second term classes begin  
May 7, 2011 (S) ..... Last day to remove Incompletes (I)  
incurred Winter Quarter 2011  
May 11, 2011 (W) ..... Last day to drop from second 4-week term  
classes  
May 12, 2011 (TH) ..... Last day to drop from full term classes  
May 22, 2011 (SU) ..... Second 4-week term and Eight-week term  
classes end  
May 27, 2011 (F) ..... Last day to drop from second term classes  
May 30, 2011 (M) ..... Memorial Day – Campus closed  
June 10, 2011 (F) ..... Graduation ceremony  
June 11, 2011 (S) ..... Full term classes and Second term  
classes end  
June 11, 2011 (S) ..... Spring Quarter 2011 ends

Please refer to the college website [www.csc.edu](http://www.csc.edu) for additional detailed information. Note the Financial Aid deadline dates.

\*Instructor signature required to add a course after the term begins.

**Note:** Tuition refunds are based upon the percentage of time elapsed in each course. If the course is dropped within 10% of the time elapsed in the course, a 100% tuition refund will be issued. If the course is dropped within 20% of the time elapsed in the course, a 50% tuition refund will be issued. If the course is dropped within 30% of the time elapsed in the course, a 25% tuition refund will be issued.

**Note:** A course must be dropped before 20% of the course has elapsed in order to avoid a "W" appearing on the academic transcript.

Columbus State Community College reserves the right to change this calendar if appropriate.





# Columbus State In Brief

For more than 40 years, Columbus State Community College has been meeting the diverse educational needs of the community. The college is proud to be an important contributor to the growth and progress of central Ohio.

In 1963, the Columbus Board of Education created the Columbus Area Technician School, and the board designated an area of Central High School to house this new school for two-year, post-secondary technical programs.

Rapid growth in enrollment during the initial two years caused the Board of Education to purchase the Columbus Aquinas Parochial High School property and move the Technician School to a permanent campus. May 25, 1965, the Ohio Board of Regents gave approval to a proposal from the Columbus Board of Education to create the Columbus Technical Institute District, and the Columbus Technical Institute was granted a charter effective July 1, 1967.

As a state-assisted college, Columbus Technical Institute provided technical programs that prepared students for immediate employment. From the first graduating class in 1965 through today, more than 30,000 students have earned associate degrees in 50+ technical fields and transfer programs. The success of the college is reflected in the many accomplishments of these graduates and the many other students who have completed courses to improve and enhance their skills.

On July 1, 1987, Columbus Technical Institute was rechartered as Columbus State Community College by action of the Ohio Board of Regents. This significant change was a result of careful study of the educational needs of Columbus and central Ohio. The resulting findings supported the establishment of a comprehensive community college to provide additional educational opportunities to area residents.

As a comprehensive community college, Columbus State has a strong commitment to students seeking career and technical education leading to employment and to those students who want to pursue an Arts and Sciences curriculum leading to an associate degree and undergraduate degree. Our Career and Technical Division offers certificates and associate degree programs in five major areas: business, information technology, health, human and public services, and engineering, construction and mechanical technologies. Columbus State also offers Associate of Arts and Associate of Science degree programs whose coursework fulfills the freshman and sophomore year requirements for bachelor's degree programs offered by four-year colleges and universities throughout the state. Specific transfer agreements with 40+ colleges and universities are in place at Columbus State, and new partnership degree programs are being developed all the time. The Community Education and Workforce Development Division offers skills' enhancement, customized training, and business consulting for area industries and employers.

Columbus State now has two campuses to serve central Ohio educational needs. The Columbus Campus is centrally located on approximately 85 acres near downtown Columbus. This campus

consists of 23 buildings housing classrooms, laboratories, student services and college offices. Also part of the Columbus Campus is the Educational Resources Center, which provides materials and resources for students.

In July 2008, the college broke ground on a second campus to be located in Delaware, Ohio. The 108-acre, full-service Delaware Campus welcomes its first students for Autumn Quarter 2010 classes. The campus has an administration building and an 80,000 sq. ft., green-built academic building, named after recently retired Columbus State President Dr. Val Moeller. Initially, students will be able to schedule classes in 30 subjects and can pursue four degrees and a certificate entirely through the Delaware Campus.

Additionally, Columbus State offers classes at nine convenient off-campus locations throughout central Ohio. At several of these, a wide range of student services are available and students can even complete an associate degree. Columbus State also operates a facility for Aviation Maintenance Technology at Bolton Field Airport and a nine-hole golf course and driving range on Agler Road.

Columbus State Community College serves Franklin, Delaware, Madison, and Union counties. A nine-member board of trustees is appointed by the governor. Columbus State is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools, and many of the college's degree programs are accredited by professional associations and agencies.

## Columbus Campus

Columbus State Community College  
550 E. Spring Street  
Columbus, OH 43215  
(614) 287-5353  
[www.csc.edu](http://www.csc.edu)

## Delaware Campus

Columbus State Community College  
5100 Cornerstone Drive  
Delaware, OH 43015  
(740) 203-8000  
[www.csc.edu](http://www.csc.edu)

## Campus Tours

Campus tours, which are led by Columbus State students, give prospective/future students, their families, and new applicants an opportunity to explore and learn more about the campus. To make a reservation, click "Admissions" and then "Tours" at [www.csc.edu](http://www.csc.edu). To arrange a campus visit and/or tour for a group of five or more, please contact the Campus Visitation Coordinator, (614) 287-5689, in the Admissions Office, Madison Hall (lower level).

Students interested in touring the new Delaware Campus facilities should inquire at the Student Assistance Center in Moeller Hall, (740) 203-8000.

# Admissions

New students are invited to begin the enrollment process in the Admissions Office, located on the lower level of Madison Hall. International Admissions/Enrollment Services is also located in this area. Admissions advisors assist new students with the application and admission process and provide information on programs of study and next steps for enrollment, including new student orientation, placement testing, and applying for financial aid. Admissions advisors also provide information about the many services and resources available to help students succeed at Columbus State

and the wide variety of opportunities to get involved in campus activities and organizations. For more information, contact the Admissions Office at (614) 287-2669 or view our online resources at [www.csc.edu](http://www.csc.edu) (click on “Admissions”).

Enrollment advisors are available in Moeller Hall on the Delaware Campus to help students there with admissions and other enrollment related services. Prospective/Future students can stop by the Student Assistance Center or call (740) 203-8000.

## switch<sup>2</sup> semesters autumn 2012

Columbus State, along with other Ohio community colleges and state universities, will change its academic calendar from the quarter system to the semester system, effective Autumn 2012. This move will align Columbus State’s calendar with all members of the University System of Ohio and with more than 90 percent of higher education institutions across the country. It also will facilitate student transfer, collaborative academic programs and articulation. Like the other colleges and universities transitioning to semesters, Columbus State is currently making the preparations necessary to facilitate a smooth “Switch2Semesters” for everyone.

### Students, here’s what you need to know:

- 1) If you graduate before Autumn 2012, you will not be affected by the switch.
- 2) If you can’t finish prior to Autumn 2012, you will be affected and considered a “transition” student.
- 3) Columbus State will keep you fully informed about the simple, but important, steps to take for a smooth transition.
- 4) The faculty, staff, and administration of Columbus State are committed to working with you to maintain academic progress during the Switch2Semesters. See our pledge to you at [www.csc.edu/semesters](http://www.csc.edu/semesters).

### And here’s what you need to do:

- 1) If you are on track to graduate before Autumn 2012, maintain your progress and finish on schedule.
- 2) If you are close to completing your degree, determine if it is possible to finish your requirements before Autumn 2012. Run a Degree Audit Report (DARS) online and/or meet with an advisor to track your progress.
- 3) If possible, take any multiple-course sequence, like math or science, prior to the conversion to semesters.
- 4) Check the Switch2Semesters website, [www.csc.edu/semesters](http://www.csc.edu/semesters), regularly for news, tips, resources and important dates/deadlines.

Questions? E-mail [semesters@csc.edu](mailto:semesters@csc.edu)

# Columbus State's Delaware Campus

Columbus State's new Delaware Campus is now ready for students! The conveniently located campus is offering classes starting Autumn Quarter 2010. Doors open to the public July 7, and the campus will operate under special summer hours to facilitate enrollment services for the more than 2,000 students expected to take classes the first year.



The Delaware Campus stretches between Greif Parkway and Winter Road, along U.S. 23 in southern Delaware County. The entrance is through Greif Parkway onto Cornerstone Dr. (See map.) Parking abounds, but a permit is required as it is on Columbus State's Columbus Campus.

The full-time faculty at the Delaware Campus are experts in their fields and dedicated to teaching. They, along with selected adjunct instructors, will lead classes in more than 30 subjects, from accounting to spanish. Multiple sections of courses that meet degree or certificate requirements—such as math, English, humanities, and science—have been built into the campus' master schedule. Credits from these required classes transfer easily.

Four degrees and one certificate are available entirely through the Delaware Campus: Associate of Arts, Associate of Science, Associate of Applied Science in Business Management, Associate of Applied Science in Computer Information Technology, and Database Specialist Certificate. The Delaware Campus is also the gateway to more than 200 degrees and certificates available at Columbus State, including several online degrees. Delaware Campus students also can take the basic courses that will get them

started on most four-year degrees and then they can transfer earned credits to institutions offering baccalaureate degrees—in Ohio and across the country.

Most academic activities and student services take place in the 80,000 sq. ft. Moeller Hall. The structure was designed with student comfort and convenience in mind, with "smart classrooms," state-of-the art labs, abundant technology, and multiple gathering and lounging areas. Students will find Moeller Hall and the Delaware Campus as a whole, to be a one-stop service center offering assistance with:

- Admissions
- Advising
- Financial Aid
- Orientation
- Registration
- Testing
- Disability Services
- Tutoring
- Diversity/Study Abroad
- Student Activities

Beginning September 22, the hours of operation are:  
**Enrollment Services/Student Assistance Center**  
8 a.m. – 7 p.m. M-Th; 9 a.m. – 4 p.m. on Fri

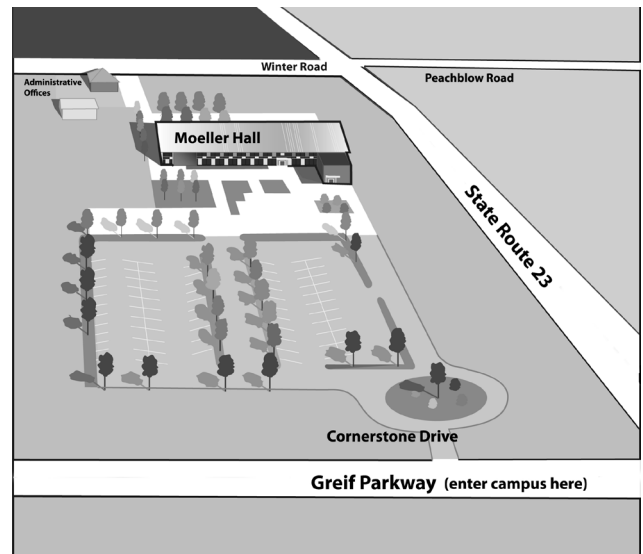
## Learning Commons

8 a.m. – 11 p.m. M-Fri; 8 a.m. – 6 p.m. Sat; 10 a.m. – 4 p.m. Sun

## Testing Center

Call (740) 203-8000 for information.

Columbus State Delaware Campus  
5100 Cornerstone Dr.  
Delaware, OH 43015  
**(740) 203-8000 or (614) 287-5353**  
[www.csc.edu/delaware](http://www.csc.edu/delaware)



# Off-Campus Programs

Susan Norris-Berry, Administrator  
(614) 287-2696

Columbus State's off-campus centers, located throughout the college's four-county service district and in Pickaway County, provide educational opportunities for more than 15,000 students each year with day, evening and weekend classes. Suburban centers offer courses in general education, computer skills and technical areas, and most are equipped for telecourse and distance learning delivery. In addition, the Associate of Arts and the Associate of Applied Science degree in Business Management are available at the Dublin and Westerville centers. Academic Advising, COMPASS™ placement testing, Distance Learning testing, and other academic support services are provided at some off-campus centers. Students may also pay fees (credit card payments only) at the Dublin, Southeast and Westerville centers during designated hours; please contact these centers for current hours.

## 1 Delaware Center (Summer 2010 only)

Delaware Area Career Center  
North Campus  
State Route 521  
Delaware, Ohio 43015  
Phone: (740) 369-3890  
Hours: M-R 5 – 10:30 p.m.

## 2 Dublin Center

6190 Shamrock Court  
Dublin, Ohio 43016  
Hours: M – F, 8 a.m. – 10:30 p.m.  
Sat: 8 a.m. – 4 p.m., Sun: 1 – 5 p.m.  
Phone: (614) 287-7050 Fax: (614) 761-1531

## 3 Gahanna Center

445 Havens Corner Road  
Gahanna, Ohio 43230  
Hours: M – R, 5:00 p.m. – 10:30 p.m.  
Sat: 8 a.m. – 1 p.m.  
Phone: (614) 476-4711 Fax: (614) 476-4764

## 4 Marysville Center

800 Amrine Mill Road  
Marysville, Ohio 43040  
Hours: M – R, 5 p.m. – 8 p.m.  
Phone: (937) 644-1616  
Fax: (937) 644-1663

## 5 Pickaway Center

Teays Valley High School  
3887 State Route 752  
Ashville, Ohio 43103  
Phone: (740) 983-5086  
Fax: (740) 983-5089  
Hours: M-R, 5 p.m. – 8 pm

## 6 Southeast Center

4449 Professional Parkway  
Groveport, Ohio 43125  
Hours: M – F, 8 a.m. – 10:30 p.m.  
Sat: 8 a.m. – 4 p.m., Sun: 1 – 5 p.m.  
Phone: (614) 287-7200  
Fax: (614) 287-7201

## 7 Southwest Center at Bolton Field

5355 Alkire Road  
Columbus, Ohio 43228  
Hours: M – F, 4 p.m. – 10:30 p.m.  
Sat: 8 a.m. – 1 p.m.  
Phone: (614) 287-7102  
Fax: (614) 287-7103

## 8 South-Western Center at Grove City

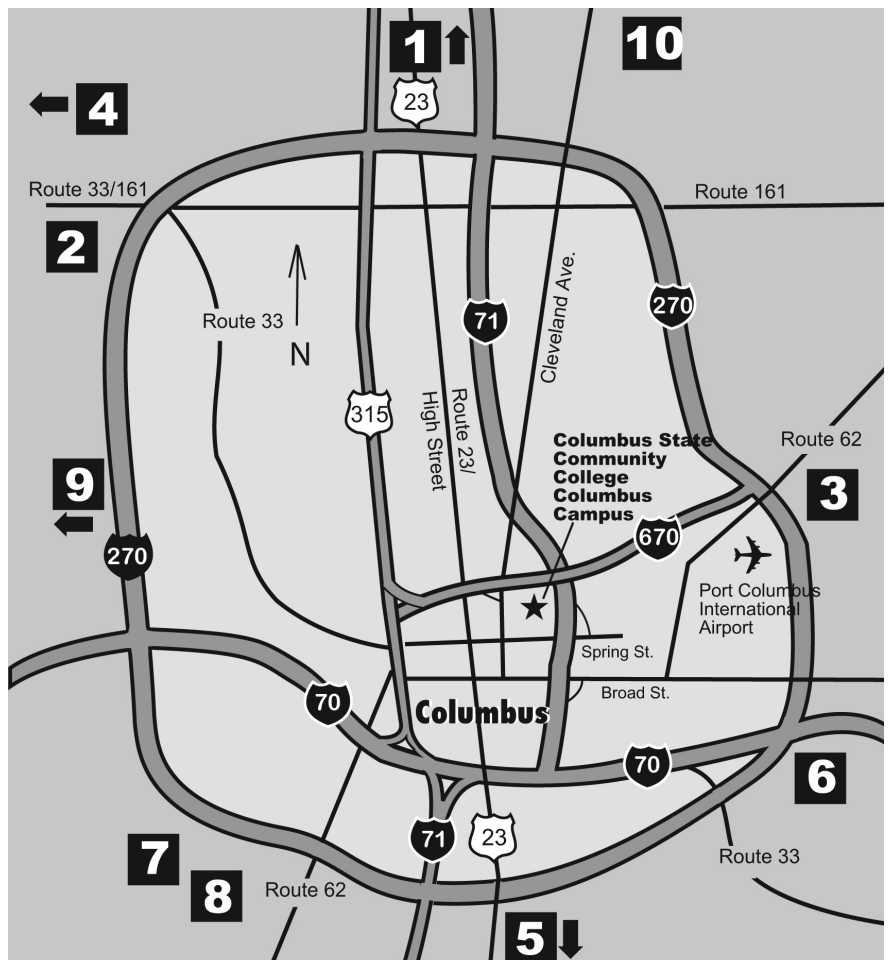
4750 Big Run South Road  
Grove City, Ohio 43123  
Hours: M – R, 5:00 p.m. – 10:30 p.m.  
Phone: (614) 801-3485  
Fax: (614) 801-3486

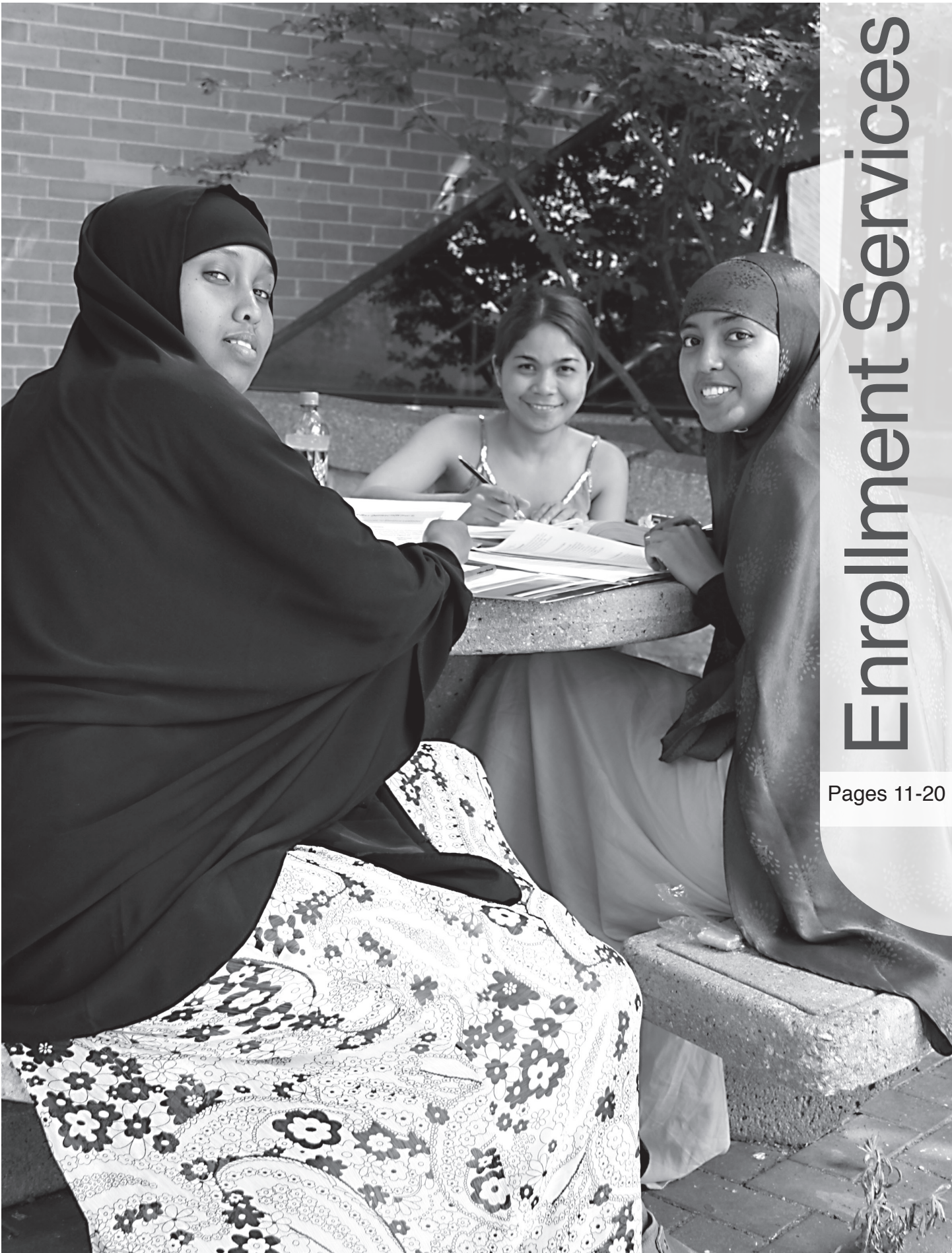
## 9 Tolles Center

7877 US Highway 42 South  
Plain City, Ohio 43064  
Hours: M – R, 5 – 10 p.m.  
(614) 873-4666 ext. 298

## 10 Westerville Center

7233 Northgate Way and  
7207 Northgate Way  
Westerville, Ohio 43082  
Hours: M – F, 8 a.m. – 10:30 p.m.  
Sat: 8 a.m. – 4 p.m., Sun: 1 – 5 p.m.  
Phone: (614) 287-7000 or 287-7020  
Fax: (614) 287-7002





# Enrollment Services

Pages 11-20

# Enrollment Services

## Admission Policy

Columbus State Community College is committed to the principle of providing each student access to quality educational programs and lifelong learning. An application for admission is required for all applicants pursuing enrollment in academic credit courses. This application is not required for students enrolled exclusively in noncredit courses. Information provided on the Columbus State Community College admissions application is used to determine initial admission status. Additional documentation is required for certain applicant categories, such as international, felony, underage, and transfer students. Specific information about each category is maintained in the Admissions Office. Applicants not meeting established procedures may be denied admission or may have admission deferred to a future term. Admission procedures, including changes in conditions of admission status, will be adopted and implemented by the college.

Admission to a specific program of study for the purpose of earning a degree or certificate shall be according to requirements and procedures established for the specific program of study and adopted by the college. Admission to the college does not ensure admission to a particular program of study. Many technologies, including Nursing, have established additional requirements that must be fulfilled prior to acceptance. For specific information, prospective applicants are encouraged to contact the Admissions Office or refer to academic department online resources. For some students, prerequisite coursework in science, reading, mathematics and English may be needed prior to enrolling in certain courses and programs. While most degree programs can be completed in two years of full-time study, it may take longer for some students, including those who need developmental courses and those attending on a part-time basis.

To be eligible for financial assistance, applicants who are not high school/home school graduates and who do not have their GED (General Education Diploma), must demonstrate the ability to benefit from college programs by achieving the required scores on the college's placement test.

For more information, contact the Admissions Office in the lower level of Madison Hall, (614) 287-2669. See below for additional application and enrollment procedures.

## Application/Enrollment Procedures

Prospective/Future students can learn more about the application and enrollment process at Columbus State by visiting the college website at [www.csc.edu](http://www.csc.edu) and clicking on "Admissions." This webpage links you to a complete step-by-step guide to enrollment with links to additional information and resources for each step of the process.

## Identification Number

An identification number is assigned to each student upon admission to the college. Social Security Numbers are not used as identifiers for student records. Students have access to schedules, grades, and other information related to their enrollment through the CougarWeb system. Columbus State-assigned user names and student-determined passwords allow access to CougarWeb functions.

(Please refer to the statement on Family Educational Rights and Privacy Act found on pages 30-32 for information on the release of student records.)

## High School Transcript /GED scores

If required for admission to their chosen program of study, or if needed to verify a science course prerequisite has been met, or as a requirement for some forms of financial aid or scholarships, students should submit a **final** official copy of their high school transcript and/or an official copy of their GED scores. Please check the Specific Program Admissions Information online or in the Programs of Study section of this catalog to determine if your high school transcript/GED scores are required for admission to a particular program of study.

The official high school transcript and/or copy of official GED scores should be mailed to Columbus State Community College, Records and Registration Dept. - MA 201, 550 East Spring St., P.O. Box 1609 Columbus, Ohio 43216-1609. All information submitted to the college relative to admission and academic status becomes and remains the property of the College.

## Previous College Transcript

An official college transcript is requested of applicants who have attended other colleges or universities. An official transcript from each college attended is required of all who are seeking transfer credit or who have completed prerequisite coursework at another institution. An official transcript is one that is in a sealed envelope bearing the other institution's official letterhead and/or logo; is printed on official, secure paper that has been signed and sealed by the other college or university; and has not been opened prior to being submitted to Columbus State Community College. The transcript should be mailed from the other college(s) to Columbus State Community College, Records and Registration Department, Madison Hall 201, 550 East Spring Street, P.O. Box 1609 Columbus, Ohio 43216-1609, before the student's second quarter of attendance has elapsed. All student education record information, documentation and material submitted to Columbus State Community College, including official transcripts from other colleges and universities, becomes and remains the property of the college.

## Health Record

If you are accepted to, or take courses in, the following technologies or programs, you must submit a health record prior to regis-

tering for or attending technical classes: Dental Hygiene, Dietetic Technician, Early Childhood Development, Emergency Medical Services Technology, Health Information Management Technology, Histology, Medical Assisting Technology, Medical Laboratory Technology, Multi-Competency Health, Nuclear Medicine, Nursing, Phlebotomy, Radiography, Respiratory Care, Sport and Exercise Studies, Surgical Technology, and Veterinary Technology. A health record form will be provided by your department. Specific requirements vary by technology but could include a physician's examination, immunizations, and screenings.

### **Applicant Information**

Applicants who are transferring to Columbus State from another college and applicants who are transient students (students attending another college who plan to enroll at Columbus State for one or two quarters and transfer the credits back to the other college) should obtain a copy of their transcript or other documentation of completed courses to use when working with an academic advisor. This documentation assists advisors in recommending appropriate courses and next steps in the enrollment process. Students with transfer credit in college-level composition and algebra may not need to complete the entire placement test. Students dismissed from another institution may be required to submit additional documentation to determine their admission status and conditions of enrollment at Columbus State Community College.

**Applicants who are Immigrants (Permanent Residents, Refugees, Asylees)** must submit a photocopy of their immigration documents verifying their status. Additional documents may be requested by Columbus State before final admission is granted.

**Applicants who are Non-Immigrants (Visa holders other than F-1 status)** must submit a photocopy of their passport visa stamp and both sides of their I-94 card. They must also submit original or certified photocopies of secondary school records showing graduation. Applicants must provide documents in the original language and translated into English, if required for admission to their chosen program of study. Additional documents may be requested by Columbus State before final admission is granted. For complete application procedures and deadline dates, please view the Columbus State International Student webpage, [www.csc.edu/Students/International/index.htm](http://www.csc.edu/Students/International/index.htm), or contact International Enrollment Services in the Admissions Office in the lower level of Madison Hall, [istudent@csc.edu](mailto:istudent@csc.edu), 614-287-2074.

**Applicants who are F-1 Status Visa Holders (International Applicants)** must submit official secondary school records verifying graduation, college records if applicable, proof of English proficiency, a financial bank statement and affidavit of support. Additional documents may be requested by Columbus State before final admission is granted. For complete application procedures and deadline dates, English proficiency requirements, and financial documentation, please view the Columbus State International Student webpage, [www.csc.edu/Students/International/index.htm](http://www.csc.edu/Students/International/index.htm), or contact International Enrollment Services in the Admissions Office in the lower level of Madison Hall, [istudent@csc.edu](mailto:istudent@csc.edu), 614-287-2074.

**F-1 Transient Student Applicants** must submit a photocopy of the front and back of their current I-20. They must also submit an International Student Advisor Report Form and their college transcript(s) showing successful completion of college-level English or English proficiency. Additional documents may be requested by Columbus State before final admission is granted. For complete application procedures, deadline dates, and English proficiency requirements, please view the Columbus State International Student Web page at: [www.csc.edu/Students/International/index.htm](http://www.csc.edu/Students/International/index.htm) or contact International Enrollment Services in the Admissions Office in the lower level of Madison Hall, [istudent@csc.edu](mailto:istudent@csc.edu), 614-287-2074.

**Applicants who are high school students interested in the Post Secondary Enrollment Options (PSEO) program (concurrent enrollment in college classes while still in high school)** must complete the application for admission to Columbus State. A supplemental Post Secondary Enrollment Options program (PSEO) packet is available online at [www.csc.edu/USE/PSEO1.htm](http://www.csc.edu/USE/PSEO1.htm). Applicants must complete the student section. The high school counselor will complete the rest of the PSEO application and will send it to Columbus State Community College, K-12 Initiatives Office, Attn: PSEO, with the high school transcript. Students meeting preliminary criteria must complete placement testing; students meeting the placement test score requirements and additional entrance requirements will be offered admission into the PSEO program, and must attend a PSEO orientation session. Students will talk with an academic advisor in Advising Services to review test results, explore programs, and select appropriate courses to schedule. Contact the K-12 Initiatives Office at 614-287-5961 to speak with an Underage Enrollment Advisor about the PSEO program or self-pay options for underage students at Columbus State.

### **Senior Citizens “Good as Gold” Educational Program**

As a community service, Columbus State Community College offers senior citizens, who are 60 years old or older, the opportunity to enroll in credit courses for self-enrichment tuition free, on a space-available basis for **audit “R” only**.

Senior citizens who are 60 years old or older and who have been certified as eligible for the “Good as Gold” Educational Program can register for credit courses. “Good as Gold” participants are responsible for payment of lab fees, books, instructional supplies, parking permits and any additional educational expenses required of other students.

Student rates to concerts and activities are available to “Good as Gold” students. Financial aid is not available for “Good as Gold” registration as courses are taken for audit “R” only, and students cannot enroll for courses granting academic credit and audited “Good as Gold” courses during the same term.

All refund dates and course drop deadlines apply. If the “Good as Gold” student has a balance that is not paid by the fee payment deadline and the course(s) the student registered for are dropped for non-payment of fees, a \$75 re-registration fee will be applied if the student re-registers for classes. Please refer to

the current Quarterly Academic Calendar for correct dates.

The course(s) the “Good as Gold” student selects will be added to the schedule for audit purposes only. Due to the audit status of the course(s), registration must be completed **before the 15<sup>th</sup> day of the quarter**.

To register for the “Good as Gold” Program call the Telephone Information Center at 614-287-5353 or visit the Student Assistance Center located in Madison Hall, Room 225.

## Felony Reporting

All applicants to the college and all current and returning students must report any un-expunged felony convictions to the Admissions Office in the lower level of Madison Hall. Documentation, including all official arrest records, a personal statement, and letter of reference, will be required to determine admission, enrollment status, and conditions of enrollment. An Enrollment Review Committee will review the information submitted and notify students in writing of their next steps. Depending on documentation provided by the applicant, they may be granted regular admission and enrollment status, or may be required to appear before the Committee for a personal interview to determine their status and conditions of enrollment. Applicants with an un-expunged felony conviction remain in a pending admission and enrollment status until the review process is complete. Contact the Admissions Office for more information.

## Disclosure for Students Pursuing Health, Human Services, and Related Programs

Students who are pursuing degrees or certificates leading to application for professional licensure or certification, and/or who will be participating in clinical placements, internships or practicums through their program, should be aware that Columbus State Community College may require a criminal background check, finger-printing, or drug screening prior to placement. Each student is responsible for paying for the background check or other screening process. In the event that the college’s background check indicates a conviction, the departmental chairperson shall contact the facility with that information, with due regard to confidentiality. Although the college will make reasonable efforts to place students in field experiences and internships, it will be up to the host facility to determine whether a student will be allowed to work at that facility. Students shall further be aware that a criminal record may jeopardize licensure by the State certification body. Students should consult the licensing certification body corresponding with their intended occupation for more details. Successful completion of a program of study at the college does not guarantee licensure, certification, or employment in the relevant occupation. Standards may change during a student’s program of study.

## New Student Orientation

Columbus State’s Admissions Office offers a **Getting Started Orientation (GSO)** to help new students get oriented to the college and get off to a good start. All new students, including those transferring from another institution, must complete this orientation prior

to placement testing, academic advising, and course registration. Topics include:

- Key steps in the enrollment process
- What documents are needed
- How and when to apply for financial aid
- How to prepare for placement testing
- When to meet with an academic advisor
- What services and resources are available to help them be successful
- What opportunities CSCC offers to get involved in activities and organizations

The **Getting Started Orientation** is offered online in a self-paced format or in person at a one-hour session offered several times per week. For more information and to make a reservation for an in-person session, click on the “Admissions” link at [www.csc.edu](http://www.csc.edu) then select “Getting Started Orientation” or contact the Admissions Office in the lower level of Madison Hall, (614) 287-2669. Delaware Campus students can inquire at the Moeller Hall Student Assistance Center about participating in an in person GSO via high-tech connection between the campuses.

## Placement Testing

The Testing Center offers the COMPASS/ESL placement test, a computerized assessment for new students, used to identify the appropriate starting level for reading, writing, math, and English as a Second Language (ESL) courses. Developmental education, English as a second language, and/or noncredit Basic English courses may be required to maximize the student’s opportunity for academic and personal success. After completing the COMPASS/ESL test, students attend a group advising session for an interpretation of their test results and assistance selecting appropriate courses for their first quarter. They also attend a CougarWeb Orientation session to learn how to register for courses and complete the additional steps in the enrollment process.

Placement testing is required for the following students:

- All students without transfer credit for college-level composition and algebra who plan to register for a course with established reading, writing, or math prerequisites.
- All students who register for 12 or more credit hours during their initial quarter at the college.
- All part-time students who will register for their 12th accumulative credit hour.
- All high school students intending to take classes.

Students with transfer credit in college-level composition and algebra from an accredited institution may not need to complete the entire placement test. These students should have official transcripts submitted to the Records and Registration Department. They should obtain a copy of their transcripts or other documentation verifying completed courses and should contact an academic advisor in Advising Services, Aquinas Hall, Room 116, (614) 287-2668, for course selection and registration information.

COMPASS/ESL testing is done on a walk-in basis; appointments are not needed. Please note that students must report for testing no later than two hours prior to the Testing Center closing time; placement tests are not administered after this time. Testing must



also be completed by closing time and no extension will be given, so please plan sufficient time for testing. A photo ID is required. In an effort to provide a distraction-free testing environment, children, food, beverages, and cell phones are not permitted in the Testing Center. Testing is offered on the Columbus Campus, the Delaware Campus (Moeller Hall), and at some off-campus centers on particular days/times. For more information, contact the Columbus Campus Testing Center in Aquinas Hall, Room 002, (614) 287-2478; Delaware Campus Testing Center in Moeller Hall, (740) 203-8000 or visit our website at [www.csc.edu](http://www.csc.edu). Sample test items and resources for review are available on this website.

For information about placement testing for noncredit Basic English courses, contact the Language Institute in Room 1090 of the Center for Workforce Development, 315 Cleveland Avenue, (614) 287-5858.

### **Returning Students**

Students who have not taken classes at Columbus State for more than two years, and would like to return to the college, should contact the Records and Registration Department at least one week before the quarter begins to update their academic records. The student should also request that official transcripts from any other college they attended during their absence from Columbus State be forwarded to the Records and Registration Department. An official transcript is one that is in a sealed envelope bearing the other institution's official letterhead and/or logo; is printed on official, secure paper which has been signed and sealed by the other college or university; and has not been opened prior to being submitted to Columbus State Community College.

## **Registering For Classes**

Students can register for classes online at [www.csc.edu](http://www.csc.edu), via CATS (Computer Automated Touchtone System) at (614) 287-2287, with a Telephone Information Center representative at (614) 287-5353, in person with the Records and Registration Department, in Moeller Hall on the Delaware Campus, or at one of the off-campus centers. Course additions or section changes after the start of the quarter will be permitted only with the instructor's approval. Please check the Online Schedule for pertinent deadlines.

Students who wish to register for 22 or more credit hours in a quarter must have the permission of their academic advisor.

## **Cross-Registration at Other Institutions**

The Higher Education Council of Columbus (HECC) is an association of colleges and universities in central Ohio established to develop programs that benefit its member institutions and the community at large.

As a service to students, HECC member institutions have approved a system of cross-registration for regularly enrolled, full-time undergraduate students at the following colleges and universities:

- Capital University
- Central Ohio Technical College
- Columbus College of Art and Design
- Columbus State Community College
- DeVry University
- Franklin University
- Mount Carmel College of Nursing
- Ohio Dominican University
- Ohio State University
- Otterbein College
- Pontifical College Josephinum

Cross-registration is limited to one course per term (Autumn, Winter and/or Spring only), with a maximum of three cross-registered courses during a student's academic experience. The course taken must be an enrichment class to the student's program of study at Columbus State. To participate in cross-registration, a Columbus State Community College student must be in good academic standing and maintain full-time status during the quarter he or she is requesting permission to participate in cross-registration. The course section requested for cross-registration must have space available as determined by the host institution. The Columbus State student does not pay tuition to the host institution but may be charged other enrollment-related fees, such as laboratory or parking fees. A grade for the course taken at a host institution will be posted only on the student's Columbus State transcript.

A Columbus State student interested in cross-registering for a course must obtain approval from his or her academic advisor, the Office of the Registrar at Columbus State, and from the host institution's Registrar. It is the student's responsibility to make certain that the host institution's calendar, course schedule, course content, and credit are compatible with his or her goals and Columbus State Community College requirements. Each institution has established cross-registration deadlines, which must be met to participate. For more information, please contact the Office of the Registrar.

## **Selective Service System Registration**

Under the provisions of Section 3345.32 of the Ohio Revised Code, a male student born after December 31, 1959, who is at least 18 years of age and who is classified as an Ohio resident for fee purposes by the state-assisted college or university he is attending, is required to be registered with the Selective Service System or be charged a tuition surcharge equal to that charged a nonresident student. Such a student is required to provide his Selective Service number on the Columbus State Community College admissions application if he is between the ages of 18 and 26. If said student turns 18 after completing an admissions application, he is required to provide the Selective Service number within 30 days of his 18th birthday to the Records and Registration Department. If he does not submit his Selective Service number, the student will be billed a surcharge equivalent to the nonresident tuition rates. This surcharge

will be billed until the Selective Service number is provided.

Students are exempt from registration with the Selective Service System on the basis of one of the following criteria:

- Female
- Under 18 years of age
- 26 years of age or older
- Currently on active duty in the Armed Forces of the United States. Note: Training in a Reserve or National Guard unit does not constitute active duty.
- A nonimmigrant alien lawfully in the United States in accordance with Section 101 (a) (15) of the Immigration and Nationality Act, U.S.C. 1101, as amended, or
- A permanent resident of the Federated States of Micronesia, the Marshall Islands, or the Republic of Palau.

Note that Selective Service System registration compliance must take place before disbursement of any federal financial aid funds, or the Ohio Instructional Grant, or before the institutional section of a Guaranteed Student Loan or PLUS application will be certified.

**\*If you are a male who is within 30 days of becoming 18 years of age or between 18 and 26 years of age and have never applied for a Selective Service number, registration may be processed online at [www.sss.gov](http://www.sss.gov) or through a local post office. You may also contact the Selective Service System at (847) 688-6888 to retrieve your Selective Service number. When you receive your Selective Service number, please report your number to the Telephone Information Center at (614) 287-5353.**

## Change of Name, Address, Phone Number, Program of Study

Any change in a student's name, address, phone number, or program of study must be reported to the Records and Registration Department so the academic record may be updated.

Name changes require that official documentation such as a marriage certificate, court decree, etc., must be submitted to the Records and Registration Department.

Address and telephone number changes may be made by calling the Telephone Information Center at (614) 287-5353 as well as in the Records and Registration Department. Each student is responsible for complying with any official communication sent to the last reported address.

Program of study changes may be made in the Records and Registration Department. Students may also call the Telephone Information Center, (614) 287-5353, to change their program of study if the new program of study does not have a separate application procedure, such as many of the health related fields.

## Student Assistance Center— Columbus Campus

The Student Assistance Center is located in Madison Hall Room 225. Student Assistance Center services include:

- Assisting students with CougarWeb registration
- Assisting students with navigating CougarWeb
- Conducting Free Application for Federal Student Aid (FAFSA) Workshops
- Assisting students with completing various online financial aid processes such as Entrance Interviews and Master Promissory Notes
- Conducting CougarWeb Workshops

The CougarWeb Workshop is where students learn how to utilize Columbus State's many online tools and resources in this, hands-on, interactive session. Set-up your user name and password, access your student e-mail, learn how to register for classes and pay your fees online and more. These sessions are offered several times per day in the Student Assistance Center. Reservations are not needed. For more information and session times, contact the Student Assistance Center (614) 287-5538.

### Hours of operation

Monday–Thursday: 8:00 a.m. – 7:30 p.m.

Friday: 9:30 a.m. – 4:30 p.m.

Saturday: 9:00 a.m. – 12:00 p.m.

## Student Assistance Center— Delaware Campus

The Student Assistance Center on the first floor of Moeller Hall, (740) 203-8000, is the place to go for enrollment services on the Delaware Campus. The student services team there can assist with admissions, orientation, academic advising, financial aid, registration, placement testing, disability services, and fee payment. They can also field questions regarding diversity programs and student activities and direct students to other campus services such as textbook pickup, library assistance, IT support, the Cashier's Office, and lab assistance.

Autumn Hours: The Student Assistance Center will be open Monday through Thursday, from 8:00 a.m. to 7 p.m., and from 9:00 a.m. to 4:00 p.m. on Fridays. Testing Center and Learning Commons hours differ from those of the Student Assistance Center; watch for posted hours of operation for those.

## Army Reserve Officers Training Corps (ROTC)

Qualified students interested in obtaining an officer's commission in the United States Army, Ohio National Guard, or Army Reserve may enroll in Army ROTC classes through a contracted agreement between Columbus State Community College and the United States

Army. Training consists of a combination of classroom and outdoor instruction. Freshman and sophomore students may enroll in the four-year program consisting of the two-year general military course and the two-year professional officer course. There is no military obligation for students in the first two years of the program.

Students with a minimum 2.50 cumulative grade point average may apply for Army ROTC scholarships. Applications for scholarships are normally made during the fall term and must be completed by January 30. Additional information may be obtained by contacting the Program Chairperson for Military Science at Capital University, (614) 236-7114.

## Financial Aid

Financial aid is available in several forms: grants, scholarships, loans, and part-time employment. In general, the amount of assistance that a student may receive depends upon the established financial need of the student. This need is determined through the U.S. Department of Education and is based on the information submitted in the Free Application for Federal Student Aid (FAFSA). Financial aid is to be used for tuition, fees, room, board, books, and commuting expenses. For more information please see the *High Finance* publication, available from the Financial Aid Office, or online at [www.csc.edu](http://www.csc.edu).

For all federal financial aid programs, regular admission status to the college and U.S. citizenship or permanent residence status is required. Only those who have declared their intent to pursue a degree and are taking related courses are eligible. Persons with bachelor's degrees are not eligible for grants but may apply for loans and work study.

### Application Procedures

Students can apply for financial aid electronically via the Internet at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). Students who prefer to submit a paper copy of the FAFSA may print a the form at the same Web site or request a paper FAFSA by calling the Federal Student Aid Information Center at 1-800-4-FED-AID (1-800-433-3243) or 1-319-337-5665. If you are hearing impaired, please contact the TTY line at 1-800-730-8913. Students may also request information by calling (614) 287-2648. You must apply for financial aid each academic year. New FAFSA applications may be submitted after January 1 each year and are throughout the academic year. Campus-based funding is awarded on a first-come, first-awarded basis.

To ensure that your financial aid application materials can be processed in a timely fashion, Columbus State has established priority deadlines for completing the appropriate application materials. These dates are available on the Financial Aid Web page at [www.csc.edu](http://www.csc.edu).

### How Do I Apply?

1. Make application for admission to Columbus State Community College.
2. Apply online at [www.fafsa.ed.gov](http://www.fafsa.ed.gov) or complete and submit the Free Application for Federal Student Aid (FAFSA) paper application to the U.S. Department of Education. Computers

in the Student Assistance Center or in any computer lab at CSCC may be used for submission of the FAFSA.

- a. **If you are a first time FAFSA filer, apply for a Personal Identification Number (PIN) from the U.S. Department of Education at [www.pin.ed.gov](http://www.pin.ed.gov).**
  - b. **Be sure to list Columbus State as the school you plan to attend by denoting school code 006867 in step 6 of the FAFSA.**
  - c. **If you complete your FAFSA online, use your PIN to sign the application. If you do not have a PIN, be sure to print the signature page. You must sign the signature page and mail it to the address listed on the page.**
3. Approximately four weeks after your FAFSA has been received and processed by the U.S. Department of Education, you will receive a Student Aid Report (SAR). Review these results. If corrections to your FAFSA are necessary, you may submit them electronically at [www.fafsa.ed.gov](http://www.fafsa.ed.gov), or you may bring the appropriate materials to the Financial Aid Office and have those corrections submitted electronically by personnel in the Financial Aid Office.
  4. When the Financial Aid Office has received your FAFSA results, we will review your file. Once it is determined that your file is complete, you will be sent an official Financial Aid Award letter, explaining the types of financial aid you are eligible to receive.

### Basic Eligibility Requirements

Eligibility for most federal student aid programs is based on financial need. In addition, the federal student aid programs require that the student recipient:

- Be a United States citizen, eligible noncitizen, U.S. National, or permanent resident.
- Have a valid Social Security Number.
- Have a high school diploma, GED, or recognized equivalent. **Proof of passing GED scores must be on file with the Records and Registration Department before your application can be processed.** Students without a high school diploma or GED may establish eligibility under the Ability-to-Benefit regulations by passing a test approved by the U.S. Department of Education. The COMPASS™ placement test is the approved test available at Columbus State through the Testing Center in Aquinas Hall 002. To qualify for consideration students must have the following minimum scores: Writing Skills: 32; Reading: 62; Math (Pre-Algebra): 25.
- Have complied with current Selective Service registration regulations. For more information on Selective Service requirements, contact the Financial Aid Office or our web-page, [www.csc.edu](http://www.csc.edu).
- Be a regularly admitted student, enrolled in an eligible program, working toward a degree or certificate.
- Maintain satisfactory academic progress as defined by the Financial Aid Standards of Academic Progress Policy. Students who already hold a bachelor's degree are not eligible for grants, but may be eligible for loans and work study. Students may not be in a default or overpayment status on any type of federal financial aid.

## Verification

Verification is the process through which the federal government requires confirmation of the accuracy of the information reported on the Free Application for Federal Student Aid (FAFSA). If you are selected for verification, you must provide clear evidence that the information you reported on your FAFSA is true and correct. The Financial Aid Office will contact you regarding specific requirements pertaining to your application if you are selected. Signed copies of IRS income tax returns, Verification Worksheets, and documentation of untaxed income are generally required for completion of verification. If other documents are needed the Financial Aid Office will notify the student.

## Satisfactory Academic Progress

Federal regulations require that Columbus State Community College monitor the academic progress of students who apply for and/or receive federal financial aid. These regulations apply to each financial aid applicant, regardless of whether a student has ever previously applied for or received financial aid. To receive any form of federal financial aid, students must maintain satisfactory academic progress toward a degree or certificate. For additional information refer to the *High Finance* publication available from the Financial Aid Office or the webpage, [www.csc.edu](http://www.csc.edu). **Failure to maintain satisfactory academic progress will result in funds either being terminated or withheld until eligibility is regained.**

## Scholarships

A scholarship is financial assistance awarded primarily on the basis of scholastic achievement. As with grants, they generally do not have to be repaid. The college itself offers hundreds of scholarships, of varying types and amounts, designed for recent high school graduates, as well as for new students age 25 and older. Contact the Financial Aid Office in Rhodes Hall (287-2648), your academic advisor, or [www.csc.edu](http://www.csc.edu) (click on "Financial Aid" and then "Scholarships") for additional information related to scholarships.

The Columbus State Community College Development Foundation also coordinates a large number of scholarships established by private donors, areas businesses and professional organizations. Scholarships vary in availability from year to year, and eligibility for each scholarship program also varies. In general, these scholarships are based on criteria including, but not limited to, field of study, financial need, credit hours earned, academic and individual achievement, and/or recent high school graduation.

Students may apply for these scholarships by completing the Application for Development Foundation Scholarships, available in the Financial Aid Office during open application periods. Typically, there are two application periods: one in June/July for the upcoming academic year and one in January/February for spring and summer quarters. Information and scholarship listings will be available in the Financial Aid Office and online at [www.csc.edu](http://www.csc.edu) (click on "Financial Aid" and then "Scholarships") during application periods.

If you have been awarded a scholarship from an outside agency or organization, you are responsible for notifying the Financial Aid Office of this award. The organizations from which the award was made will need to provide, in writing, verification of what school-

related expenses may be covered and/or any requirements for the scholarship. This information is required prior to the release of any scholarship award.

## Freeze Dates

CSCC uses a freeze date each quarter to determine a student's enrollment status for disbursing financial aid. The number of credit hours in which a student is enrolled on the freeze date is used to calculate the amount of financial aid he/she will receive. This means that if a student adds or drops classes before the freeze date, the amount of financial aid he/she is eligible for will be affected. If classes are added or dropped **after** the freeze date, the financial aid award will not change.

The freeze date coincides with the close of the 100% tuition refund period each quarter. Please refer to the Online Class Schedule for the 100% refund dates for full-term, first-term, 4-week term, eight-week term, and flex-term classes.

## Refund Policy

Students who withdraw from classes are refunded their instructional and general fees according to the procedure established by the college.

If a financial aid program has paid for a student's tuition and fees, the refund is made to the program and not to the student. In the case of Federal Stafford Loan or Federal PLUS Loan, the refund is made directly to the lending institution.

Students who receive financial aid over and above the cost of tuition and fees (i.e., a cash disbursement) and withdraw from classes during the refund period may be required to return all or part of the cash disbursement.

OIG recipients dropping below 12 credit hours during the 100% refund period will be required to repay the entire amount of the grant. OIG or OCOG recipients dropping below 12 credit hours during the 50% or 25% refund period will be required to repay a percentage of the grant.

## Return of Unearned Title IV Funds Policy

Financial aid students who completely withdraw from all classes during a given quarter may be subject to repayment of federal and state funds back to the Department of Education. The policy states that a student must attend through the 60 percent point of the quarter in order to earn his/her federal financial aid. For more information on this policy, please refer to the *High Finance* publication that is available in the Financial Aid Office or the Financial Aid Office webpage, [www.csc.edu](http://www.csc.edu).

# Veterans Services

Columbus State Community College is proud to serve the training needs of veterans and other eligible persons. Students eligible to receive VA educational benefits must register with the Veterans Services Office in order to receive their benefits.

To apply for VA educational benefits, students must have completed the college admissions application and paid the application fee. Students should contact the VA to begin the application process at least six weeks prior to the beginning of the quarter they plan to attend. Each applicant will be provided with a copy of the Standards of Satisfactory Academic Progress for VA Recipients, current VA guidelines, and pay scales.

To request an application or to receive more information about VA benefits, contact the VA Coordinator at (614) 287-2644.

## Information and Services

The Financial Aid Office is located in Rhodes Hall, Lower Level. Customer Service Representatives are available in person or over the phone to answer questions and direct students to the appropriate resources. Financial Aid Customer Service is located on the lower level of Rhodes Hall or by calling (614) 287-2648.

## Telephone Numbers

Financial Aid Representative ..... (614) 287-2648  
Toll Free ..... 1-800-621-6407  
VA Coordinator ..... (614) 287-2644

## Customer Service Hours

### Financial Aid Office

Monday – Thursday ..... 8 a.m. – 7:30 p.m.  
Friday ..... 9:30 a.m. – 4:30 p.m.  
Saturday ..... 9 a.m. – noon

### Veterans Services Office

Monday – Thursday ..... 8 a.m. – 5 p.m.  
Friday ..... 9:30 a.m. – 4:30 p.m.





# CENTER TECHN AND L Fees

Pages 21-24

# Fees

## One-Time Fee

Matriculation Fee (nonrefundable) ..... \$50

## Matriculation Fee

The one-time, nonrefundable, \$50 matriculation fee covers the cost of enrolling at the college, including application and permanent record maintenance and a student identification card. The matriculation fee will appear and be due for payment on the schedule and fee statement for the academic quarter in which the student initially registers for a class, even if the class is dropped or cancelled.

## Instructional and General Fees

The resident credit hour fee of \$79.00 is based on a \$70.00 instructional fee and a \$9 general fee. The general fee defrays the cost of registration, student activities services, and student support services of a noninstructional nature. Fees for non-Ohio residents and international students reflect a similar prorated instructional and general fee amount. All fees are subject to change.

## Quarterly Academic Fees

### Ohio Residents

Ohio residents are charged a combined instructional and general fee of \$79.00 per credit hour. This fee includes a \$70.00 instructional fee and a \$9.00 general fee.

### Non-Ohio, U.S. Residents

Non-Ohio, U.S. residents are charged a combined instructional and general fee of \$175.00 per credit hour. This fee includes a \$159.00 instructional fee and a \$16.00 general fee.

### International Students

International students are charged a fee of \$210.00 per credit hour. This fee includes a \$189.00 instructional fee and a \$21.00 general fee.

## Lab Fees

Lab fees are charged to cover the cost of consumable materials used by the student. The cost of student liability insurance, required in certain health technologies, will be included in the lab fee.

## Fee Payment

Students can access their class schedule online under “My Schedule” and the charges under “Make-A-Payment” via [www.csc.edu](http://www.csc.edu). Fee payment deadlines are listed in the Enrollment Guide at the above website.

## Late Payment of Fees

Fees not paid by the published quarterly deadline dates will result in the student’s schedule being dropped. If a student is dropped for nonpayment, when they re-register, there will be a \$75 re-registration fee. After any deadline date, any class registered should be paid the same day to avoid being subsequently dropped or restricted from future registrations or transcript requests.

NOTE: Financial aid does not automatically pay fees for courses added after the fee payment deadline. You may contact the Financial Aid Office for fee payment options. Additionally, financial aid will not be available to pay for full-term or first-term classes added after the 100% refund period.

## Student Health Insurance

Columbus State Community College offers low-cost, group accident and sickness insurance. All full-time students are eligible for the plan. Coverage is worldwide, 24 hours a day, at home, at school or while traveling. The fee provides coverage for the entire 12-month period. Extended coverage for family and dependents is also available at an additional cost. For more details, request a student insurance program brochure from Cashiers and Student Accounting in Rhodes Hall or the Local Representative, Wells Fargo Insurance Services, P.O. Box 276, Columbus, OH 43216-0276, 1-800-228-6868, <http://wfis.wellsfargo.com/colleges>.

## Prior Learning Assessment Fee

Students with life experience that has provided learning similar to academic course outcomes may request a review of that experience by the appropriate academic department chairperson. A nonrefundable \$50 fee is charged to review the information and/or portfolio.

## Proficiency Examination Fee

Students who believe they possess the knowledge contained in a course may request of the academic department to take a proficiency examination. A nonrefundable \$50 fee is charged for each proficiency examination to be taken and is payable at Cashiers and Student Accounting prior to taking the exam. Information concerning proficiency examinations may be obtained by contacting the chairperson of the department offering the course for which the exam is to be taken.



## Transient Student Fees

Transient students (those who are taking one or more courses to transfer back to another college or university) complete the same application and follow the same registration process as other students taking courses for credit. The instructional, general, lab and appropriate residency status fees shall be charged for courses taken. The one-time, nonrefundable \$50 matriculation fee covers the cost of enrolling at the college, including application and permanent record maintenance, and a student identification card. The matriculation fee will appear and be due for payment on the schedule and fee statement for the academic quarter in which the student initially registers for a class, whether the class is dropped or cancelled. It is recommended that transient students receive approval from their home institution to take specific Columbus State Community College courses to ensure transferability and applicability of the credit at their home institution.

## Release of Records and Transcripts

Columbus State Community College, in all good faith, will not release nondirectory information to individuals and organizations outside of the college without the student's written permission, except when required by law. Students may request that an official Columbus State transcript be sent to organizations and individuals outside of the college by completing the Transcript Request Form available at [www.csc.edu](http://www.csc.edu). A photo ID is required for the student or individual picking up the transcript in person. Transcripts will not be released to an individual other than the student without detailed written permission signed by the student specifying the name of the person picking up the transcript. If a balance is owed to the college, Columbus State will not release a transcript for or to a student until the balance is paid in full.

The Family Educational Rights and Privacy Act of 1974, as amended, governs the maintenance and release of records. A copy of the regulations is available in the Records and Registration Department, or by sending a written request, including the student's signature to that department (see pages 30-32) for a summary of the Act).

## Refunds

The quarterly instructional, general and lab fees are refundable for student-initiated drops in accordance with the following guidelines: Instructional and general fee refunds are based upon the percentage of time elapsed in each course. If the course is dropped with 10% of the time elapsed in the course, a 100% refund of instructional and general fees will be issued. If the course is dropped with 20% of the time elapsed in the course, a 50% refund of instructional and general fees will be issued. If the course is dropped with 30% of the time elapsed in the course, a 25% refund of instructional and general fees will be issued. Lab fees may be refundable based upon the same percent of refund issued for instructional and general fees. No refunds are given beyond 30% of the term.

**Please check [www.csc.edu](http://www.csc.edu) for the refund deadlines.**

A total refund of quarterly fees is made when a program is cancelled or closed and the student does not elect, or is not permitted, to enroll in another program.

If there are extenuating circumstances that have prevented the student from dropping his or her class(es) within the 100%, 50%, or 25% refund periods and warrant exception to the refund procedure, the student must complete the tuition refund request form. All tuition refund requests submitted with the statement of explanation, written and signed by the student, and supporting third party documentation by the deadline are reviewed and approved or denied by a committee. All requestors are notified of the committee's decision via USPS mail.

Refund requests submitted after the following dates will not be considered:

Summer Quarter – November 15<sup>th</sup> of the **same** year

Autumn Quarter – February 15<sup>th</sup> of the **following** year

Winter Quarter – May 15<sup>th</sup> of the **same** year

Spring Quarter – August 15<sup>th</sup> of the **same** year

The Tuition Refund Request form is available at [www.csc.edu](http://www.csc.edu).

## Non-Resident, International, and Resident Status for Tuition Purposes

All public, state-supported institutions are required to report enrollment data to the State of Ohio according to Section (F)(4) of the Ohio Administrative Code, Section 3333-1-10. A student's residency status, i.e., Non-Resident, International, or Resident, is initially determined by the information he or she provides at the point of application for admission to Columbus State Community College.

Residency Group Sessions are conducted each quarter to assist students in a re-determination of their current residency status with Columbus State Community College. According to the Residency Rule 3333-1-10, Section (F)(5), it is incumbent upon a person to apply for a change in residency, and his or her failure to do so as soon as he or she is entitled to a change shall preclude the granting of residency retroactive to that date. A change in residency shall be prospective only from the date such application is received. A change in residency status under this section is never automatic, and must be initiated by an application for such a change by the person seeking it. Please be advised that retroactive residency re-classifications are not allowed under the guidelines of the Residency Rule.

If a student is designated as a non-resident, he or she may qualify for in-state residency by meeting certain qualifications. A **Residency Re-classification Application** must be completed, important verification documentation submitted, and residency determination approved prior to the first day of the academic term for which the student desires reclassification to be effective.

The deadlines to apply for in-state residency are:

**Summer Quarter 2010:** June 28, 2010  
**Autumn Quarter 2010:** September 22, 2010  
**Winter Quarter 2011:** January 3, 2011  
**Spring Quarter 2011:** March 28, 2011  
**Summer Quarter 2011:** June 27, 2011  
**Autumn Quarter 2011:** September 21, 2011

To inquire about the residency status process or to make an appointment for a residency session, please call (614) 287-5533 or stop by the Student Assistance Center, Madison Hall Room 225.

## Parking Permits

**All motor vehicles, including motorcycles, parked on campus must have a current Columbus State parking permit.** Permits can be purchased online or from Cashiers and Student Accounting, located on the second floor of Rhodes Hall. Call (614) 287-2525 for more information.

To purchase a permit, student must have paid tuition fees. Parking fee for one vehicle is **\$25.00 per quarter**, and everyone is limited to one parking permit. A new permit must be purchased **each quarter**.

Lost or stolen permits will be replaced at a cost of \$25.00. All parking permits are registered to the student or employee who was issued the permit and are nontransferable.

Temporary permits are available from the Public Safety Department at no cost. They are issued to those individuals who need to park a vehicle that does not have a parking permit. The temporary permit will be issued providing verification of the purchase of a regular permit. Temporary permits may also be issued for special needs such as temporary handicap parking (limit 30 days) with a doctor's letter.

**For important instructions on affixing parking permits, see the Public Safety section, page 38, under Additional Services to Students, or go online at [www.csc.edu](http://www.csc.edu) and click on the "Public Safety" link.**

Note: Parking meters are for visitors only. Unauthorized and illegally parked vehicles are subject to being cited and towed at the owner's expense. Columbus State Community College disclaims all responsibility from losses from or damages to vehicles parked on Columbus State property. Columbus State Community College is not responsible for losses from or damages to any vehicle towed from campus.

More information on parking regulations, fines, and the appeals process can be found at [www.csc.edu](http://www.csc.edu); click on the "Public Safety" link.



# Grades and Academic Procedures

Pages 25-30

# Grades and Academic Procedures

## Grades

At the end of each quarter and upon the completion of course requirements, the instructor reports a letter grade indicating the quality of a student's work. Points for each quarter hour of credit attempted are assigned according to the following system:

Grade Definitions	Grade Notation	Grade Points per Academic Credit Hour	
High Achievement	A	4	Yes
Good Achievement	B	3	Yes
Satisfactory Achievement	C	2	Yes
Below Satisfactory	D	1	Yes
Failing	E	0	No
Satisfactory	S	0	Yes
Unsatisfactory	U	0	No

## Other Marks

**Incomplete (I):** When circumstances beyond the control of a student or a faculty member prevent the completion of course requirements during the course, an "I" (Incomplete) may be recorded until the final grade is established. An Incomplete is indicated only when the student has arranged for that grade with the faculty member and specific arrangements have been made for fulfilling the course requirements. Coursework must be completed within six weeks after the beginning of the next quarter. If a new grade is not submitted by the faculty member by that time, a grade of "E" is automatically recorded.

**Transfer Credit (K/KD):** To receive credit for a course taken at another college or university, a student must request that an official copy of the transcript from each previous institution attended be mailed to the Records and Registration Department before the student's second quarter of attendance has elapsed. An official transcript is one that is in a sealed envelope bearing the other institution's official letterhead and/or logo; is printed on official, secure paper that has been signed and sealed by the other college or university; and has not been opened prior to being submitted to Columbus State Community College. The official transcript copy becomes and remains the property of the college. Please see the information on the Ohio Transfer Policy in this Catalog. Transfer credit does not apply to meeting residency credit hour requirements. Transfer credit (K/KD) will not be removed from the Columbus State Community College academic transcript once the transfer credit is awarded to the student.

**Proficiency Examination (X):** A student may, upon the department chairperson's approval of the student's petition, be permitted to take a proficiency examination for credit. Permission is given only in cases when it is evident that previous experience or study war-

rants. A \$50 nonrefundable fee will be charged for each proficiency examination. Nursing students may take proficiency examinations only after they have been accepted into the Nursing Technology. Proficiency examinations do not apply to meeting residency credit hour requirements.

**Audit (R):** A student may audit a course for informational instruction only and with the understanding that credit may not be granted or later claimed as a result for the audited course. The course may be taken at a later date for credit. Neither proficiency nor nontraditional, transfer, or waiver credit will be given for a course that has been audited. Audit status is declared at the time of registration and no later than the fifteenth calendar day of the quarter. The audit status cannot be declared after the fifteenth calendar day of the quarter. Once the audit status for a course is declared, the status cannot be changed back to a credit status during the quarter or after the quarter has ended. Any student wishing to audit a course is required to register for the course in the same manner as all other students and pay regular fees. The instructor will record a grade of "R" for the audited course.

**Nontraditional Credit (N):** Nontraditional credit through Prior Learning Assessment (PLA) may be awarded by the appropriate department chairperson for a student's documented life experiences that provide evidence of knowledge equivalent to that of a required course. If a portfolio is required, a fee of \$50 will be charged for portfolio evaluation. Nontraditional credit does not apply to meeting residency hour requirements. Approved nontraditional credit is posted to the transcript after the student has completed one course at Columbus State.

**Withdrawal (W):** A course must be dropped before 20% of the course has elapsed to avoid a "W" appearing on the academic transcript. Withdrawals after 20% and before 61% of the course has elapsed is recorded as a "W" on the academic transcript. Please refer to [www.csc.edu](http://www.csc.edu) for specific quarterly date information. See "Course Drop/Withdrawal Procedure" in this section of the catalog.

**Administrative Withdrawal (AW):** A withdrawal that requires a petition and documents extenuating circumstances for approving the course withdrawal past the 61% deadline. The credit for this course will not be calculated into the student's GPA. See "Administrative Withdrawal" in this section of the catalog.

**No Grade Reported ( ):** A blank space indicates that the instructor did not report a grade. The instructor must report a grade within six weeks after the beginning of the next quarter, otherwise a final grade of "E" is automatically recorded. A student receiving a ( ) should contact his/her instructor.

**Incorrect Grade Reported:** A student who believes a grade reported is incorrect should contact his/her instructor. If the grade is determined to have been incorrectly reported, the instructor must submit a Grade Change Form/Request for Updated Transcript to

the Records and Registration Department to update the student's transcript.

50-64	1.8
65-84	1.9
85+	2.0

## Grade Report

Grades are issued by the instructor via the Web. Once grades are issued by the instructor, the student can view the grades via a secure site at [www.csc.edu](http://www.csc.edu). An individual who is not enrolled in a course at the time of grade reporting is not eligible to register for the course and receive a grade after the course ends.

## Calculating Grade Point Average

The basis for determining scholastic standing is the cumulative grade point average (GPA). The college uses a 4.0 scale (A=4.0, B=3.0, C=2.0, D=1.0, E=0.0). The grade point average is calculated by first multiplying credit hours for each course by the grade point value earned for the course. See the example in the chart below (credit hours x grade point value = total grade points earned for a course). Divide the total grade points earned for all courses attempted by the total credit hours for all courses attempted to determine cumulative grade point average.

### EXAMPLE

Course	Credit Hours	Course Grade Received	Grade Point Value	Course Grade Points (Credits x Point Value)
Beg Comp (ENGL 101)	3	B	3	3x3 = 9
Med Term (MULT 101)	2	B	3	2x3 = 6
Physiology (BIO 169)	5	C	2	5x2 = 10
Hematology (MLT 141)	6	A	4	6x4 = 24
Emergencies (MULT 103)	2	B	3	2x3 = 6
Total Credit Hours =	18			Total Grade Points =55

$$\text{GPA} = \frac{\text{Total Grade Points } 55}{\text{Total Credit Hours } 18} = 3.055$$

## Academic Standing

Each active student's record is reviewed at the close of each quarter. If a student's academic record (all courses attempted with a grade received) does not meet the Standards of Satisfactory Academic Performance, the student is subject to being placed on academic warning, academic probation, or academic dismissal. The entire record, including each grade in each credit course attempted, is used to determine academic standing. Please see the Standards of Satisfactory Academic Performance below.

### Standards of Satisfactory Academic Performance

TOTAL GPA CREDITS	GPA
1-9	1.0
10-19	1.4
20-29	1.5
30-39	1.6
40-49	1.7

## Dean's List

To recognize outstanding scholastic achievement, a Dean's List is compiled each quarter. To qualify for the Dean's List, a student must complete a minimum of 6 credit hours and earn a grade point average of 3.5 or higher in that quarter. All credits must be in courses included in the calculation of the GPA. No student is eligible for the Dean's List who has a grade of "I."

## Class Attendance

Students are expected to attend all classes. A student who has excessive unexcused absences during the quarter and has not officially dropped the course will receive an "E" in that course. Additional attendance policies may be defined by each technology chairperson, department coordinator, or instructor.

## Satisfactory Academic Progress

Satisfactory Academic Progress is defined as progress in credit courses taken at the college that result in the credit hour to grade point average ratio as specified by the Standards of Satisfactory Academic Performance. For the purpose of graduation, a candidate for an Associate of Arts or Associate of Science degree must have a minimum 2.000 cumulative grade point average. A candidate for an Associate of Applied Science or Associate of Technical Studies degree must have a minimum 2.000 cumulative grade point average in all required technical course work and a minimum 2.000 cumulative grade point average (GPA) in all nontechnical course work.

## Academic Standing

### Academic Warning

For any quarter in which a student's grade point average for the term drops below 2.000, he/she will be placed on academic warning.

### Academic Warning, First Term Only Rule

A student who completes his/her first term is placed on academic warning when his/her grade point average for the first term is below that designated by the Standards of Satisfactory Academic Performance. The student will be restricted from registering for classes until he/she meets with an academic advisor in Advising Services. This restriction also applies to first-term students on academic warning who have already registered for the next quarter and attempt to add a class. During the meeting, an Academic Warning Form will be completed to designate what difficulties led the student to be placed on academic warning, to provide recommendations for improved grades the next quarter, and to promote academic success at the college.

## Academic Probation

A student who is beyond his/her first term is placed on academic probation when his/her cumulative grade point average is below that designated by the Standards of Satisfactory Academic Progress. The student will be restricted from registering for classes until he/she meets with an academic advisor in Advising Services for academic intervention. This restriction also applies to students on academic probation who have already registered for classes for the next quarter and attempt to add a class. During the meeting, an Academic Probation Form will be completed to designate what difficulties led the student to be placed on academic probation, to provide recommendations for improved grades the next quarter, and to promote academic success at the college. A student who has been placed on academic probation will have 24 additional credit hours (over 2 or more terms) to raise his/her cumulative grade point average to that designated by the Standards of Satisfactory Academic Progress.

## Academic Dismissal

A student will be academically dismissed from the college if, after being placed on academic probation and registering for 24 additional credit hours (over 2 or more terms), the student's cumulative grade point average remains less than that designated by the Standards of Satisfactory Academic Progress. A student who is academically dismissed will be sent notification of his/her dismissal status that includes the procedure for readmission. A student who is academically dismissed from the college **will not be permitted to enroll the following quarter**. If the student has already registered for the next quarter, his/her **courses will be dropped and the student will not be permitted to attend**.

## Readmission after Dismissal

### Petition for Readmission (First Dismissal)

Any student petitioning for readmission must submit a Petition for Academic Readmission Form, approved by at least two college reviewers, at least one of whom is in Advising Services (to determine conditions under which the student may return). The second reviewer is either the Director of Advising Services or the student's academic department chairperson. If both college reviewers do not grant approval, the Registrar will determine final disposition. The entire readmission process must be completed by the first day of registration of the quarter for which the student seeks readmission. If a student is readmitted to the college, the student is then able to schedule classes and pay fees. The readmitted student must make satisfactory progress in accordance with the Standards of Satisfactory Academic Progress and meet the conditions as specified on the Petition for Academic Readmission Form, including receiving a 2.000 term grade point average, in order to be eligible for continued enrollment.

### Petition for Academic Review (Second or Subsequent Dismissal)

Upon a second or any subsequent dismissal, the student who does not meet conditions must appeal to the Academic Review Board for readmission. The student must submit a Petition for Academic Review Form and supporting documentation to the Director of Advising Services by the first day of registration of the quarter for which the student seeks readmission. Petition for Academic

Review Forms will be available in Advising Services. The Director of Advising Services will chair and convene a board to review the petition, as well as supporting documentation and the student's verbal explanation. Following its review and consideration of this information, the board will determine whether another readmission is warranted. The decision of the Academic Review Board will be final. Meeting with the Academic Review Board does not guarantee readmission.

## Readmission Deadline for Academic Dismissal and Academic Review

Autumn Quarter 2010: July 26, 2010

Winter Quarter 2011: October 25, 2010

Spring Quarter 2011: January 31, 2011

Summer Quarter 2011: April 25, 2011

## Prior Learning Assessment

Columbus State Community College has a comprehensive policy that allows students to apply previous learning from a variety of sources toward completion of a college degree. However, it is important that students understand that the college grants credit for demonstrated learning, not merely for previous experience or employment. In order to obtain credit, the student must be able to provide sufficient documentation to verify the prior learning experiences, along with providing evidence that he/she has mastered the competencies included in that learning experience. Prior learning experiences that can be considered for college credit are:

**Transfer Credit:** Previous college coursework from an accredited college or university can be applied for credit toward a comparable course at CSCC.

**Standardized Testing:** Mastery of knowledge or skills measured by a nationally accepted standardized examination (such as CLEP, licensing and certification examinations).

**Articulation Credit/Advanced Placement Agreements:** College-level learning achieved and documented while participating in a program in which the college has made previous arrangements to accept the coursework for credit, if specific curriculum and performance outcomes standards have been met. (See \*AP Credit below.)

**Formal Training:** College-level noncredit training experiences that, singly or in combination, cover the competencies of one or more college courses (such as continuing education courses, company training programs, professional seminars).

**Military Training:** College-level learning obtained while a member of the U.S. Armed Forces that directly relates to knowledge and skills included in existing coursework can be granted in accordance with the American Council on Education (A.C.E.) guidelines.

**Life Experience Learning:** College-level learning from sources other than those listed above that can be documented/demonstrated (such as self-study and work experience).

**\*AP/Advanced Placement Credit:** The state of Ohio, working through the University System of Ohio, has initiated policies to

facilitate the ease of transition from high school to college as well as between and among Ohio's public colleges and universities.

Beginning in the Fall Term 2009:

- Students obtaining an Advanced Placement (AP) exam score of 3 or above will be awarded the aligned course(s) and credits for the AP exam area(s) successfully completed.
- General Education courses and credits received will be applied towards graduation and will satisfy a general education requirement if the course(s) to which the AP area is equivalent fulfill a requirement.
- If an equivalent course is not available for the AP exam area completed, elective or area credit will be awarded in the appropriate academic discipline and will be applied towards graduation where such elective credit options exist within the academic major.
- Additional courses or credits may be available when a score of 4 or 5 is obtained. Award of credit for higher score values varies depending on the institution and academic discipline.
- In academic disciplines containing highly dependent sequences (Sciences, Technology, Engineering and Mathematics—STEM), students are strongly encouraged to confer with college/university advising staff to ensure they have the appropriate foundation to be successful in advanced coursework within the sequence. (Ohio Board of Regents)

Because course content and technology may change rapidly, departments may determine a time that can lapse between the acquisition of learning and when the credit is being sought. This may vary depending upon the course.

Students who wish to request nontraditional credit through prior learning assessment must complete the Request for Nontraditional Credit Form and meet with the chairpersons of the department offering the course for which nontraditional credit is requested for a preliminary interview.

## Fresh Start Rule

The Fresh Start Rule is intended to help students who were unsuccessful in their previous academic attempts and who voluntarily left Columbus State Community College and returned after a substantial period of time. In general, a student with courses in which grades of "D," "E" or "U" were earned, may be eligible to have the grades expunged from the student's record; the course(s) remain on the transcript. A student may use the rule one time. An information sheet providing the complete requirements for the Fresh Start Rule and petition are available in the Records and Registration Department and via the Web at [www.csc.edu](http://www.csc.edu).

## Course Drop/Withdrawal Procedure

Students may drop a course before 61% of the course has elapsed. Please see the Records and Registration Department for the specific deadlines. To drop a class, it is the responsibility of the student to initiate the process with the college using the college website,

[www.csc.edu](http://www.csc.edu), CATS (Computer Automated Touchtone System) registration at (614) 287-2287; calling the Telephone Information Center, (614) 287-5353; or submitting a completed Registration Add/Drop Form to the Records and Registration Department or an Off-Campus Center during business hours. Failure on the part of a student to follow drop procedures will result in an "E" (failing grade) being recorded for the course or courses on the grade report.

## Administrative Withdrawal

A student, as the result of documentable extenuating circumstances that prevented the student from following academic withdrawal procedures, may be eligible to petition to for an administrative withdraw from courses and have those grades changed to "AW." Students must provide adequate third-party documentation that explains the extenuating circumstances. More information is available in the Records and Registration Department and at [www.csc.edu](http://www.csc.edu).

## Repeating Courses

A student may repeat a course. Only the repeated course grade received will be used to compute the overall grade point average. However, both grades shall remain a part of the student's permanent record. Veterans and other financial aid recipients should check with the Financial Aid Office before repeating a course for which credit has been earned.

## Program of Study Change

Students may call the Telephone Information Center, at (614) 287-5353, to change their program of study if the new program of study does not have a separate application procedure (such as many of the health related fields). Students may also request a Program of Study change in the Records and Registration Department. Students transferring from one technology program to another shall not be required to carry the technical grade point average of the previous technical courses as a part of the technical grade point average of the new technical program. However, the grade point average of all courses taken will remain part of the official transcript record. Only those courses comprising the curriculum of the new technology will be considered when calculating the technical and nontechnical grade point averages for determining eligibility to graduate.

## Degree Audit Report

The Degree Audit Report System (DARS) is an important advising tool that helps students determine progress toward completion of their program or of degree requirements. DARS provides a written report of courses in progress, courses completed, and courses remaining for completion of program or degree requirements. It also reflects technical and nontechnical grade point averages (for technical programs) and the overall grade point average (all

programs). An academic advisor can help the student interpret this report. Regular use of the DARS report will assist the student in making prudent course selections. Students may view or request copies of their DARS report at [www.csc.edu](http://www.csc.edu).

## Student Status

Students are considered first-year status when they have successfully completed 47 or fewer credit hours as recognized by the college. A student shall be considered second-year after having satisfactorily completed a minimum of 48 credit hours of coursework as recognized by the college.

A full-time student is one who is registered for 12 or more credit hours during a quarter. A part-time student is one who is registered for 11 or fewer credit hours during a quarter.

## Petition to Graduate

Each student who wishes to graduate must obtain a Petition to Graduate Form from the Records and Registration Department or online from [www.csc.edu](http://www.csc.edu) at the beginning of the quarter prior to the one in which the student intends to graduate. The student must meet with his or her academic advisor or faculty advisor for the evaluation of all course work completed, review of cumulative grade point averages, and review of courses for which he or she is registered the current quarter to determine eligibility for graduation. The petition to graduate form must be turned into the Records and Registration Department Registration Windows Madison Hall 201 by the published deadline date for the intended quarter of graduation before 4:30pm. The student will be notified of graduation eligibility.

### Petition to Graduate Deadline Dates

Summer Quarter 2010: July 9, 2010 before 4:30 p.m.  
Autumn Quarter 2010: October 1, 2010 before 4:30 p.m.  
Winter Quarter 2011: January 14, 2011 before 4:30 p.m.  
Spring Quarter 2011: April 8, 2011 before 4:30 p.m.  
Summer Quarter 2011: July 8, 2011 before 4:30 p.m.  
Autumn Quarter 2011: September 30, 2011 before 4:30 p.m.

## Graduation Requirements

Graduation requirements for technical and transfer programs are listed in the "Programs of Study" section in this catalog.

## Graduation Honors

Grade calculations through the quarter of graduation determine the appropriateness of posting "Honors" on the graduate's transcript and Summa Cum Laude, Magna Cum Laude, or Cum Laude on the diploma. Verification of the completion of graduation requirements will be done after grades have been issued. Please allow

ten weeks for delivery of the diploma via mail. Graduates' grade point averages and honors designations printed in the graduation program are based on calculations of all grades through the quarter *prior* to their graduation quarter. Honors categories are as follows:

- \*\*\* Summa Cum Laude (with greatest praise) 4.000 GPA
- \*\* Magna Cum Laude (with great praise) 3.999-3.850 GPA
- \* Cum Laude (with praise) 3.849-3.500 GPA

## Commencement

A formal graduation ceremony is held at the end of each quarter. All students who have petitioned to graduate for the current quarter are invited to attend the ceremony. Diplomas are not distributed during the ceremony. Diplomas will be issued after the verification of graduation requirements is complete. Please allow ten weeks for delivery of the diploma via mail. Caps and gowns, furnished by the college, are standard attire for the ceremony. Students graduating with honors are distinguished by wearing gold honor cords. Summa Cum Laude graduates are further distinguished by wearing engraved honor medallions. Class remarks are offered by the graduate attending the ceremony who has maintained a 4.0 cumulative grade point average (GPA) with the largest number of credit hours completed at Columbus State Community College. The 4.0 graduate attending the ceremony with the second largest number of credit hours completed at Columbus State Community College leads the pledge of allegiance.

## Replacement Diplomas

To obtain a replacement diploma, submit an Official Request for Replacement Diploma Form, available at [www.csc.edu](http://www.csc.edu) or in the Office of the Registrar. Send the form along with a \$15 replacement fee to: Cashiers and Student Accounting, 550 E. Spring Street, Columbus, Ohio 43215. The replacement diploma will be sent to your current address via certified mail. Please allow 12 weeks for delivery.

## Student Rights under the Family Educational Rights and Privacy Act of 1974 as Amended

### 1. Definition of Education Record

Under the Act, "education records" mean, with certain exemptions as listed below, those records, files, documents, and other materials that contain information directly related to a student and are maintained by any unit of the college. The following categories of information are exempted and are not considered to be "education records":

- a. Records made by college personnel that are in the sole possession of the maker and are not accessible or revealed to any other person.
- b. Records maintained by the college Public Safety Department.



- c. Medical and counseling records used solely for treatment. Medical records may be personally reviewed by a physician of the student's choice.

## 2. Right to Inspect and Review

Each student is granted the right to inspect and review all his or her education records except the following:

- a. Financial records of parents.
- b. Confidential letters and statement of recommendations for admission, employment or honorary recognition placed in education records after January 1, 1975, for which a student has signed a waiver of his or her right of access recorded by the Act.

## 3. Waiver of Rights of Access

A student may waive his or her right of access to confidential letters and statements of recommendation. If the student signs a waiver, he or she shall be notified, upon request, of the names of all persons making confidential recommendations. Waivers are valid only so long as they are made for the purposes stated in Paragraph 2b. The college may not require a student to waive his or her right of access accorded by the Act for receipt of college benefits or services.

## 4. Location of Education Records

Columbus State Community College does not maintain education records in any one central office. Academic education records are maintained in the Admissions Office, Financial Aid Office, and the Records and Registration Department. Other college departments maintain education records (e.g. Disability Services, Advising Services). Questions regarding the location of individual student records should be directed to the Records and Registration Department.

## 5. Procedures for Inspection and Review

- a. Requests to review records must be made in writing separately to each office maintaining records.
- b. If any material or document in the education record of a student includes information on more than one student, the right extends to inspect and review only such part of such material or document as relates to such student or to be informed of the specific information contained in such part of such material.
- c. Periodically, student records are reviewed and expunged, and only records that are necessary to determine education status and demography are maintained indefinitely. Pertinent documents of Columbus State Community College students will be microfilmed or scanned periodically and the originals destroyed.
- d. All submitted and generated student education record information, documentation, and material becomes and remains the property of Columbus State Community College.

## 6. Right to Challenge Information in Records

Students have the right to a hearing to challenge the content of their records on the grounds the information contained therein is inaccurate, misleading, inappropriate, or in violation of their privacy or other rights. The hearing process includes an opportunity for the correction or deletion of such information

and to insert into such records written explanations by the student regarding the content of such records.

**Note:** The right to challenge grades does not apply under the Act unless the grade assigned was inaccurately recorded.

## 7. Procedures for Hearings to Challenge Records

Students challenging information in their records must submit in writing a request for a hearing to the appropriate office maintaining the records, listing the specific information in question and the reasons for the challenge. Hearings shall be conducted, with a decision rendered in writing, within a reasonable period of time after the challenge is filed.

Hearings will be conducted and a decision rendered by a college official who does not have a direct interest in the outcome of the hearing. Students shall be afforded a full and fair opportunity to present evidence relevant to the reasons for the challenge as referenced in paragraph 6. It shall be the responsibility of the office maintaining the record in question to ensure the hearing is conducted in accordance with the provisions of the Act and within applicable Columbus State Community College procedures. Students may appeal the decision of the hearing officer. Appeals shall be in writing and submitted to the Dean of Enrollment Services within 10 days of the student's notification of the decision of the hearing officer. The appeal shall be heard and decided, with a decision rendered in writing within a reasonable period of time.

## 8. Consent for Release

Written consent must be obtained from students for the release of education records or information that makes it possible to identify the student with reasonable certainty. The consent statement shall specify which records are to be released, the reasons for release, for how long, and to whom the records will be released. Written consent must be obtained from each department. An informed consent form is kept on file in each department from which the record was requested. A copy of the informed consent form shall be made available to the student if he or she requests. Columbus State Community College, in all good faith, will not release non-directory information to individuals and organizations outside of the College without the student's written permission, except when required by law.

The requirement for written consent *does not* apply to the following:

- a. Requests from officials of Columbus State Community College (faculty, staff, administrators and designated agents of the college) who have a legitimate educational interest on a "need-to-know" basis.
- b. Requests in compliance with a lawful subpoena or judicial order. Students shall be notified of all such subpoenas or orders in advance of compliance.
- c. Requests in connection with a student's application for, or receipt of, financial aid.
- d. Request by state or federal authorities and agencies specifically exempted from the prior consent requirements by the Act—organizations conducting studies on behalf of the college if such studies do not permit the personal identification of students to any persons other than to representatives of such

organizations and if the personal identification is destroyed when no longer needed.

- e. Information submitted to accrediting organizations.
- f. In the case of emergencies, the college may release information from education records to appropriate persons in connection with an emergency if the knowledge of such information is necessary to protect the health or safety of a student or other persons.
- g. Requests from officials of another school, school system or institution of postsecondary education where the student seeks or intends to enroll.
- h. Requests for “directory information.” (See item 9)

**Note:** The college will not unilaterally send student records to other educational institutions. Students transferring from the college or making application to other educational institutions must notify the Records and Registration Department in writing and pay the appropriate fee to release official transcripts to other institutions. A student may request official transcripts for his or her own use, issued to student, by completing the form available from the Records and Registration Department or at [www.csc.edu](http://www.csc.edu).

#### **9. Directory Information**

Columbus State Community College, in accordance with the Act, has designated the following categories of information about students as public information:

- a. Name
- b. Address (home/present)
- c. Telephone Number (home)
- d. Program of study/technology
- e. Participation in officially recognized activities and sports
- f. Weight and height of members of athletic teams
- g. Enrollment status (less than half-time, half-time, part-time, full-time, over full-time, inclusive dates and quarters of enrollment)
- h. Degrees, certificates, transfer module and awards received (including Dean’s List and other honors)
- i. Most recent previous educational agency or institution attended

**Note:** Students have the right to have this directory information withheld from the public if they so desire. Each student who desires that directory information be withheld shall so indicate by completing a form available in the Records and Registration Department.

#### **10. Inquiries Outside Columbus State Community College**

The college receives many inquiries for directory information from a variety of sources, including friends, spouses, parents, other relatives, prospective employers, institutions of higher education, honor societies, licensing agencies, government agencies, and the news media. Each student is advised to carefully consider the consequences of a decision to withhold directory information. Columbus State Community College, in all good faith, will not release non-directory information to individuals and organizations outside of the college without the student’s written permission, except when required by law.

#### **11. Record of Access**

- a. Each office maintaining and releasing student records shall maintain a record, kept with the education records of each student, which will indicate all parties, other than those specified in paragraph 8 above, who have requested or obtained access to the education records and specifically the legitimate interest that each such party has in obtaining this information.
- b. Columbus State Community College, in all good faith, will not release personal information about students except on the condition the party to which the information is being transferred will not permit access by a third party without the consent of the student, except when required by law.

#### **12. Complaints**

Any student who has reason to believe the college is not complying with the Act should inform the Dean of Enrollment Services and the U.S. Department of Education in writing. The Dean of Enrollment Services shall promptly review all such allegations.

#### **13. Questions**

Students should direct questions concerning their understanding of the Act to the Registrar.



# Additional Services to Students

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# Additional Services to Students

## Advising Services

The mission of Advising Services is to anticipate the needs of our diverse student population and support students in achieving lifelong educational, career, and personal goals. We strive to inspire our students and promote their autonomy.

Advising Services offers a full range of academic advising and planning services to Columbus State learners. We assist students in:

- Interpreting placement test results
- Understanding program requirements
- Developing an academic plan for degree and/or goal completion
- Accessing college resources
- Clarifying academic policies and procedures
- Addressing academic difficulty
- Utilizing transfer resources

For more information about our services, please visit [www.csc.edu/advising](http://www.csc.edu/advising).

To Contact Advising Services

Columbus Campus  
Aquinas Hall, Room 116  
(614) 287-2668

Delaware Campus  
Moeller Hall, Student Assistance Center  
(740) 203-8000

Hours of Operation  
Columbus Campus  
Mon.–Thur.: 8 a.m. to 7:30 p.m.  
Friday: 9 a.m. to 4 p.m.  
Saturday: 9 a.m. to 1 p.m.

Delaware Campus  
Mon.–Thur.: 8 a.m. – 7 p.m.  
Friday: 9:30 a.m. to 4:30 p.m.

Academic advisors are also available at the following off-campus sites:

Dublin: (614) 287-7050\*  
Southeast: (614) 287-7200\*  
Westerville: (614) 287-7000\*  
\*Call ahead for walk-in hours.

## Bookstore/Retail Center:

### The Discovery Exchange Retail Center The Columbus State Bookstore, DX Café and Barista, Copy and Print Shop, and Convenience Store

The Discovery Exchange, located at the corner of Cleveland and Mt. Vernon avenues, houses the Columbus State Community College bookstore and so much more. Inside the DX, customers also will find a Café, Copy and Print Shop, and Convenience Store.

#### The Columbus State Bookstore

The Bookstore offers textbooks for classes as well as best sellers, magazines, gifts, apparel, office supplies, electronics, computer software and accessories. Services available at the Bookstore include daily textbook buyback and used calculator buyback.

#### DX Café and Barista

The Café is a coffee and food service bar that serves made-to-order lattes, mochas, and other coffee and tea drinks (served hot, frozen, or on ice). The Café boasts a selection of bagels, pastries, soups, salads, and sandwiches, many of which will satisfy the palates of the health-conscious and vegan patrons.

#### The Copy and Print Shop

The Copy and Print shop provides full-service copy and printing services at competitive rates. On the first floor of the DX, self-service copying, full-service copying (b/w or color), design services, scanning, lamination, graduation announcements and binding are available, as well as postage, courier service and notary service (by appointment). Other services available include international faxing, money orders, stamps, and distribution of caps and gowns for graduating students.

Larger print jobs are coordinated through the Print Shop, located on the lower level.

#### The Convenience Store

The Convenience Store (C-Store) provides a wide variety of items to make everyday life a little easier. “Grab and Go” items include sandwiches, snacks, candy, fountain drinks, nachos and cheese, hot popcorn, frozen treats, coffee and pizza. Customers also can purchase health and beauty items here.

The Discovery Exchange is open Monday through Thursday, 7:30 a.m. – 8:00 p.m.; Friday, 7:30 a.m. – 6:00 p.m.; and Saturday, 8:00 a.m. – 2:00 p.m. Contact the DX at (614) 287-2427 or <http://bookstore.csc.edu> for more information.

Shopping online at the Columbus State Bookstore is truly convenient. The Bookstore offers competitive pricing and free pickup at multiple locations, including the new Delaware Campus and several off-campus sites. The Bookstore staff works hard to as-

sure that each customer receives the correct course materials coupled with super-fast, super-smooth service. **Order online at <http://bookstore.csc.edu> or by phone at (614) 287-5353.** Visa, MasterCard, and Discover cards are accepted. Four delivery options are available: 1) UPS, which incurs a shipping/handling fee; 2) Self-Pickup at the DX within two business days of order, no charge; or 3) Self-Pickup at Columbus State's Delaware Campus within 48 (business) hours of order, no charge; or 4) Self-Pickup at Columbus State's Dublin Center, Southeast Center, Southwest Center at Bolton Field, or Westerville Center within 48 (business) hours of order, no charge. A valid student ID, driver's license, or state ID is required for pickup.

## Career Assistance Center – Acloch 

Through a partnership with Acloch , a regional leader in Staffing and Human Resources Solutions, Columbus State Community College students and alumni have access to a full range of career assistance services, including:

- Career fairs
- Resume workshops
- Interviewing tips
- Connections with career opportunities and area employers
- Short-term, long-term, part-time and full-time employment
- Internships and co-ops

To access career placement and career resources available through the Acloch  Career Assistance Center, current students and alumni can visit Nestor Hall, Room 119, on the Columbus Campus, or call (614) 287-5279. Regular office hours are 9 a.m. – 6 p.m. Monday and Tuesday, 8 a.m. – 5 p.m. Wednesday and Thursday, and 7:30 a.m. – 4 p.m. Friday. Students attending the Delaware Campus can make an appointment and meet with Career Assistance Center personnel at the Columbus Campus office. Information is available online at the Career Assistance Center website at [www.csc.edu/docs/PACS/placement.htm](http://www.csc.edu/docs/PACS/placement.htm).

## Cashiers and Student Accounting

The Cashiers and Student Accounting operation handles all fee payments (including \$25 parking permits) and replacement identification cards (\$4). Bus passes, and postage stamps also can be purchased there. On the Columbus Campus, Cashiers and Student Accounting is located on the second floor of Rhodes Hall. Hours of operation are Monday through Thursday, 8 a.m. – 6 p.m.; Friday, 9:30 a.m. – 4:30 p.m.; closed Saturdays; with extended hours during fee payment rush periods each quarter. For more information, contact Cashiers and Student Accounting at (614) 287-2414. On the Delaware Campus, the Cashier's Office is located in the Learning Commons area of Moeller Hall. Hours of operation are similar, but do not necessarily match those of the Columbus Campus. The Delaware Campus Cashier's Office is a cashless operation, accepting credit/debit cards, checks, and money orders. Call (740) 203-8000 for more information.

## Child Development Center

The Columbus State Child Development Center provides full-time, year-round care and education to children from 6 weeks old to 5 years of age. The Center serves the community at large and is an excellent resource for parents who attend school, work or live in the downtown Columbus area. Enrollment priority is given to the children of Columbus State students, staff and faculty. Teachers at the Center must hold a minimum of an associate degree in the field of Early Childhood Development. The Center also serves as a field site for students in the Early Childhood Education program. Adjacent to the Center for Workforce Development, the Child Development Center's address is 315 Cleveland Ave., but the entrance is at the southeast corner of Grant and Grove streets. The Center is licensed through the Ohio Department of Job and Family Services. Hours of operation are Monday through Friday, 7:30 a.m. – 6:00 p.m. The Center is closed on all holidays and in-service days recognized by Columbus State Community College. Childcare tuition subsidy is available for Pell Grant-eligible students, as funding permits. For more information, visit [www.csc.edu/cdc](http://www.csc.edu/cdc), or for a tour, call (614) 287-3600.

## College Tech Prep The Heart of Ohio Consortium

Columbus State houses and administers, through Learning Systems, the College Tech Prep-Heart of Ohio Consortium's central office and acts as fiscal agent. Columbus State is a founding member of the Heart of Ohio Tech Prep Consortium. Since 1992, the college and its consortium partners—50 high schools, Central Ohio Technical College, the Electrical Trades Center, two regional campuses of Ohio University, and central and southern Ohio business, industry and labor organizations—have worked together to offer high-quality college tech prep programs.

Students who choose college Tech Prep in 11th grade enter a seamless curriculum for two years of high school, moving directly into a related associate degree program at Columbus State. Tech Prep college programs at Columbus State are currently available in accounting, architecture, automotive, business management, civil engineering, computer information PC technician, networking, web developer, construction management, dental laboratory, digital design and graphics, electro-mechanical engineering, electronic engineering, emergency medical services, finance, fire science, hospitality, interactive media, landscape, law enforcement, manufacturing, mechanical engineering, multi-competency health, pathways to nursing, sport and exercise studies, supply chain management, and veterinary technician.

Raemarie Oatman, Director, (614) 287-2452

# Counseling Services

## Personal Counseling

Counseling Services offers personal and career counseling, alcohol and drug counseling and prevention, crisis intervention, consultation and referral services to any enrolled student. Issues include, but are not limited to, stress/time management, college adjustment, family concerns, substance abuse, and other personal or mental health concerns. Presentations, workshops, programs and printed materials about mental health, alcohol, and other drug prevention and abuse are also offered.

Counseling Services also provides self-development groups and educational workshops each quarter on a variety of important and relevant topics, such as overcoming test anxiety, study skills, stress and time management, juggling roles, anger management, self-esteem, and others. Confidential counseling is provided on an individual, short-term basis, with referral to community resources for additional services, if needed.

Services for faculty and staff such as consultation, in-class workshops on specific mental health topics, and information about community resources are also available.

## Career Counseling

Counseling Services also offers career counseling for undecided students, including assistance with career decision-making, choosing a major, redirecting educational plans, and/or planning for a career change. In addition, career services include assessing skills and interests and subsequently relating them to college majors and/or careers and assisting students in creating a career exploration plan (i.e., developing a career portfolio, guidance on conducting an informational interview, and exposure to relevant career development Web resources). Referrals may also be made to the Acloché Career Assistance Center on campus for job placement information, resume writing, and other career related topics.

For more information, visit the Counseling Services webpage, [www.csc.edu/counselingservices/index.htm](http://www.csc.edu/counselingservices/index.htm).

All counseling services are free and available by appointment. Call (614) 287-2668, 287-5416, 287-5638, 287-5414, or stop by Aquinas Hall 116 to schedule an appointment.

Hours of Operation:

Monday/Wednesday/Thursday: 8 a.m. – 5:30 p.m.

Tuesday: 8 a.m. – 6 p.m.

Friday: 9:30 a.m. – 4:30 p.m.

Delaware Campus students interested in counseling services can stop by the Student Assistance Center in Moeller Hall or call (740) 203-8000.

# Disability Services

Columbus State Community College offers a wide range of support services to encourage the enrollment of people with disabilities.

Through the Disability Services Department, support services are made available to qualified students with a documented disability. Determination of eligibility for support services is based on disability documentation provided to Disability Services by the student, from appropriate medical, educational, and psychological sources. These support services include, but are not limited to, adapted testing procedures, production of print materials in alternate media, note taker notebooks, real-time captioning, and advising/counseling. In addition, sign language interpreters and assistive listening devices are available for students who are deaf or hard of hearing. Adaptive equipment and software is also available on campus in a variety of student and classroom computer labs for student training and use in completing course requirements. Students may also meet with department counselors to develop an individual plan for support services. The department consults with students, consumers and professionals in the field of rehabilitation and education, as well as state and federal resources in the continued development of program accessibility.

For further information or to arrange for support services, please call (614) 287-2570 (VOICE/TTY). Disability Services is located on the first floor of Eibling Hall. Enter through Room 101. More information is available on the Web at [www.csc.edu/disability](http://www.csc.edu/disability). You can also e-mail the department at [disability@csc.edu](mailto:disability@csc.edu).

On the Delaware Campus, enrollment advisors will assist with referrals to Disability Services by making an intake appointment with a Disability Services counselor. Enrollment advisors are located at the Student Assistance Center in Moeller Hall, (740) 203-8000.

# Diversity, Study Abroad, TRiO Programs

The Diversity, Study Abroad and TRiO Programs Department leads Columbus State's efforts, programs, and activities to increase the access and retention of students from diverse backgrounds. Within the established policies and procedures of the college, the Diversity, Study Abroad, and TRiO Programs Department works with Columbus State offices and departments to:

- Implement orientation and professional development programs related to diversity for college administrative, instructional, professional, and support personnel.
- Promote and market diverse activities, programs, and services that will result in increased retention and graduation rates of multicultural, international and nontraditional students.
- Market Columbus State as an attractive institution of higher education for myriad students to pursue career goals. Implement consistent, well-organized heritage and awareness month programming for the community throughout the year.
- Serve as the liaison and support to faculty, college departments, staff and community regarding all of Columbus State's global perspectives.
- Develop and implement programs and long range plans for Columbus State's international students, visitors, exchange students and scholars, and curriculum.
- Coordinate consistent, well-organized Study Abroad initiatives while promoting and marketing Study Abroad to increase student participation.

The accomplishment of these goals is pursued in collaboration with appropriate offices and departments of the college. The department is active in the Columbus community and has established working relationships with middle and high school principals, counselors and teachers, as well as with local religious, civic, and community leaders. The Diversity, Study Abroad, and TRiO Programs Office develops and presents programming to promote awareness of multicultural issues and the value of a diverse educational community. Through such activities as campus visits and college credit articulation programs, potential students gain exposure to the college and discover its advantages.

This department also facilitates the Global Initiatives Committee and works closely with the Provost's Office to internationalize the curriculum. Additionally, the department works closely with community service agencies, business and industry, professional organizations and other institutions on matters related to community outreach, and it aids in the planning and implementation of service learning projects. For information on the Diversity, Study Abroad and TRiO Programs Department, located in Franklin Hall 223, call (614) 287-5707. On the Delaware Campus, see enrollment advisors in the Student Assistance Center or call (740) 203-8000.

## TRiO Programs

To be eligible for a TRiO program, applicant must be a first-generation college student (neither parent has a four-year college degree), and/or economically disadvantaged or limited income, according to the federal standards (Federal TRiO Programs) and/or an individual with a disability, a learning or physical disadvantage and academic need (determined by project guidelines). For information, call (614) 287-5648 or Delaware Campus students can call (740) 203-8000.

### Educational Talent Search

Educational Talent Search (ETS) is a college access program for low income and/or first generation potential college students in select Columbus Public middle schools and high schools. Qualifying GED students may also receive services from the Educational Talent Search Program. ETS is designed to motivate students to develop the skills and persistence necessary for success in education beyond high school. ETS services include mentoring, student workshops, fieldtrips to college campuses, assistance with financial aid applications, and more. Most services are provided to students at their home school, and occasional evening, weekend, and summer opportunities punctuate the normal school-based curriculum of the ETS program.

Educational Talent Search is part of the federally funded TRiO Program Department, which consists of eight programs providing opportunities for individuals to access higher education by helping them overcome a variety of barriers.

### Student Support Services

Student Support Services (SSS) is a federally funded grant program that provides comprehensive academic support services that enhance students' productivity and academic success. Eligible students receive quality one-on-one academic advising on a regular basis, tutorial assistance, related academic support services and,

in some cases, financial aid assistance. The SSS Program may also provide grant aid to currently enrolled participants who are receiving Federal Pell Grants for the current award year. SSS offers supplemental instruction in developmental courses, personal counseling, exploration of career options, and career counseling and mentoring programs involving faculty, staff, and/or peers. Participants also will have access, as availability permits, to book and laptop loan programs. SSS will provide assistance and support with overall adjustment to community college life.

## Upward Bound

Upward Bound (UB) is a federally funded pre-college grant program designed to increase the academic skills and motivation of program participants to ensure their high school graduation and success in a post-secondary educational program. The expected outcome of the program is that participants will be in a position to successfully choose and complete a college preparatory curriculum leading to enrollment and achievement in a college, university or other post-secondary institution. This will be accomplished through a well-rounded, year-long program designed to address the multiple needs of program participants. To that end, Upward Bound has both summer and academic year components.

### During the Academic Year:

Weekly academic enrichment and tutoring sessions assist students in basic academic areas of math, science, writing and reading. Upward Bound also provides individual academic, career and personal advising.

Upward Bound organizes monthly Saturday Seminars at which guest speakers are invited to discuss special topics, students participate in team-building and leadership activities, and special events are planned.

### During the Summer Component:

A six-week nonresidential academic program is offered. Participants attend UB academic enrichment classes five days per week on the campus of Columbus State. Students also participate in cultural, social and recreational activities.

## Educational Resources Center (Library)

The Educational Resources Center in Columbus Hall houses the Library and the Multimedia Support Center, (providing a multimedia environment to support a wide range of learning experiences.) The library's collection includes print, multimedia and electronic materials. In addition to the collection in the main stacks, there are collections of reference, reserve materials, periodicals (magazines and journals), microforms, and newspapers. The library catalog can be accessed through the ERC's webpage, [www.csc.edu/library](http://www.csc.edu/library), which serves as a gateway to its electronic resources. Through Columbus State's membership in the OhioLINK network, library users on both the Columbus and Delaware campuses have access to materials that may be requested online from the libraries of more than 85 Ohio colleges and universities. You need an active CougarID to access these resources.

In addition to the library's collection of over 400 print periodical titles, users may search over 150 online research databases available through ERC subscriptions on OhioLINK. Many of these databases provide links to full-text articles and may be accessed from home computers. Also available through the ERC website, the Electronic Journal Center provides access to over six million full-text articles from scholarly journals. Reference assistance is available on the main floor of the ERC, and students are encouraged to ask for help in starting their research or in using a particular resource.

In the ERC, there are 56 computer workstations (including two handicap-accessible workstations), as well as copiers and typewriters. Students with an active CougarID can also check out a laptop computer on loan from the Circulation Desk.

There are three art galleries located on the Main and Ground levels of the ERC. The galleries highlight exhibitions by CSCC students and artists residing in the Columbus area. Gallery shows are rotated in and out of the various galleries on a monthly schedule. For more information about the ERC, call the Circulation Desk at (614) 287-2465, Reference Services at (614) 287-2460, or the Multimedia Support Center at (614) 287-2472.

Delaware Campus students can visit the Learning Commons area in Moeller Hall for library services or help with accessing OhioLINK. Call (740) 203-8000 for information.

## E-Mail

Columbus State Community College offers a free, individual e-mail account (Student Mail) to each currently enrolled student. Student Mail is accessible at the website: <http://student.csc.edu/>.

All currently enrolled first-quarter students will receive a letter in the mail notifying them of their account and instructions. Information and instruction booklets are available at the IT Learner Support Center and at the Student Mail website. Individual e-mail user name and password can also be used to access Blackboard courses and login to campus labs.

The IT Learner Support Center, (614) 287-5050, is on the ground floor of the ERC/Library in Columbus Hall. Lab assistants are available in computer labs to answer questions regarding your Student Mail account. Lab assistants are available to answer questions on the Delaware Campus as well. Students can inquire at the Learning Commons desk in Moeller Hall.

## Foodservice Options

Columbus State's Foodservice Operation offers a number of options for enjoying a meal, snack or hot or cold beverage on the Columbus Campus.

The Food Court, located in Delaware Hall, is open Monday through Thursday, 7 a.m.–7 p.m., Friday 7 a.m. –2 p.m., and Saturday 8

a.m.–1 p.m. (hours during breaks and during summer quarter may vary.) Breakfast foods are served each day of operation until 10:15 a.m. For lunch and dinner, the Food Court presents a wide choice of foods each day, including two entrées and a hot sandwich station. The grill offers combo meals comprised of a hot sandwich, fries and a beverage. Other options include pizza, sub sandwiches, salads, soups, fruit, and various beverages. The Food Court also features a sushi chef, who prepares sushi fresh daily. Nutritional information about all food is provided upon request.

For quick, casual service, students can visit the coffee cart in the Nestor Hall Lounge from 7 a.m. until 1 p.m. The coffee cart serves Starbucks and Seattle's Best coffee, as well as a variety of breakfast and lunch "grab 'n' go" items.

In addition, vending machines are located in most campus buildings for convenient, anytime access. In addition to standard food and beverage choices, Columbus State's Foodservice Operation encourages wellness by offering a variety of healthy eating options in our vending machines. Items with the green swirl indicate a healthy choice. Vending machines are also available on the Delaware Campus in Moeller Hall.

For more information, call (614) 287-2483 or visit [www.csc.edu/food](http://www.csc.edu/food).

## Bridgeview Golf Course and Driving Range

Columbus State Bridgeview Golf is a full-service golf facility that offers all of the services and facilities necessary to take your golf game to the next level. The Bridgeview course is a nine-hole course that offers a combination of challenging and forgiving holes ideal for players of all skill levels. The Driving Range provides complete practice facilities including target fairways and greens, putting and chipping greens, and natural-grass tees. Heated and sheltered tees allow for practice in any weather.

Columbus State Bridgeview is open year-round. During the season (March 15–November 15), the Golf Course & Driving Range are open from dawn to dusk. Off season (November 16 – March 14), the Driving Range is open from 10 a.m. – 5 p.m. and the course is open as weather permits (walking only). Golfers are encouraged to call ahead in the off season. Columbus State Bridgeview offers a pro shop, as well as food and beverage service. Discounts on golf rounds and range buckets are provided to Columbus State students, faculty and staff, with a Cougar ID. Columbus State Bridgeview is the ideal place for league play, and special pricing is available for leagues.

The official course of The First Tee of Columbus Chapter, Columbus State Bridgeview is dedicated to helping develop golfing and life skills in youths ages 7-17 who may not otherwise be exposed to the game. In addition, the course works in partnership with the college to provide field experience for students taking golf classes.

Columbus State Bridgeview is located at 2738 Agler Road, at the intersection of Agler, Sunbury, and Cassady Roads, just five min-



utes from Easton or the airport, and 10 minutes from downtown. More information and current specials can be found at [www.csc.edu/bridgeview](http://www.csc.edu/bridgeview) or by calling (614) 471-1565. Tee times can be reserved by phone or online at [golfnow.com](http://golfnow.com) (search term: Bridgeview).

## Housing

Columbus State does not provide campus housing, but the Student Activities Office (Nestor Hall 116) does disseminate information it receives on off-campus housing opportunities. This information includes postings for apartments or homes to share and for roommates. Stop by the office or call (614) 287-2637 for more information.

## IT Support Services

Students, faculty and staff can get help with college-owned computer problems or Clean Access wireless issues by calling (614) 287-5050 between 7 a.m. and midnight, seven days a week. Delaware Campus students can get IT help by inquiring at the Learning Commons desk.

## Intercollegiate Athletics

Columbus State currently fields teams and offers athletic scholarships in the following Division II intercollegiate sports:

Men's Basketball	Women's Basketball
Co-ed Golf	Women's Volleyball

The college also boasts an award-winning, co-ed cheerleading squad. All students are welcome to try out for athletic teams and the cheerleading squad. Tryouts are typically held during autumn quarter, with the exception of women's volleyball, which holds tryouts during summer quarter.

To participate in athletics, a student must be a high school graduate or have earned a General Education Diploma (GED). Student athletes must carry a minimum of 12 credit hours per quarter and maintain the required GPA to be eligible for competition and/or athletic scholarships. (Some part-time students may be eligible to play).

The college adheres to the guidelines established by, and is a member of, the National Junior College Athletic Association (NJCAA). Columbus State is also a member of the Ohio Community College Athletic Conference (OCCAC). This conference status allows Cougar student-athletes to compete against athletes at other two-year colleges as well as those at some four-year institutions. For more information about athletic programs, tryouts and/or athletic scholarships, call (614) 287-5092, stop by the Athletics Office located in Delaware Hall 134, or visit [www.csc.edu/sports/](http://www.csc.edu/sports/).

## Intramural Sports

The intramural sports program is an integral part of campus life. Intramural activities provide the campus community the opportunity to compete in athletic events without the time commitment of intercollegiate athletics. All students, as well as faculty and staff, with a valid Columbus State ID are eligible to compete. Intramural offerings include basketball, bowling, volleyball, softball, soccer, floor hockey, wiffle ball, and flag football. For more information, call (614) 287-5092 or stop by the Athletics Office in Delaware Hall, Room 134.

## K–12 Initiatives

The mission of the K-12 Initiatives Department is to enhance the educational opportunities for youth in Columbus State's service area while fostering the development of lifelong learning. This department is directly responsible for the following programs:

### Underage Student Population Enrollment Options

This program allows students between the ages of 14 and 18, with or without a high school diploma, to enroll in college credit coursework. Students may be enrolled in public, private or home school institutions and are considered self-pay students. The coursework they complete may apply toward high school graduation requirements, as established by the secondary institution they are attending.

### Post Secondary Enrollment Options Program

PSEO allows students in high school to attend college and apply the college credit earned to their high school graduation requirements.

### Secondary to Post Secondary Articulation

Columbus State Career and Technical Programs have worked with area high school career and technical programs to create the opportunity for students in approved programs to articulate into two-year associate degree programs with credit for the work they completed while in high school. Additionally, agreements exist for students completing Adult Education and Workforce programs with the same secondary school districts.

### College Tech Prep Program

Through this initiative, current high school Tech Prep students can enter into articulated two-year associate degree technical programs with advance placement from articulation agreements.

### Cougar Crew Reading Literacy Tutor Program

Columbus State students and employees serve as reading literacy tutors in area elementary schools during and after school.

### Enrichment Programs

These initiatives reach out to individuals and families with activities providing academic enrichment. Programs include Kids In College, Youth In College, Summer Youth, and Literacy Festivals.

### The First Tee of Columbus

Bridgeview Golf Course serves as the host site for The First Tee of Columbus, a youth character development program that integrates

the game of golf with nine core values promoting physical activity and life enhancing values. The program serves the central Ohio area and works with youth from the ages of 5 – 18, regardless of their background or level of golf experience.

### **Linkages for Primary and Secondary Education**

These provide opportunities for training and development to enhance knowledge, experiences, and practice regarding college and lifelong learning options for professionals and their students.

Information about K–12 Initiatives can be found at [www.csc.edu/k-12](http://www.csc.edu/k-12). Laurie Johns, Administrator, (614) 287-5961

## **Peer Tutoring Program**

The campus-wide Peer Tutoring Program offers individual tutoring to eligible learners through the Developmental Education Department. The purpose of the program is to supplement the learner's academic performance. Tutoring service is based on tutor availability; consequently, learners are not guaranteed a peer tutor. Walk-in service is available for students who need minimal assistance. Learners are encouraged to request a tutor the second or third week of classes. For more information, call (614) 287-2474.

## **Tutoring Services**

### **Learning Skills Centers (LSC)**

Two Learning Skills Centers on the Columbus Campus offer tutorial assistance from professional tutors in the Developmental Education Department. Tutoring is provided for developmental mathematics and for reading and writing courses. These Learning Skills Centers also house computers for student use and provide lecture tapes for students who wish to view lectures after classes. Learners are encouraged to visit the LSC to enhance their academic studies. Both centers are located in Aquinas Hall: Mathematics in Room 213 and Reading/Writing in Room 214. For more information, call (614) 287-5193.

### **Math Tutors**

Faculty tutors are available on a walk-in basis for most math courses, beginning with MATH 102 through MATH 104 and other selected courses, in Room 313, Davidson Hall. For more information, call (614) 287-5313.

### **Biological Sciences and Physical Sciences Tutors**

Faculty tutors are available for most Biological Sciences and Physical Science courses in Nestor Hall, Room 023. For more information, call (614) 287-2522.

### **English as a Second Language Tutors**

Faculty tutors are available to ESL students in Franklin Hall, Room 245. For information, call (614) 287-5400.

**The Delaware Campus also provides certain tutoring services upon request. Visit the Student Assistance Center reception desk to request a tutor or call (740) 203-8000.**

## **Public Safety/Campus Police**

**(614) 287-2525 or 911 for Emergency**

**Delaware Hall 047 (24 hours, 7 days a week)**

### **Police, Environmental Health, Safety-Security, Special Services and Parking Enforcement**

The Department of Public Safety is responsible for law enforcement, parking enforcement, environmental health and safety, crime prevention, security, and access to facilities. In addition to our own campus police, there are additional layers of security that blanket the CSCC Columbus campus area, including additional Columbus Police Officers and the Discovery Special Improvement District patrol units, due to the college's participation in a unique neighborhood security partnership. The Department of Public Safety, centrally located on the Columbus campus in Delaware Hall Room 047, is staffed 24 hours a day, 7 days a week. Columbus State campus police officers are certified by the Ohio Attorney General's Office, Ohio Peace Officers Training Council and have full arrest authority, granted by the Ohio Revised Code, Section 3345.04. The officers provide the following services:

- Crime prevention via patrol of campus lots and buildings, and education
- Investigation of crimes, threats, harassment, disruptive or offensive actions and disorder
- Investigation of forced entry, theft or vandalism, and other criminal activity
- Security escort service (Call 2525 if you need a security escort.)
- First aid
- Enforcement of local, state, federal laws and college policy

### **Reporting a Crime, Accident, or Emergency**

Criminal acts, accidents, suspicious behaviors, or emergencies must be reported to the department at (614) 287-2525 or in person on the Columbus campus at Delaware Hall Room 047, or by calling 911, or activation of emergency phones. Columbus State has an excellent safety record.

### **Safety and Security Systems**

Security cameras operate in a limited number of public spaces for the purpose of evidentiary preservation in the event of a crime, but are not routinely monitored. The Department of Public Safety is responsible for the operation of safety and security systems.

### **Emergency Management Response Guidelines**

During an emergency, we all must take responsibility for our own safety, and assist those around us, especially helping people with disabilities during an emergency. For more Emergency Management Guidelines, go to the Columbus State Public Safety website and follow the links to Emergency Response.

### **If You Are the Victim of a Crime**

If you believe you've become the victim of a crime on campus or in a campus-controlled facility, please take the following steps:

- Immediately report the crime to campus police at (614) 287-2525 (or the local police agency). If at all possible, don't leave the area until you have spoken with a police officer about the incident, as leaving and doing other things consumes valuable time. However, your safety is the primary concern; if you feel safer leaving the area, then do so and call the police as soon as you can.

- Try to get a good description of the suspect, noting gender, race, and clothing.
- If the suspect enters a vehicle, try to get a description of the vehicle and license number. Note the direction of travel, but do not attempt any of this if the activity would expose you to danger. Protect yourself above all else.
- Preserve evidence. Do not touch or move anything you don't have to. If the offense is a sex crime (such as rape), do not launder clothing or take a shower if you are the victim. There may be valuable transfer evidence on your clothing or body.

### **Victim Counseling – Columbus Campus (614) 287-2668 or <http://www.csc.edu/counselingservices>**

Counseling Services offers academic, career, and personal counseling to currently enrolled students. Counseling services can address such issues as depression, anxiety, alcohol and drug abuse, academic concerns, adjusting to stressors and many other issues. Counselors provide confidential, individual counseling sessions on a short-term basis, crisis intervention, consultation, support groups, and referral to community resources, if needed. All personal and career counseling sessions are free and confidential. Counseling services are available by appointment. Please call or stop by to schedule an appointment.

### **Columbus Campus Hours**

General hours are **6:00 a.m. to 11:00 p.m. Monday through Friday**. There are varying class hours on weekends and some holidays. Buildings generally close at **6:00 p.m. on weekends** except for special events.

### **Delaware Campus Hours and Information**

The Delaware Campus is located just south of the City of Delaware at 5100 Cornerstone Drive. Buildings at the site will be staffed by Safety and Security personnel.

Department of Public Safety personnel can be reached by calling **(614) 287-2525 or in an emergency, 911**. Law enforcement and criminal acts are under the jurisdiction of the Delaware County Sheriff's Office. Criminal acts, accidents, suspicious behaviors, or emergencies must be reported to the Delaware County Sheriff's Office at **(740) 833-2800 or by calling 911**, and then calling the Columbus State Community College Department of Public Safety at (614) 287-2525.

### **Fire and Arson**

- Columbus State has had no loss of life and no major building structure fires. Employees receive annual training on fire prevention, which includes proper use of a fire extinguisher.
- Columbus State Community College is a non-residential campus.

### **Clery Crime Statistics**

Clery crime statistics, annual security report, crime logs, emergency preparedness, and parking information are available online at <http://csc.edu/PublicSafety/cucr>.

### **Advising the Campus about Sex Offenders (E-SORN Website)**

- The Department of Public Safety maintains a link to the Ohio Attorney General's website for sex offenders. This link can be found at <http://csc/PublicSafety/so.htm>.
- Electronic Sex Offender Registration Network (E-SORN)

### **MOU Disclosure for Criminal Investigation**

The Columbus Police Department, Delaware County Sheriff's Office, or other local jurisdiction will assist our campus police with selected investigations, such as sexual assault, homicide, arson related offenses, or other offenses that would require specialized equipment and/or training to properly investigate.

### **Campus Timely Warning**

In the event of a critical incident on or near a campus, Columbus State Community College utilizes one or more of the following methods: e-mail, mass media, or an outdoor warning system to alert students and staff of the situation.

### **Children on Campus**

Children fourteen years of age and under must be accompanied and attended by an adult while on campus. Children are not to be taken into classrooms unless authorized by the instructor in advance. **Children will not be left unattended in automobiles.**

### **Animals on Campus**

- To receive approval to bring a non-service animal onto the college campus, the animal owner must follow specific steps set forth by college policy 13-03 (A).
- This policy can be found at [http://www.csc.edu/policy/pdf/13-03%20\(A\).pdf](http://www.csc.edu/policy/pdf/13-03%20(A).pdf)

### **Parking Permits**

**All motor vehicles, including motorcycles, parked on either campus must have a current Columbus State parking permit.** Permits can be purchased online or from the Cashiers and Student Accounting Office located on the second floor of Rhodes Hall.

- To purchase a quarterly permit, student must have paid tuition fees. One parking permit per person. **Please update your mail-ing address and allow 2 weeks for processing.**
- Lost or stolen permits will be replaced at a cost.
- Temporary permits are available from the Public Safety Department at no cost. They are issued to those individuals who need to temporarily park a vehicle that does not have a parking permit. The temporary permit will be issued providing verification of the purchase of a regular permit.
- Unpaid fines from college parking citations are submitted to the Ohio Attorney General's office for collection, as required by law.
- College parking citation appeals must be made within five (5) business days of the date of issuance. The appeals process is available online from any Columbus State computer. Go to the Public Safety website at <http://csc/PublicSafety/parking.htm> and follow the link from Parking to Citation Appeals.

**Note: Parking meters are for visitors only.** Unauthorized and illegally parked vehicles are subject to being cited and towed at the owner's expense. Columbus State Community College disclaims all responsibility from losses from or damages to vehicles parked on property controlled by Columbus State. Columbus State Community College is not responsible for losses from or damages to any vehicle towed from campus. If your vehicle has been towed, please contact the Department of Public Safety at (614) 287-2525, or stop in person at Delaware Hall, Room 047 for information on getting your vehicle released.

Secure your vehicle and keep your valuables out of plain view. It is recommended that you store your valuables in the trunk of the vehicle, or out of view. More information on parking regulations, fines, and the appeals process can be found at [www.cscc.edu](http://www.cscc.edu). Click on the "Public Safety" link. At this site, you can also find information about affixing parking permits.

## Handicap Parking

- Anyone parking in a handicapped parking space must have a state-issued handicapped license plate or placard in accordance with Ohio Revised Code 4511.69.
- Handicap permits are non-transferrable.
- Violators can be cited and towed at the owner's expense, and fined up to \$500.00 according to state law.
- Police issued State of Ohio citations are processed by the local courts, not Columbus State.
- If a current state-issued handicapped placard is properly displayed, along with a college parking permit, parking is available in any lot on campus (not just handicap spaces).

## Recreational Facilities

Nestor Hall is home to a study lounge (west side) and a recreation lounge (east side). In the recreation lounge, there is a large-screen monitor, a ping-pong table and a foosball table. Equipment for use with the recreational activities is available 8:30 a.m. – 4:00 p.m., Monday through Friday. Students can enjoy watching a movie (changes weekly) Monday–Friday, from 9 a.m. – 3:30 p.m. There is also a gymnasium in Delaware Hall 134. Open gym is Monday through Friday from 9 a.m. – 12 noon.

The college's newly renovated and expanded Fitness Center is open to all Columbus State students, faculty and staff (with a valid college ID) from 8 a.m. to 8 p.m., Monday –Thursday and from 8 a.m. to 6 p.m. on Fridays. The Fitness Center, located on the lower level of Delaware Hall., offers cardio and multipurpose strength equipment as well as free weights. Men's and Women's locker rooms are adjacent to the Fitness Center, making it easier for individuals to workout before and after classes or during lunchtime. Call (614) 287-5918 or 287-5348 for more information.

See page 38 for information on Columbus State's Bridgeview Golf Course and Driving Range.

## Speech Rehearsal Lab

The Speech Lab offers tutoring and support to students who would like help in developing speeches or other forms of oral presentations. You can get help with outlining, speaking, managing stage fright, and other needs related to speaking performance. The lab is located in Nestor Hall, Room 017, and is open Monday–Friday. Please visit <http://speechhelp.org> for an appointment or call (614) 287-5391 for additional information or help.

## Student Activities and Athletics

The Department of Student Activities and Athletics (Student Activities Office, Nestor Hall 116 and Athletics Office, Delaware Hall 134) offers a variety of co-curricular activities that enhance students' educational experience and aid in the development of lifelong skills. Students are also offered a wide range of opportunities to improve their general leadership skills while on campus. For information, call (614) 287-2637 or visit the Student Activities and Athletics website, <http://cscc/ATHLETICS/index.html>.

### Student Ambassador Program

The Student Ambassador Program was developed to give students the opportunity to participate in various public relations and recruiting activities at Columbus State. The primary objectives of the program are to provide students with basic leadership training and to allow students the opportunity to work in a number of departments on campus. Community outreach and community service is also a component of the Student Ambassador Program. Applications for the Student Ambassador Program are available during spring quarter.

### The National Society of Leadership

The founding chapter of the National Society of Leadership (NLS) was inducted autumn of 2009. The mission of NLS is to provide leadership training aimed at helping students to become leaders in their chosen fields. The Society offers lectures from the nation's leading presenters and a community where like-minded, success-oriented individuals can come together and help one another achieve their goals.

### Special Events and Activities

The Department of Student Activities and Athletics offers a number of special events and activities such as Welcome Back (Autumn), Spirit Week (Winter), Spring Fling (Spring), and Jazz in July (Summer). In addition, Black History Month, Women's History Month, Asian-Pacific American Awareness Month, and other special interest activities are celebrated.

For more information about Student Activities and Athletics, call (614) 287-2637.

The Delaware Campus plans to initiate Student Activities there as well. Inquire at the Student Assistance Center about any of the above programs.

# Student Organizations

In order to be recognized by Columbus State Community College and be eligible for benefits of that recognition, student clubs and organizations must register as a new club or organization and annually renew the registration of an existing club or organization with Student Activities and Athletics, Nestor Hall Room 116, (614) 287-3656. Registration signifies that the club or organization will comply with the rules, regulations, and guidelines of the college. Each year new clubs and organizations are added to enhance campus diversity. At the time of catalog publication, active clubs at Columbus State included:

- ASL Connection
- Autism Club
- Black Student Union
- College Democrats
- Columbus State Landscape Association
- Columbus State Student Nurses Association
- Construction Specification Institute (CSI) Student Chapter
- Cougar Pride (GLBT)
- CSCC Respect for Life
- CSCC Tae Kwon Do and Martial Arts Club
- Eta Sigma Delta-Hospitality Management Honorary
- International Student Association
- Massage Therapy Student Association
- Muslim Student Association
- Phi Theta Kappa, Rho Epsilon Chapter
- Pan-African Student Union
- Pre-Law Society
- Respiratory Therapy Student Organization
- Senior Nursing Class Organization
- Sport and Exercise Studies Club
- Student American Dental Hygienist Association (SADHA)
- Student Government Association
- Table Top Gaming Association
- Veterinary Technicians

Please note that the active status of some of these groups varies from year to year. To learn if the group you are interested in is currently active, please check out the organization list on the Student Activities and Athletics webpage. To learn more about Columbus State clubs and organizations, or to start your own group, stop by the Student Activities Office, Nestor Hall 116, or call (614) 287-2637.

# Student Rights and Responsibilities

## Student Conduct

The aim of Columbus State Community College student conduct policies and procedures is to educate students on their rights and responsibilities as college community members and to promote a college environment that is conducive to student success. Students are expected to perform all work honestly, maintain prescribed academic standards, pay all debts to the college, and respect the property and rights of others. This includes any activity, on or off campus that negatively impacts the college or its students or staff.

Any student violating Columbus State Community College policies or rules may be placed on disciplinary probation or be dismissed. Concerns involving allegations or violations of civil rights, including but not limited to sexual harassment, sexual misconduct with students, and/or harassment, are addressed by the college's EEO officer in the Human Resources Department. In technologies that include internship employment or clinical experiences, good standing with the cooperating employer or clinical affiliate is expected and is essential to continuation in the program. A copy of the Student Conduct Policy, the Academic Conduct Policy, the Student Code of Conduct and related procedures is published in the Student Handbook (see below). For more information, please contact the office of the Dean of Student Life Office (Eibling Hall 201) 287-5299.

## Student Handbook

The Student Handbook is a useful guide to many of the college resources available to students. The handbook provides information on student rights and responsibilities, policies, procedures, activities, services, and extracurricular opportunities at Columbus State. The Student Handbook is available through many student services offices including Advising Services (Aquinas Hall 116), Counseling Services (Aquinas Hall 116), and Student Activities and Athletics (Nestor Hall 116). It also can be found on the college website, [www.csc.edu](http://www.csc.edu). The Student Assistant Center in Moeller Hall on the Delaware Campus also has copies of the Student Handbook.

## Sexual Harassment and Sexual Assault Policy

Columbus State Community College believes that all employees and students should be able to work and learn in an environment free of all discrimination and any form of sexual harassment or assault. To help ensure that employees and students are not subjected to illegal harassment or assault, and in order to create a comfortable work and learning environment, the college strongly opposes and prohibits any offensive physical, written, spoken or nonverbal conduct as defined and otherwise prohibited by state and federal law. In addition, sexual assault involving physical contact, sexual battery, and rape are felony crimes in Ohio.

In cases where the student is the perpetrator, college policy defines sexual harassment and sexual assault as an example of general student misconduct, which may result in penalties up to and including dismissal from the college. For more information, or if you or someone you know is being sexually harassed, contact the college's EEO officer in the Human Resources Department, Rhodes Hall lower level, (614) 287-2408. In emergency cases or after business hours, and ***in all cases of sexual assault or rape***, immediately contact the Public Safety Department, Delaware Hall 047, (614) 287-2525, 24/7. In all cases of sexual harassment or sexual assault, confidential personal counseling and support for students is available in Counseling Services, Aquinas Hall 116. Please call any of the following counselor phone numbers: (614) 287-5414, (614) 287-5638, or (614) 287-5416. For more information you may also contact the office of the Dean of Student Life (Eibling Hall 201), (614) 287-5299.

## Student Problem Resolution

A student problem resolution process has been established to help students resolve nonacademic and nondisciplinary problems they may encounter in college. A copy of the Columbus State Commu-

nity College Student Problem Resolution process is published in the Columbus State Student Handbook. The Student Handbook is available through many student services offices including Advising Services (Aquinas Hall 116), Counseling Services (Aquinas Hall 116), Student Activities and Athletics (Nestor Hall 116), and the Dean of Student Life, Eibling Hall 201. Delaware Campus students can ask for a Student Handbook at the Student Assistance Center in Moeller Hall.

### **Student Right to Know**

Under the terms of the Student Right to Know Act, the college must maintain and report statistics on the number of students receiving aid related to athletics, reported by race and gender; the graduation rate for athletes participating in specific sports, reported by race and gender; the graduation rate for students in general, reported by race and gender; and other relevant statistics. To obtain copies of these reports, contact the Dean of Student Life Office, Eibling Hall 201, or access [www.csc.edu](http://www.csc.edu).

### **Crime Awareness and Campus Security Act**

Federal legislation requires Columbus State Community College to maintain data on the types and number of crimes on college property as well as policies dealing with campus security. To obtain additional information, contact the Public Safety Department, Delaware Hall 047, (614) 287-2525, or access [www.csc.edu](http://www.csc.edu).

## **Testing Center**

### **Both Campuses Offer College Testing Services**

The mission of the Columbus State Testing Center is to meet the testing needs of the campus community. The Testing Center provides a facility in which tests can be administered accurately and securely according to instructor and department guidelines. The center offers COMPASS® Placement testing, distance learning testing, departmentalized testing, and classroom make-ups. (After a student completes the COMPASS Placement test, an advisor in Advising Services will interpret the test results and make recommendations for appropriate courses.) The Testing Center also provides a community outreach proctoring service for non-Columbus State academic examinations. There is a service fee of \$25 per non-Columbus State exam. The proctoring service is available to anyone in the community; however, the Testing Center reserves the right to deny a proctor request at any given time. The Testing Center maintains a partnership among learners, faculty, the community and the center's staff.

Tests may be taken anytime between the opening and closing times of the Testing Center. However, academic tests will not be administered one hour prior to closing. COMPASS Placement testing does not start two hours prior to closing. No extension of time will be given; therefore, participants should plan sufficient time for taking tests. Students currently enrolled in classes, or who may need to take the COMPASS Placement tests, can report to select off-campus sites. Please call ahead for days and times. A picture ID is required to take a test at any of the locations.

The Columbus Campus Testing Center is located in Aquinas Hall, on the Lower Level, Room 002. Phone number is (614) 287-2478. The Testing Center on the Delaware Campus is on the main floor of Moeller Hall. The phone number there is (740) 203-8000. In an effort to provide a distraction-free testing environment, children, food, beverages and cell phones are not permitted in the Testing Center.

## **Wellness Program**

The Department of Student Activities and Athletics sponsors a wellness program for students, faculty, and staff of the college. Individual wellness consists of five components: physical, social, emotional, mental, and spiritual. The activities offered through the wellness program attempt to balance the five components through lectures, hands-on demonstrations, and seminars. Typical wellness offerings include Zumba, Pilates, tae kwon do, tai chi, women's self-defense, and yoga. For more information, call (614) 287-2637.

## **Writing Center**

The English Department invites all students to use the Writing Center, located in Franklin Hall, Room 245. The Center is open Monday through Saturday; call (614) 287-5717 for an appointment. It is helpful if students bring to their appointment: a copy of their composition assignment and any pre-writing materials.



# Community Education and Workforce Development

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# Community Education and Workforce Development

## Community Education and Workforce Development

**Dr. Jane Schaefer, Dean, Community Education and Workforce Development**  
**(614) 287-2511**

The Division of Community Education and Workforce Development is comprised of three departments: 1) Center for Workforce Development, 2) Transitional Workforce, and 3) the Columbus State Conference Center.

Center for Workforce Development at Columbus State is a full-service resource center for individuals and businesses. The Center partners with the community to address workforce and economic development needs through innovative approaches to ongoing education, career counseling, talent development, customized training, organizational performance, and business consulting. The staff has expertise in 21<sup>st</sup> century, cutting-edge applications which make the Center for Workforce Development the resource of choice for new and established enterprises, as well as for individuals seeking career growth. Each year, the Center for Workforce Development at Columbus State delivers thousands of skill ability and behavioral assessments and offers more than 50 professional development seminars. Employees wanting to move ahead in their careers also can complete professional and industry-recognized certifications.

New and emerging entrepreneurs can tap the Small Business Development Center, an affiliate of the Center for Workforce Development, for its business expertise. The SBDC offers one-on-one consulting, networking programs, business-related classes and a familiarity with funding resources.

The Transitional Workforce Department provides courses for a variety of students who want to gain the skills needed to enter, re-enter, or advance in the workforce. These include individuals who want to pursue initial career and educational goals via non-credit courses, and those who are not yet eligible or ready for credit classes. Through the Transitional Workforce Department individuals can take advantage of language instruction, academic enrichment, technology training, job training, and continuing education, in traditional and nontraditional settings—including jobsite presentations.

The Columbus State Conference Center features over 13,000 square feet of multi-functional space on one convenient level. The Columbus State Conference Center is an ideal venue for productive and successful events in a professional setting at an affordable cost. Government, business leaders, as well as nonprofit and private sector groups, find the Columbus State Conference Center a perfect location for their functions. The Conference Center features spaces with plenty of natural light, all-inclusive pricing that includes audio-visual, wireless Internet access and a business center.

The Center for Workforce Development is directed by Cheryl Hay, (614) 587-2415. Nancy Case, (614) 287-3911, oversees the efforts of Transitional Workforce Department. Rita Bedritis; (614) 287-5761 supervises the Conference Center operations. The Center's web address is [www.csc.edu/workforce](http://www.csc.edu/workforce).

## Center for Workforce Development (614) 287-5000

The Center for Workforce Development provides innovative approaches to training, consulting and education through customer-driven partnerships. The unit's varied services can help companies assess, analyze, and target cost-effective solutions to meet the specific challenges facing their organizations.

The Center for Workforce Development can provide any organization with:

- Leadership and supervisory skills training
- Customer service training
- Business communications training, verbal and written
- Communication, interpersonal skills, and team building
- Consulting services and business/organizational development programs
- Quality programs such as Lean Manufacturing and ISO training certification
- End-user computer training involving word processing, spreadsheets, presentations, e-mail, Web authoring, and more
- Industrial technology programs relevant to many industries; technologies include hydraulics, pneumatics, electric motors, HVAC, and advanced manufacturing
- Accounting and financial training/consulting for financial and nonfinancial managers
- Human Resources training
- Customized individual, small or large training built around organizational needs
- Job analysis and employee assessments
- Experienced personnel to coordinate and implement training
- Quality trainers, consultants and instructors

For more information, or to meet with a professional training and performance consultant, call (614) 287-5000 or visit our Web site at [www.csc.edu/workforce](http://www.csc.edu/workforce).



## Professional Development Seminars

Professional Development Seminars are one-day, noncredit courses meeting from 8:30 a.m.– 4:30 p.m. Course fees range from \$125 to \$145 and *include all learning materials*. For information, dates and locations, or to register, call (614) 287-5000 or check the Web site at [www.csc.edu/workforce/seminars/computer/](http://www.csc.edu/workforce/seminars/computer/). The following descriptions, titles and fees are current at publication time but are subject to change.

### Computer Skills Seminars

#### **BICPT 901 Introduction to Microsoft Word 2007**

During this seminar, participants will learn how to create, edit, open, save and print documents; format characters and paragraphs; create and format tables; set margins; create headers and footers; and check spelling.

#### **BICPT 911 Intermediate Word 2007**

Students will learn intermediate skills such as creating multiple columns; applying borders and shading to tables; utilizing styles and templates to automate formatting; inserting and formatting graphics and drawings; and printing envelopes and labels.

#### **BICPT 921 Advanced Word 2007**

Word users will learn to maximize productivity with advanced tools and techniques such as forms, form letters, mail merges, macros, and revision marking.

#### **BICPT 902 Introduction to Microsoft Excel 2007**

In this seminar, participants will learn how to create, edit, open, save and print workbooks; enter data, formulas, and functions; use absolute and relative references; format cells, and insert charts.

#### **BICPT 912 Intermediate Excel 2007**

In this course, Excel users will enhance their skills, learning to work with lists; link and consolidate worksheets; create combination charts; sort and filter; and use advanced formatting.

#### **BICPT 922 Advanced Excel 2007**

Participants will be introduced to advanced Excel tools and techniques such as pivot tables, pivot charts, goal seek, macros, database functions, and external database queries.

#### **BICPT 903 Introduction to PowerPoint 2007**

During this seminar, participants will learn how to create, edit, open, save, and print presentations; format text; add, rearrange, and delete slides; use templates; utilize slide masters; insert tables, charts, and clip art; check spelling; and deliver presentations.

#### **BICPT 923 Advanced PowerPoint 2007**

Participants will learn to use advanced PowerPoint tools and techniques such as custom presentations, animations, special effects, multimedia, and integration with other Microsoft Office applications.

#### **BICPT 913 PowerPoint Beyond Bullet Points**

The Beyond Bullet Points approach opens dramatic new possibilities for treating the PowerPoint screen as a canvas to promote dialog and collaboration. Slides work as visual triggers to increase

the presenter's confidence and engagement with the audience. The resulting multimedia experience balances visual and verbal elements, allowing for more effective message communication.

#### **BICPT 904 Introduction to Microsoft Access 2007**

In this course, participants will learn basic database concepts: how to plan, design, and create a database; work with fields and records; create and execute queries; create and use forms; and create and use reports.

#### **BICPT 914 Intermediate Access 2007**

Access users will add to their skills in this intermediate seminar, learning how to normalize and implement referential integrity. In addition, participants will learn how to relate tables, create advanced queries, add graphics and calculations to forms and reports, and add charts.

#### **BICPT 924 Advanced Access 2007**

Access users will master advanced tools and techniques such as pivot tables, pivot charts, advanced forms, macros, Access SQL, and Internet integration.

#### **BICPT 205 Microsoft Outlook**

Many people have e-mail at home or work but don't know how to manage its capabilities. This seminar is designed to provide those individuals with the skills to create and customize a message, work with attachments, use the mail management tools, and work with the electronic calendar.

#### **BICPT 601 Introduction to Microsoft Project**

This seminar gives participants the skills necessary to organize the tasks involved in the completion of a project, monitor the progression of projects, and make the best use of allotted time, money and resources. NOTE: In addition to the basic tools and techniques of MS Project; this course will reinforce theories and topics presented in the Project Planning and Management Fundamentals seminar.

#### **BICPT 621 Advanced Project**

Productivity will soar as participants learn to use advanced tools and techniques such as baselines, hyperlinks, drawing tools, reports, consolidating multiple projects, and sharing resources across projects.

NOTE: In addition to the basic tools and techniques of MS Project, this course will reinforce theories and topics presented in the Project Planning and Management Fundamentals seminar.

#### **BICPT 404 Dreamweaver**

##### 2-Day Seminar

Dreamweaver is a powerful Web-authoring package and is the choice of Web development professionals and others who want to go beyond the basic capabilities of tools like FrontPage. This two-day seminar will help students get started with Dreamweaver to create a basic Web site complete with links, images, formatting, style sheets, and tables.

Prerequisites: It is recommended that participants have a basic knowledge of HTML markup, including structure and formatting tags, and an understanding of file management, particularly directory trees.

### **BICPT 703 QuickBooks Pro**

Participants will learn how to navigate this software that can share data with more than 60 programs. QuickBooks Pro offers a full set of accounting features including payroll, credit card authorization, and inventory capabilities.

### **BICPT 801 Adobe Acrobat Professional**

Attendees will learn to convert and combine proposals, presentations, images, and other documents into one compact PDF file using Adobe Acrobat. Skills introduced include annotation, linking, and bookmarking to create notes, as well as learning to use dynamic date-time stamps, file viewing and navigation aids.

### **BICPT 802 Adobe Photoshop 2-Day Seminar**

To be successful in this course, attendees should have a knowledge and/or understanding of the following: color palettes and color models such as RGB and CMYK; the differences between raster formats such as GIF or JPG and vector formats such as EPS; and prior experience with draw tools including stroke, fill, and Bezier curves.

## **Business Writing Skills Seminars**

### **BIBUS 111 Report and Proposal Writing**

Attendees will learn to analyze report and proposal requirements and prepare reports that address the requestor's needs regarding content and writing style.

### **BIBUS 110 Technical and Procedural Writing**

In this course, participants will learn basic techniques used in technical writing, including how to incorporate the elements of style and usage in step-by-step writing, how to assemble material, and how to write a technical report. Participants will learn how to convey a complex message with a minimum number of words and images.

### **BIBUS 105 Grants: Research and Writing**

This course presents an overview of the grants writing process. Participants will be introduced to the entire process, from visioning through proposal submission. Additionally, this course will help those attending to locate and identify grant opportunities, analyze submission guidelines, and prepare a winning proposal.

### **BIBUS 108 Proofreading and Editing Techniques**

This hands-on seminar presents effective proofreading and editing techniques. Course details proofreader's marks used to indicate text and layout changes and covers basic grammar, including punctuation, sentence structure, and style.

### **BIBUS 101 Grammar for the Work Place**

Who or Whom? Who, Which, or That? Which word is correct in the context of a certain sentence? This course covers the basics of grammar: parts of speech, sentence structure, punctuation, capitalization, and correct usage.

### **BIBUS 109 Writing for Business: Level 1**

Participants learn to communicate more effectively using clear, concise language and writing techniques appropriate for a variety of business communications. Other topics covered include active vs. passive voice and writing effective memos.

### **BIBUS 112 Writing for Business: Level 2**

Building on the skills gained in the prerequisite course, Writing for Business Level 1, students will develop additional skills in proofreading, editing, memo organization and audience analysis.

### **BIBUS 120 Flub-Proof Business Writing**

After learning about common mistakes, participants will learn how to write in a clear, organized, error-free manner. In this seminar, the basics of good writing, from organization to mechanics, are broken down into 50 simple, easy-to-follow, "flub-proof" rules. These rules lead, step-by-step, to better workplace communications.

## **Organization and Project Management**

### **BIBUS 107 Project Planning and Management**

Focusing on effective project management, this introductory course will provide participants with the tools to define, plan, implement, and evaluate projects.

NOTE: In addition to basic project management tools and techniques, this course will reinforce skills and topics presented in the Microsoft Project seminars.

### **BISFT 106 Problem Solving and Decision Making**

Participants will learn how to identify different problem-solving styles that address the big picture, not just the task at hand. This course helps develop creativity, efficiency, and critical thinking that can be applied in solving everyday problems.

### **BIPDV 301 Goal Setting**

The ability to set goals is critical to success. This seminar will teach participants how to set both personal and career goals.

### **BIBUS 106 Office Organization Skills**

Organizing the workspace makes work easier and more efficient. Techniques taught in this seminar will help participants conquer the endless flow of paperwork.

### **BIPDV 302 Time Mastery Profile**

In today's fast-moving workplace, it's crucial to make the most of every day. The Time Mastery Profile® is a complete assessment tool that helps individuals set priorities and manage time more efficiently by evaluating their effectiveness in 12 critical areas: Attitudes, Goals, Priorities, Analyzing, Planning, Scheduling, Interruptions, Meetings, Written Communication, Delegation, Procrastination, and Team Time. NOTE: The assessment is sent as pre-work, to be completed online prior to training.

## **Human Dynamics Seminars**

### **BILNG 601 Discovering Diversity Profile**

The Discovering Diversity Profile® provides a safe, confidential way for employees to explore critical and complex diversity issues. Attendees will identify existing attitudes so as to understand how their viewpoints and behaviors affect others. Participants will also learn how to limit the influence of stereotypes, reduce conflict and embrace diversity as a source of organizational strength. NOTE: The assessment is sent as pre-work, to be completed online prior to training.

### **BIPDV 303 Stress Management**

Participants will learn to cope with stress in their lives by identifying stress initiators and turning them into powerful drivers for change and accomplishment.

### **BISFT 105 Managing Relationships at Work**

Anyone interested in learning how to work more effectively with people will find this seminar valuable. Using the information presented, participants can improve relationships with supervisors, coworkers and customers.

### **BIPDV 201 Emotional Intelligence: EQ**

Emotional Intelligence is an alternative kind of intelligence that impacts our everyday functioning. Self-management, control, self-motivation and managing emotions in the workplace are just a few of the topics that will be covered in this course.

### **BISFT 108 Working with Difficult People**

This course will teach participants how to use a behavioral style model to build the skills needed to deal with difficult people.

### **BIPDV 801 Conflict Management: A DiSC-Based Approach**

Organizations can promote a well-balanced work environment by helping employees understand their own and others' behavior in conflict, and by providing them with the problem-solving skills needed to manage adversity in the workplace. By incorporating validated research-based assessment data, the class personalizes the learning experience. Participants walk away with the skills, knowledge, and tools they need to deal with conflict, resulting in more productive teams, higher satisfaction, and less turnover. NOTE: An assessment is sent as pre-work to be completed online.

### **BIPDV 802 DiSC® Classic**

Organizations worldwide have embraced the language of DiSC®, pioneered by Inscape Publishing over 30 years ago. Millions of people have gained insight about themselves and others through DiSC-based learning instruments which provide nonjudgmental language for exploring behavioral issues across four primary dimensions: Dominance, Influence, Steadiness and Conscientiousness. Detailed, personalized information helps people apply DiSC learning to specific and recurring business situations. NOTE: The assessment is sent as pre-work to be completed online.

### **BILING 602 Generational Differences: M.E.E.T. for Respect in the Workplace**

With workers from four generations now active in the workforce, the potential for misunderstanding, frustration and conflict is multiplied. This seminar applies the M.E.E.T. approach (M—make time to discuss; E—explore differences; E—encourage respect; T—take responsibility) to the complexities of working in and/or managing a multigenerational workforce. Employees and managers gain insights, strategies and skills that help minimize generational conflict, strengthen collaboration and improve productivity.

## **Management Best Practices Seminars**

### **BIBUS 501 Frontline Management: Leveraging the Strengths of Your Style**

This seminar provides managers with the tools to coach and

develop competent, motivated employees by gaining a deeper understanding of individual strengths and challenges. Participants learn to maximize their communication skills and capitalize on their people skills, knowledge and management effectiveness. Their organizations will benefit as a result of higher employee satisfaction, lower turnover, and stronger employee-manager relationships. NOTE: The assessment is sent as pre-work, to be completed online prior to training.

### **BIBUS 502 Capitalizing on Team Talents**

This seminar provides organizations with the key to building and maintaining peak performing teams. Course helps individuals identify their strengths and limitations, and it addresses how team members can work together more productively by tapping those individual strengths for the betterment of the team. By incorporating proven, research-based assessments, Capitalizing on Team Talents™ personalizes the learning experience while video content and group activities generate opportunities for each participant to learn about team assets and stumbling blocks. NOTE: The assessment is sent as pre-work, to be completed online prior to training.

### **BIBUS 503 Collaborative Skills for Teams**

This seminar provides organizations with the key to building collaborative, effective teams. Participants learn of the need for different team roles and for exploring how various roles communicate, manage time, and manage priorities. Attendees will discover four distinct team roles, identify which team role they are most comfortable using, and learn the four stages of team projects. Relevant video and experiential learning activities provide strategies for maximizing individual contributions, resulting in highly productive, efficient, and cohesive teams, greater employee satisfaction and decreased employee turnover. NOTE: The assessment is sent as pre-work to be completed online prior to training.

## **Fundamental Fiscal Skills Seminars**

### **BIBUS 101 Accounting and Bookkeeping**

This course covers common accounting functions and practices such as fixed asset accounting, cost accounting, accounting transactions and internal accounting controls.

### **BIBUS 202 Best Practices in Accounts Payable**

What a company doesn't know about accounts payable can cost it thousands of dollars annually. This seminar explains the best practices surrounding accounts payable. Class will explore three kinds of fraud, the master vendor file, invoices, POs, receiving documents, discounts, courtesy calls, approvals/authorizations, limiting rush checks, minimizing duplicate payments, using procurement cards, 1099s, travel and entertainment expenses, and technology.

## **Influencing and Sales Skills**

### **BISFT 102 How to Excel at Customer Service**

Participants will learn to recognize and anticipate customer expectations, identify elements of emotional response that interfere with customer service, and develop communication skills that defuse complaints.

### **BISFT 104 Improving Your Listening Skills**

This seminar provides individuals with an understanding of effective listening techniques. By incorporating proven, researched-based assessment data, this class personalizes the learning experience for each participant. Learners will discover the five approaches to listening and will identify their most natural ones. Video and hands-on, experiential learning activities help participants learn to communicate better with others by modifying their listening styles with team members and customers. NOTE: The assessment is sent as pre-work, to be completed online prior to training.

### **BIBUS 103 Effective Presentations**

This seminar will help participants overcome the No. 1 fear of American adults (public speaking) by teaching them how to make successful group presentations in formal or informal settings. At the conclusion of this seminar, attendees will know how to plan, prepare, and deliver a presentation and how to raise their level of self-confidence in public speaking. Opportunity to practice making a presentation is provided.

### **BIBUS 401 DiSC-Powered Selling**

During this seminar, salespeople will discover the four approaches to selling and how to determine a customer's buying style. By adapting their natural selling style(s) to customers with different styles, salespeople of all levels can maximize their potential for closing sales. Individualized workbooks, filled with research-based assessment data, provide each participant with a personalized learning experience. Hands-on, video and group activities help participants learn to maximize their sales performance, resulting in increased customer satisfaction and additional revenue for their companies. NOTE: The assessment is sent as pre-work to be completed online prior to training.

### **BISFT 107 Train-the-Trainer (Critical Events for Training Success)**

This seminar will introduce tools and techniques to help participants conduct effective training for customers, co-workers or suppliers.

## **Advanced Manufacturing Skills**

The Integrated Systems Technology (IST) Center brings together industry and academia standards to train and develop the workforce on the specific skill sets required throughout all industries including manufacturing. The IST center provides powerful computer-driven training modules that require "hands-on" applications and exercises on state-of-the-art trainer lab equipment. This brings a powerful method of attaining knowledge and the technical skills necessary to develop, strengthen, or master new skills and have immediate impact in the workplace. Individual Assessments are provided to customize the learning experience and to tailor individual training curriculum. This is also an excellent opportunity for individuals interested in a career in manufacturing to obtain the knowledge and skills to perform in this industry. A combination of instructor-led, self-paced computer-driven instruction, and lab experiences ensure all learning styles are accommodated.

IST Program Participants:

- Learn industry-driven skills

- Receive an individualized Certificate-track training curriculum based on interest and current skills proficiencies
- Demonstrate knowledge and performance skills mastery on industry-standard equipment

IST Offers Customized Training Programs In:

- Electrical
- Electronic
- PLC Troubleshooting
- Thermal Process Control
- Mechanical
- Hydraulic
- PneumatiProcess Controls

## **Pharmacy Technician Training Program**

The purpose of this noncredit course is to prepare the student to enter the pharmacy field in hospitals, home infusion pharmacies, community pharmacies, and mail-order pharmacies, as a technician working under the supervision of a registered pharmacist. The course is taught by registered pharmacists practicing in Columbus. Course will prepare students for the National Pharmacy Technician Certification Exam. Topics include:

- Medical terminology specific to the pharmaceutical industry
- Reading and interpreting prescriptions
- Defining drugs by generic and brand names
- Dosage calculations
- IV flow rates
- Drug compounding
- Dose conversions
- Dispensing of prescriptions
- Unit dose
- Inventory control
- Billing and reimbursement

For more information on the Pharmacy Technician Training Program, please call 614-287-5858.

## **The Ohio Small Business Development Center at Columbus State Community College (614) 287-5294**

The Ohio Small Business Development Center (SBDC) at Columbus State Community College is a business partner and so much more. SBDC provides entrepreneurial development assistance and high end business consulting to start-up and emerging business owners. The SBDC regional office is located on the campus of Columbus State Community College in the Center for Workforce Development. The SBDC provides consulting and training throughout nine counties in central Ohio. Consulting services are offered at "no cost" to the client and all services are provided on a nondiscriminatory basis.

The Ohio SBDC at Columbus State is unique among Ohio's 36 centers. It is the only center in Ohio that has centralized services of the SBDC as well as centers specializing in manufacturing

and technology and international trade that provides consulting as well as workshops, seminars and conferences.

## **Manufacturing and Technology Small Business Development Center**

The Manufacturing and Technology Small Business Development Center (MTSBDC) provides specialized assistance and high end business consulting to manufacturers, technology-based companies like R&D or testing firms, as well as individual inventors. In addition to core SBDC services, some MTSBDC specialized services include product design, prototype development, intellectual property strategies and research, market research, focus group sessions, licensing, and manufacturer partnering. The program utilizes experts and facilities from Columbus State Community College, Ohio's colleges and universities, as well as the nation's federal research facilities.

## **International Trade Assistance Center**

The International Trade Assistance Center (ITAC) provides consulting and advising in international trade and international business and logistics. Specific services include developing export strategies; preparing products or services for export; international legal considerations; product shipping; pricing, quotation and terms; methods of payment; financing export transactions; business travel abroad, and selling overseas.

For more information on any SBDC, MTSBDC, or ITAC activity, call (614) 287-5294 or visit [www.SBDC.csc.edu](http://www.SBDC.csc.edu).

## **Continuing Professional Education**

With the rapid changes in technology and work methods, many employers and employees seek continuing education classes to stay current in careers and job skills. Continuing Education courses are offered for many types of open enrollment courses: Computer Skills, Human Resources, Personal Development, including the Lifelong Learning Institute, Safety and a variety of online learning opportunities.

For information about continuing education open enrollment courses, please call (614) 287-5000.

## **Computer Skills**

Contact person for the following technical and computer courses is David Watts, (614) 287-5787 or [dwatts@csc.edu](mailto:dwatts@csc.edu).

## **CISCO Academy**

The Cisco Academy for CCNA (Cisco Certified Network Assistant) consists of a four-course curriculum designed to teach the student the basics of computer network systems, and to prepare them to sit for the Cisco Certification Exam for CCNA status. At the completion of the Academy, the student will be able to assist network engineers in the design, development, installation, and implementation of a variety of network systems. Each class is 70 clock hours in length for a total of 280 clock hours of a combination of lecture and lab. The curriculum is available for either credit or noncredit.

### **Course Objectives**

The CCNA certification indicates knowledge of networking for the small office/home office (SOHO) market and the ability to work in small businesses or organizations whose networks have fewer than 100 nodes. A CCNA certified individual can:

- Install and configure Cisco switches and routers in multi-protocol internetworks using LAN and WAN interfaces
- Provide Level 1 troubleshooting service
- Improve network performance and security
- Perform entry-level tasks in the planning, design, installation, operation and troubleshooting of Ethernet, TCP/IP Networks.

### **CPECPT 210 Cisco CCNA 1: Networking for Home and Small Businesses**

CCNA 1: Networking for Home and Small Businesses teaches students the skills needed to obtain entry-level home network installer jobs. It also helps students develop some of the skills needed to become network technicians, computer technicians, cable installers and help desk technicians. It provides a hands-on introduction to networking and the Internet using tools and hardware commonly found in home and small business environments. Labs include PC installation, Internet connectivity, wireless connectivity, file and print sharing, and the installation of game consoles, scanner and cameras.

### **CPECPT 211 Cisco CCNA 2: Working at a Small-to-Medium Business or ISP**

CCNA 2: Working at a Small-to-Medium Business or ISP prepares students for jobs as network technicians and helps them develop additional skills required for computer technicians and help desk technicians. It provides a basic overview of routing and remote access, addressing and security. It also familiarizes students with servers that provide e-mail services, Web space, and authenticated access. Students learn about the soft skills required for help desk and customer service positions. Network monitoring and basic troubleshooting skills are taught in context.

### **CPECPT 212/213 Cisco CCNA 3 and 4: Introducing Routing and Switching in the Enterprise**

CCNA 3: Introducing Routing and Switching in the Enterprise familiarizes students with the equipment applications and protocols installed in enterprise networks, with a focus on switched networks, IP Telephony requirements, and security. It also introduces advanced routing protocols such as Enhanced Interior Gateway Protocol (EIGRP) and Open Shortest Path First (OSPF) Protocol. Hands-on exercises, including configuration, installation and troubleshooting reinforce student learning.

CCNA 4: Designing and Supporting Computer Networks introduces students to network design processes using two examples; a large stadium enterprise network and a medium-sized film company network. Students follow a standard design process to expand and upgrade each network, which includes requirements gathering, proof-of-concept and project management. Lifecycle services, including upgrades, competitive analyses, and system integration, are presented in the context of pre-sale support. In addition to the Packet Tracer and lab exercises found in the previous courses, there are many pen-and-paper and role playing exercises that students complete while developing their network upgrade proposals.

### **CPT-214 CCNP 1: Building Scalable Internetworks**

Cisco Certified Network Professional (CCNP) designation. CCNP: Building Scalable Internetworks introduces Cisco Networking Academy Program students to scalable IP networks. Students will learn how to create an efficient and expandable enterprise network by installing, configuring, monitoring, and troubleshooting network infrastructure equipment (especially routers such as Cisco ISRs) according to the Campus Infrastructure module in the Enterprise Composite Network model. Topics include how to configure EIGRP, OSPF, IS-IS, and BGP routing protocols and how to manipulate and optimize routing updates between these routing protocols. Other topics include multicast routing, IPv6, and DHCP configuration.

#### **Course Objectives**

The CCNP certification indicates knowledge of networking for the small-office, home-office (SOHO) market and enterprise markets and the ability to work in businesses or organizations whose networks have between 100 and 500 nodes. A CCNP certified individual should be able to:

- Implement appropriate technologies to build a scalable routed network
- Build campus networks using multilayer switching technologies
- Improve traffic flow, reliability, redundancy, and performance for campus LANs, routed and switched WANs, and remote access networks
- Create and deploy a global intranet
- Troubleshoot an environment that uses Cisco routers and switches for multiprotocol client hosts and services
- Perform entry-level tasks in the planning, design, installation, operation and troubleshooting of Ethernet, TCP/IP networks.

CCNP 1: Building Scalable Internetworks is an integral step towards achieving CCNP Certification. Upon completion of this course, students will have performed tasks related to:

- Internetwork scalability
- Routing protocol operation, configuration, and troubleshooting
- EIGRP, OSPF, IS-IS, BGP
- Route optimization
- IP Multicast
- IPv6

### **CPT-215 CCNP 2: Implementing Secure Converged Wide-Area Networks**

CCNP 2: Implementing Secure Converged Wide-Area Networks is one of four courses leading to the Cisco Certified Network Professional (CCNP) designation. Implementing Secure Converged

Wide-area Networks introduces Cisco Networking Academy Program students to providing secure enterprise-class network service for teleworkers and branch sites. Students will learn how to secure and expand the reach of an enterprise network with focus on VPN configuration and securing network access.

Topics include teleworker configuration and access, frame-mode MPLS, site-to-site IPSEC VPN, Cisco EZVPN, strategies used to mitigate network attacks, Cisco device hardening and IOS firewall features.

#### **Course Objectives**

The CCNP certification indicates knowledge of networking for the small-office, home-office (SOHO) market and enterprise markets. Following is a list of claims relevant to the ISCW certification that a CCNP certified individual will be able to do:

- Implement basic teleworker services.
- Implement Frame-Mode MPLS.
- Implement a site-to-site IPsec VPN.
- Describe network security strategies.
- Implement Cisco Device Hardening.
- Implement Cisco IOS firewall.
- Describe and configure Cisco IOS IPS.

CCNP: Implementing Secure Converged Wide-area Networks is an integral step towards achieving CCNP Certification. Upon completion of this course, students will have performed tasks related to:

- Explaining the Cisco hierarchical network model as it pertains to the WAN
- Describing and implementing teleworker configuration and access
- Implementing and verifying frame mode MPLS
- Describing and configuring a site-to-site IPSEC VPN
- Describing and configuring Cisco EZVPN
- Explaining the strategies used to mitigate network attacks
- Describing and configuring Cisco device hardening
- Describing and configuring IOS firewall and IPS features

### **CPT-216 CCNP 3: Building Multilayer Switched Networks**

CCNP 3: Building Multilayer Switched Networks is one of four courses leading to the Cisco Certified Network Professional (CCNP) designation. Multilayer Switching teaches students about the deployment of state-of-the-art campus LANs. The course focuses on the selection and implementation of the appropriate Cisco IOS services to build reliable, scalable multilayer-switched LANs. Students will develop skills in the following areas:

- Introduction to Campus Networks
- Virtual Local Area Networks (VLANs)
- Spanning Tree Protocol
- Inter-VLAN Routing
- High Availability in a Campus Environment
- Wireless Client Access
- Minimizing Service Loss and Data Theft in a Campus Network
- Configuring Campus Switches to Support Voice

This hands-on, lab-oriented course stresses the design, implementation, operation, and troubleshooting of multilayer switched networks.

## Course Objectives

Upon completing this course, the learner will be able to meet these overall objectives:

- Describe the Campus Infrastructure module of the ECNM
- Define VLANs to segment network traffic and manage network utilization
- Explain the procedure for configuring both 802.1Q and ISL trunking between two switches so that VLANs that span the switches can connect
- Describe how VLAN configuration of switches in a single management domain can be automated with the Cisco proprietary VTP
- Implement high availability technologies and techniques using multilayer switches in a campus environment
- Understand Wireless LANs
- Describe and configure switch infrastructure to support voice
- Describe and implement security features in a switched network

## CPT-217 CCNP 4: Optimizing Converged Networks

CCNP 4: Optimizing Converged Networks is one of four courses leading to the Cisco Certified Network Professional (CCNP) designation. Optimizing Converged Networks introduces Cisco Networking Academy Program students to optimizing and providing effective QoS techniques in converged networks operating voice, wireless and security applications.

Topics include implementing a VOIP network, implementing QoS on converged networks, specific IP QoS mechanisms for implementing the DiffServ QoS model, AutoQoS, wireless security and basic wireless management.

### Course Objectives

The CCNP certification indicates knowledge of networking for the small-office, home office (SOHO) market and enterprise markets. Following is a list of claims relevant to the ONT certification that a CCNP certified individual will be able to do:

- Describe Cisco VoIP implementations.
- Describe QoS considerations.
- Describe DiffServ QoS implementations.
- Implement AutoQoS.
- Implement WLAN security and management.

CCNP: Optimizing Converged Networks is an integral step towards achieving CCNP Certification.

Upon completion of this course, students will have performed tasks related to:

- Explaining the Cisco hierarchical network model as it pertains to an end-to-end enterprise network
- Describing specific requirements for implementing a VOIP network
- Describing the need to implement QoS and the methods for implementing QoS on a converged network using Cisco's routers and Catalyst Switches
- Explaining the key IP QoS mechanisms used to implement the DiffServ QoS model
- Configuring Auto QoS for Enterprise
- Describing and configuring wireless security and basic wireless management

## CPECPT 234 Cisco IT Essentials I-A+

Target Certifications: PC Hardware and Software V4.0 helps to

prepare students for the CompTIA A+ certification exams (<http://www.comptia.org>). The fundamentals part of the course, chapters 1-10, prepares students for the required CompTIA A+ Essentials exam. The advanced part of the course, chapters 11-16, prepares students for the CompTIA's three job-environment certification exams:

- IT (field) Technician (220-602)
- Remote support technician (220-603)
- Bench technician (220-604)

This course also aligns to the objectives in the first three modules of the EUCIP IT Administrator certification (<http://www.eucip.org>): Module 1 PC Hardware, Module 2 Operation Systems, and Module 3 Local Area Networks and Network Services.

This course covers the fundamentals of computer hardware and software as well as advanced concepts. Students who complete this course will be able to describe the internal components of a computer, assemble and configure a computer, install an operating system, and troubleshoot using system tools and diagnostic software. Students will also be able to connect to the Internet and share resources in a network environment. New topics included in this version include laptops and portable devices, wireless connectivity, security, safety and environmental issues, and communication skills.

## CPECPT 107 and 108 Cisco Network Security 1 and 2

Network Security is designed to prepare students for certification in this field. This course combines hands-on experience, instructor-led lectures and a Web-based curriculum for students. This 140-hour, two-part course is an introduction to network security and overall security processes.

The first component of the course, Network Security 1 (NS1), focuses on the overall security processes in a network with an emphasis on the following areas:

- Security policy design and management
- Security technologies, products, and solutions
- Firewall and secure router design, installation, configuration and maintenance
- AAA implementation using routers and firewalls
- Securing the network at Layers 2 and 3

Network Security 2 (NS2) builds on the topics introduced in NS1 with additional emphasis on the following areas:

- Intrusion prevention implementation using routers and firewalls
- VPN implementations using routers and firewalls

## CPECPT 109 Cisco Fundamentals of Wireless LANs

Fundamentals of Wireless LANs teaches students to develop, implement, and troubleshoot wireless networks. This 70-hour, hands-on, skills-based course focuses on the design, planning, implementation, operation, and troubleshooting of wireless networks. It includes a comprehensive overview of technologies, security and design best practices.

## CPECPT 101 Security+ Certification Training

This course teaches material which maps to all skill and knowledge objectives for the CompTIA Security+ certification exam (SY0-101). Skills covered include identifying access control and

authentication methods, identifying services provided by encryption, and managing a Public Key Infrastructure (PKI). Following this course, students will better understand common types of network-based attacks and how to respond to them.

Students also will learn how to harden operating systems, secure remote access and ensure physical security. In addition to teaching firewall and intrusion-detection technologies, this course teaches critical incident response and system forensics concepts. This course also addresses essential auditing and documentation practices that help measure significant gaps between security policy and actual practice. Finally, students will learn the essentials of a disaster recovery plan, how to ensure business continuity, and how to create and manage a security policy. Throughout this course, students will review case studies to help ensure that best practices are employed throughout a network using the latest technologies, including wireless implementations.

Req. Text (PROVIDED): *Security+ Certification* (Published by ComputerPREP, Inc.)

Certifications: To earn Security+ certification, students must pass the Security+ exam.

### **CPECPT 151 Information Systems Risk Analysis**

The Operationally Critical Threat, Asset, and Vulnerability Evaluation SM (OCTAVE) Training Workshop is a three-day workshop. It is designed for interdisciplinary analysis teams that will lead and perform information security risk evaluations for large organizations.

OCTAVE is a self-directed risk evaluation that provides an organization with control over security risks; balances critical information assets, business needs, threats, and vulnerabilities; and benchmarks the organization against known or accepted best practices for security. This workshop covers the OCTAVE approach, OCTAVE Method, and OCTAVE-S; preparation for implementing the methods; and guidelines for tailoring the methods.

The OCTAVE Training Workshop will help:

- Manage and control enterprise-wide information security risk evaluations
- Develop appropriate protection strategies by considering policy, management, administrative, technological, and other organizational issues to form a comprehensive view of the security state of your organization
- Perform information security assessments and act as a focal point for security improvement efforts
- Improve effectiveness at communicating business and security needs both internally and externally

#### **Course Objectives**

The three-day OCTAVE Training Workshop will help attendees:

- Understand the purpose of the OCTAVE approach and key characteristics of the methods
- Be ready to use OCTAVE implementation guides and do an evaluation
- Understand how to get started and when to tailor the process and artifacts to meet unique organizational needs

Course Topics:

- Introduction to the OCTAVE approach, the OCTAVE Method, and OCTAVE-S
- Preparation for OCTAVE
- Review of OCTAVE processes
- Identifying critical assets and threats to those assets
- Identifying vulnerabilities that expose those threats
- Developing an appropriate protection strategy for the organization's mission and priorities
- Tailoring OCTAVE to meet an organization's needs

Prerequisites: Workshop attendees should represent business, mission, and/or IT perspectives.

## **Human Resources**

### **HRM 100 PHR/SPHR Certification Exam Preparation**

This course provides a comprehensive review of the entire body of HR knowledge. Using the SHRM Learning System, the most widely used tool available to prepare for the certification exam. This intensive, fast-paced program helps participants focus their review in an instructor-led classroom environment. The program and related tasks are designed to help attendees review a great deal of information quickly, refresh areas they may not currently be practicing, as well as have an opportunity to brush-up on test-taking skills by answering multiple-choice questions.

### **HRM 101 Essentials in HR Management**

This introductory course in human resource management provides a broad overview of the human resource function. This program is designed to help frontline managers, supervisors and junior-level HR staff to effectively handle issues related to performance management, recruiting, retention, and employment law. This cost-effective course is offered in partnership with SHRM.

## **Personal Development**

### **CPEPDV 173 Retirement Planning Today**

This course addresses financial issues that pertain to the self-employed as well as employees of corporations and government agencies. The course is designed to teach you how to build wealth and align your money with your values to accomplish your goals in life. Whether you plan to retire 20 years from now or have just recently retired, the information you learn in this class can deliver rewards throughout your lifetime.

## **Safety**

### **CPESAF 130 High Rise Safety Training**

The goal of this training program is to provide protection for occupants and to reduce damage or destruction to the building and its contents. Participants will receive instruction in the development of fire safety plans, evacuation plans, safety control teams, fire prevention programs, and WMD protection plans.



## Online Learning CPE/Ed2Go Online Instructor-Facilitated Courses

- Expert Instructors
- 24-Hour Access
- Online Discussion Areas
- 6 Weeks of Instruction
- Certificate of Successful Completion
- Courses Starting at \$95

CPE has partnered with Ed2Go to provide noncredit, instructor-facilitated online courses which are informative, fun, convenient, and highly interactive. Ed2Go instructors are famous for their ability to create warm and supportive communities of learners.

All courses run for six weeks (with a two-week grace period at the end). Courses are project-oriented and include lessons, quizzes, hands-on assignments, discussion areas, supplementary links, and more. Any course can be completed entirely from home or office, any time of the day or night. New course sessions begin on the third Wednesday of each month and new courses are added monthly. Visit the Online Instruction Center at [www.ed2go.com/cpe](http://www.ed2go.com/cpe) for start dates and course description (more than 300 to choose from) in the following categories:

- The Internet
- Web Page Design
- Web Graphics and Multimedia
- Database Management and Programming
- Certification Prep
- Languages
- Writing and Publishing
- Entertainment Industry
- Grant Writing and Nonprofit Management
- Start Your Own Business
- Sales and Marketing
- Business Administration
- Test Preparation
- Personal Development
- Personal Finance and Wealth Building
- Health Care, Nutrition, and Fitness
- Personal Enrichment
- Art, History, Psychology, and Literature
- Math, Philosophy, and Science
- Law and Legal Careers
- Health Care Continuing Education
- Courses for Teaching Professionals
- Certificate Program

All courses require Internet access, e-mail, Netscape Navigator, or Microsoft Internet Explorer Web browser. Some courses may have additional requirements.

To Enroll:

Visit the Online Instruction Center at [www.ed2go.com/cpe](http://www.ed2go.com/cpe). Click the Courses link, choose the department and course title you are interested in, and select the Enroll Now button. Follow the instructions to enroll and pay for the course. Then enter your e-mail and choose a password that will grant you access to the Classroom.

When your course starts, return to our Online Instruction Center and click the Classroom link. To begin your studies, simply log in with your e-mail and the password you selected during enrollment.

## Transitional Workforce at the Center for Workforce Development (614) 287-5858

The Transitional Workforce Department provides courses for students who want to gain the skills needed to enter, re-enter, or advance in the workforce. This includes individuals who want to pursue initial career and educational goals via noncredit courses and those who are not yet eligible or ready for credit classes.

## Columbus State ACT/SkillsMax Center at the Center for Workforce Development

The Columbus State Community College Workforce Development Center's ACT/SkillsMax Center delivers computer-based testing and training services to individuals, employers, and professional organizations. Vendors include: ACT, Prometric, VUE, CLEP, Kryterion, and Workkeys. The ACT/SkillsMax Center also offers proctoring for universities and organizations across the United States and London, UK. Other tests given include: A2, TEAS, and HESI exams for nursing students, and Basic English placement tests.

For more information or to schedule a test, please contact the Columbus State ACT/SkillsMax Center at (614) 287-5750 (ACT1) or by e-mail at [act1@csc.edu](mailto:act1@csc.edu).

## Orientation to Trade and Apprenticeship Programs (OTAP)

This intense 10-week, job training program is designed to prepare students for employment in the trades, gain acceptance in apprenticeships, or obtain skills to enter other career training programs. OTAP has been in existence since 1987 and has very high placement and retention rates among graduates.

Students will have the opportunity to acquire skills, participate in hands-on labs, and be introduced to the trades by exposure to such areas as: construction trades, basic electricity, mechanical reasoning, carpentry, blue print reading, welding, plumbing, masonry, roofing and siding, applied technologies, hand and power tool usage, employability and career development skills (resume writing, job interviewing) as well as emerging "green" sustainability construction and techniques. In addition, students can obtain a 10-hour safety training certification, will receive intensive applied math instruction and gain knowledge taking entry-level exams for employment and training in trades' related fields.

For further information or to apply, call the Noncredit Registration Office at 287-5858. This program is funded by COWIC, Franklin County Job and Family Services, and The Limited Brands.

## OTAP for Youth

This creative, after-school training program for Franklin County youth 16–18 years of age teaches students the skills needed to become employed or accepted into the trades upon graduation from high school. This program provides the same hands-on training as the adult OTAP program but in a modified format. The program runs eight weeks, two days per week, from 4:30–7:00 p.m. Students may earn credits or community service hours toward their high school graduation. A hot meal is provided, bus passes are available to ensure transportation, and incentives are given for attendance and completion. This program is funded by Franklin County Job and Family Services, Ingram White Castle Corporation, The Columbus Foundation, Harry C. Moores Foundation, and The Siemer Foundation.

For further information or to apply, contact the Noncredit Registration Office at 287-5858.

## Academic Enrichment Program

Classes in the Academic Enrichment Program are designed for students who want to improve their English language and/or mathematical skills in order to increase career and/or educational opportunities.

Ten-week language arts classes provide instruction in reading, writing, grammar, spelling, and vocabulary. Ten-week math classes are designed to build skill in number functions, multi-step word problems, and beginning algebra and geometry.

Five-week accelerated classes in language arts and math review these subjects at the high school level for the purpose of improving college placement test scores or as preparation for the Ohio General Education Development (GED) test which leads to the Ohio High School Equivalent Diploma.

Classroom instruction is supported by two types of software. PLATO courseware offers more than 2,000 hours of basic-to-advanced level instruction in reading, writing, math, science, social studies, life and work skills as well as preparation for the NET test. Steck-Vaughn instructional software also includes extensive practice for the GED test.

TWBS 101	Language Arts 1
TWBS 201	Language Arts 2
TWBS 301	Advanced Language Arts
TWBS 102	Fundamental Math 1
TWBS 202	Fundamental Math 2
TWBS 302	Advanced Math

Contact (614) 287-5858 for Academic Enrichment Program/GED preparation information.

## Language Institute

Central Ohio's growing immigrant population and its increasing international connections have brought new attention to the importance of language instruction. In response to the growing need for focused language programming, the Language Institute provides Basic English as a Second Language for individuals, companies, and organizations. It also acts as a point of coordination for Basic English or introductory language courses through open enrollment and by contract. Courses in language and cultural topics can be customized to meet client needs for a particular industry or cultural focus.

For information on the Language Institute, contact Tara L. Narcross, Ph.D., (614) 287-5448.

## Basic English Program

### LILNG 100 Basic English 1

In Basic English 1, students will be introduced to English pronunciation, the alphabet, numbers and basic literacy (reading and writing), as well as American culture as it relates to life skills.

### LILNG 200 Basic English 2

Using present and past tenses, students will expand their abilities and knowledge in written and spoken vocabulary, questions and answers, and descriptions. The course also includes a secondary emphasis on life skills, culture, and reading comprehension.

### LILNG 300 Basic English 3

Basic English 3 is designed to improve vocabulary skills as well as reading comprehension and writing ability. Students will build on previous knowledge and pave the way for further learning.

### LILNG 400 Basic English 4

In Basic English 4, students will work to improve vocabulary, writing skills, grammar competency, and reading comprehension.

### LILNG 450 Basic English 5

This course is designed to further improve the reading, writing, grammar and vocabulary skills of students seeking to improve their ability in English. Mastery of Basic English 4 and 5 is especially important for those students who plan to continue toward credit coursework through the College, the Academic Enrichment Program, and/or preparation toward the GED.

### LILNG 610 Basic English 6

In addition to further development of their English skills, students in this course will be able to gain basic computer skills while using interactive language software.

## Optional Basic English Courses

### LIBSC 100 Basic Communication 1

### LIBSC 150 Basic Communication 2

These courses focus on oral communication for students. They can be taken alone or with other Basic English courses.

**LILNG 460 Basic Writing 1**

The emphasis in this course is on improving students' writing ability in sentences and paragraphs. Students learn to plan, draft, edit and revise their writing.

**LILNG 480 Basic Reading 1****LILNG 490 Basic Reading 2**

These courses are designed to help students read with greater comprehension, retention and speed; the classes will also help improve their passive and active vocabulary skills.

**LICPT 100 Introduction to Computers for ESL Speakers**

In this course, students who are unfamiliar with computers can learn the basics of using a computer, including using a word processor, saving and printing documents, entering data on a spreadsheet, using e-mail, and finding information on the Internet.

**Career Counseling**

The Transitional Workforce Department offers career counseling for students who are enrolled in programs at the Center for Workforce Development and credit students who are receiving services from the Workforce Investment Act and/or the North American Free Trade Act. For more information, contact Lora Eberhard at (614) 287-5316.





# Distance Learning/Global Campus

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# Distance Learning/Global Campus

## Distance Learning at Columbus State

Columbus State's Distance Learning Global Campus is a unique alternative to traditional on-campus learning. Distance Learning allows students from around the city or around the globe to learn, using the latest interactive Web and video technologies, without the limits of time and place. "Global Campus" is the term used at Columbus State to describe the college's distance learning website, courses and programs.

At the Global Campus website, [global.csc.edu](http://global.csc.edu), students can find information on getting started with distance learning, current courses and programs being offered, free program downloads, free online training and much more. Many students save the Global Campus website as a favorite.

Columbus State has a distance learning orientation to help students become familiar with online learning. Feel free to take the online orientation before enrolling in an online class. To take the online orientation, please go to the following link: <http://bborientation.csc.edu>

## Go the Distance and Get the Degree

The Global Campus website can assist students in finding individual online courses offered at Columbus State as well as with information on the following associate degrees and certificates being offered through Distance Learning (DL) instruction.

Please contact individual departments for details on your program of interest. Certain programs may require some face-to-face learning experience. Look for new certificates and majors in the near future.

## Distance Learning Degree Programs

Associate of Arts  
Associate of Applied Science in Accounting  
Associate of Applied Science in Business Management  
Associate of Applied Science in Finance  
Associate of Applied Science in Geographic Information Systems (GIS)  
Associate of Applied Science in Health Information Management Technology  
Associate of Applied Science in Marketing  
Associate of Applied Science in Medical Laboratory Technology  
Associate of Applied Science in Nursing  
Associate of Applied Science in Sport and Exercise Studies (Sport Management Major)  
Associate of Applied Science in Supply Chain Management

## Distance Learning Certificates:

Bookkeeping Certificate  
Complementary Care Certificate  
Desktop Publishing Certificate  
Digital Design Certificate  
Digital Photography Certificate  
Direct Marketing Certificate  
Electronic Marketing Certificate

Entrepreneurship Certificate  
Geographic Information Systems Certificate (GIS)  
Health Care Management Certificate  
Health and Safety Training for Hazardous Waste Operations Certificate  
Histology Certificate  
International Business Certificate  
International Commerce Certificate  
Leadership Skills Development Certificate  
Medical Coding Certificate  
Nonprofit Management Certificate  
Nurse Aid Training Certificate  
Office Specialist Certificate  
Patient Care Skills Certificate  
Photoshop for Photographers Certificate  
Pre-MBA Certificate (See Business and Marketing)  
Public Administration Certificate  
Registered Nurse First Assistant Certificate  
Sleep Studies Certificate  
Strategic Procurement Certificate  
Supply Chain Management Certificate  
Sustainable Building Certificate  
3D Visualization Certificate

## Types of Distance Learning Courses

### *Web-Based*

Web-based courses use a variety of new Web technologies and software to provide a stimulating and interactive learning experience. An Internet-ready computer with a minimum of Internet Explorer 6.0 is required for students to log on to courses daily. Communication and course materials or assignments, as well as interaction with classmates, all occur within the course management system called Blackboard. When proctored testing is required, testing can be completed in the vicinity of the student.

### *Video-Based*

Video-based courses are televised on the Educational Access Channel or can be viewed on rented tapes from the library. Students can access broadcasting schedules as well as course information on their Blackboard course site or at <http://global.csc.edu>. Telecourses may require students to mail in assignments and/or meet throughout the quarter. When proctored testing is required, testing can be completed in the vicinity of the student.

### *Videoconferencing*

Videoconferencing courses are offered using state-of-the-art videoconferencing equipment. The instructor is located at one site, and the course is broadcast to additional classrooms. This technology is highly interactive so that students have the opportunity to ask questions of the instructor and classmates at any site.

### *Blended*

A blended course is comprised of multiple distance learning modalities, such as online, video-based, Web conferencing, or other

combinations of instructional delivery .When proctored testing is required, testing can be completed in the vicinity of the student.

### **Hybrid**

A hybrid course is one in which all the instructional and laboratory/clinical sessions are completed in a combination of regularly scheduled sessions on campus and online delivery. . Because those on-campus meeting dates may be limited, please consult the academic department for specific information.

**Web Conferencing** is a distance learning modality which allows for real-time interaction between the instructor and students by using the home computer. Students are expected to be available at prearranged times to participate in this type of real-time distance learning. Some examples of the use of this technology are advising, tutoring, group work, lecture delivery, and real time instructor-student interaction. Participants will be required to have audio/microphone capabilities on their home computer.

### **Getting Started in Distance Learning:**

<http://global.csc.edu>

- Check out the latest opportunities, programs, and courses.
- Go through “Distance Learning Getting Started” to learn what skills are needed to be a successful Distance Learner.

### **Ohio Learning Network**

The Ohio Learning Network is a collaboration of Ohio colleges and universities using technology and innovation to enhance distance learning opportunities statewide. OLN offers access to a variety of distance education opportunities as outlined in the OhioLEARNS catalog, which can be found online at [www.olin.org](http://www.olin.org).

### **Baccalaureate Degree Completion Programs via Distance Learning**

These programs allow students who have completed their associate degree at Columbus State to complete related bachelor’s and master’s degrees via distance learning from the following universities:

#### **University of Cincinnati**

- Bachelor’s in Liberal Arts and Social Sciences-Addiction Studies
- Bachelor of Science in Clinical Laboratory Science
- Bachelor of Science in Health Information Management
- Bachelor of Science in Early Childhood Education
- Bachelor of Science in Fire Science Technology

#### **Franklin University**

- Bachelor of Science in Business Administration
- Bachelor of Science in Technical Administration
- Bachelor of Science in Computer Science
- Bachelor of Science in Management of Information Systems
- Bachelor of Science in Health Services Administration
- Bachelor of Science in Marketing and Communication

#### **Miami University**

- Bachelor of Applied Science/Major Electro-Mechanical Engineering

#### **Ohio University**

- Bachelor of Specialized Studies
- Lifelong Learning Correspondence Course

#### **University of Akron**

- Master of Applied Politics

#### **University of Toledo**

- Bachelor of Science in Electronic Engineering and Computer Science
- Bachelor of Arts program in Liberal Studies
- Bachelor of Science in Health Informatics and Information Management

#### **DeVry University**

- Bachelor of Science in Business Administration
- Bachelor of Science in Computer Information Systems
- Bachelor of Science in Health Information Management
- Bachelor’s in Game and Simulation Programming
- Bachelor’s in Network and Communication Management
- Bachelor’s in Technical Management

#### **Mount Vernon Nazarene College**

- Bachelor of Science in Business Administration

#### **Bowling Green State University**

- Bachelor of Science in Advanced Technological Education
- Bachelor of Liberal Studies
- Bachelor of Science in Nursing

#### **Ohio Dominican University**

- Bachelor of Arts in Criminal Justice

#### **Florida International University**

- Bachelor of Business Administration
- Bachelor of Science in Nursing

#### **California University of Pennsylvania**

- Bachelor of Science in Sport Management Studies: Wellness and Fitness Track

#### **United States Sports Academy**

- Bachelor of Science in Sport Management
- Bachelor of Science in Sport Coaching

## Global Campus Courses

The following is a list of distance learning (DL) courses. Consult the *Online Class Schedule* for courses added throughout the year.

### ACCOUNTING

ACCT 106	Financial Accounting
ACCT 107	Managerial Accounting
ACCT 108	Intermediate Preparedness
ACCT 131	Cost Estimating
ACCT 211	Cost Accounting
ACCT 231	State and Local Taxation
ACCT 236	Federal Taxation II
ACCT 241	Auditing I: Principles
ACCT 252	Intermediate Accounting II
ACCT 266	Public Administration/Fund Accounting
ACCT 269	Foundations of Accounting
ACCT 281	Sarbanes-Oxley Act I
ACCT 282	Sarbanes-Oxley Act II

### ANTHROPOLOGY

ANTH 200	Introduction to Physical Anthropology
ANTH 201	World Prehistory
ANTH 202	Introduction to Cultural Anthropology

### ARCHITECTURE

ARCH 112	Construction Drafting: CAD I
ARCH 232	Building Construction Standards
ARCH 237	Structures: Steel, Concrete and Masonry
ARCH 240	3D Modeling and Rendering: AutoCAD
ARCH 242	3D Visualization: formZ I
ARCH 243	3D Visualization: formZ II
ARCH 246	3D Visualization: 3ds Max I
ARCH 247	3D Visualization: 3ds Max II
ARCH 252	Post Production
ARCH 282	Sustainable Design Strategies
ARCH 283	Sustainable Energy Performance
ARCH 299	Special Topics in Architecture

### ARTS and SCIENCE

ASC 190	Freshman Seminar
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### AUTOMOTIVE

AUTO 061	Basic Automotive Systems and Theories of Operation
AUTO 150	Brake Systems: Theory and Operations

### BIOLOGY

BIO 100	Introduction to Biological Sciences
BIO 101	Introduction to Anatomy and Physiology
BIO 111	Introductory Biology I
BIO 112	Introductory Biology II
BIO 121	Anatomy and Physiology,
BIO 174	Biological Sciences I
BIO 175	Biological Sciences II
BIO 201	General Zoology: Animal Diversity and Systematics

BIO 215	General Microbiology
BIO 261	Human Anatomy
BIO 262	Human Physiology

### BUSINESS MANAGEMENT

BMGT 101	Principles of Business
BMGT 102	Managing Interpersonal Skill I
BMGT 103	Managing Interpersonal Skills II
BMGT 111	Management
BMGT 208	Organizational Communication
BMGT 211	Organizational Behavior
BMGT216	Ethics and Leadership
BMGT 218	Management Training for Supervisors
BMGT 231	Entrepreneurship I
BMGT 232	Entrepreneurship II
BMGT 253	The Art and Science of Managing Conflict
BMGT 257	Project Management Principles
BMGT 271	Management Decisions
BMGT272	Case Studies in Strategic Management

### BUSINESS OFFICE APPLICATIONS

BOA 101	Business Grammar
BOA 105	Desktop and Document Management
BOA 106	Internet Research
BOA 111	Bookkeeping Basics I
BOA 112	Bookkeeping Basics II
BOA 113	QuickBooks I
BOA 114	QuickBooks II
BOA 115	Computer Bookkeeping with Peachtree
BOA 116	Adjusting Entries and Correction of Accounting Errors
BOA 117	Payroll
BOA 118	Inventory and Depreciation
BOA 125	Outlook
BOA 131A	Keyboarding: Module 1 (Alphabetic Keyboarding)
BOA 131B	Keyboarding: Module 2 (Symbols)
BOA 131C	Keyboarding: Module 3 (Numeric Keypad)
BOA 131	Keyboarding I
BOA 132	Document Formatting and Skillbuilding II
BOA 139	Keyboarding Improvement
BOA 172	Excel (Modules 1 and 2)
BOA 172A	Excel Module 1
BOA 172B	Excel Module 2
BOA 173A	Excel Module 3
BOA 173B	Excel Module 4
BOA 188	PowerPoint (Modules 1 and 2)
BOA 188A	PowerPoint Module 1
BOA 188B	PowerPoint Module 2
BOA 189	Access (Modules 1 and 2)
BOA 189A	Access Module 1
BOA 189B	Access Module 2



## Global Campus Courses - continued

BOA 190A	Access Module 3
BOA 190B	Access Module 4
BOA 191	Word I (Modules 1 and 2)
BOA 191A	Word Module 1
BOA 191B	Word Module 2
BOA 192	Word II (Modules 3 and 4)
BOA 192A	Word Module 3
BOA 192B	Word Module 4
BOA 193	Word III
BOA 195	Office Integration I
BOA 196	Office Specialist Review I
BOA 197	Office Specialist Review II

### CHEMISTRY

CHEM 100	Introduction to Chemistry
CHEM 111	Elementary Chemistry I
CHEM 112	Elementary Chemistry II
CHEM 113	Organic and Biochemistry
CHEM 171	General Chemistry I
CHEM 172	General Chemistry II
CHEM 173	General Chemistry III

### COMPUTER INFORMATION TECHNOLOGY

CIT 092	Introduction to HTML
CIT 094	Web Learning Tools
CIT 100	Computer Literacy
CIT 101	PC Applications 1
CIT 102	PC Applications 2
CIT 102A	Word Module PC Apps 2
CIT 102B	Excel Module PC Apps 2
CIT 102C	Access Module PC Apps 2
CIT 110	Unified Modeling Language
CIT 120	Game Programming I
CIT 139	Web Essentials
CIT 145	HTML
CIT 147	JAVA Script Fundamentals
CIT 150	Networking for Home and Small Business
CIT 152	Working at a Small to Medium Business
CIT 163	Visual Basic 1
CIT 213	Designing an E-commerce Website
CIT 231	Expert Excel
CIT 233	Expert Access
CIT 242	An Introduction to the Mainframe – Large Scale Commerce Computing
CIT 250	Network Communication Systems
CIT 253	TCP/IP
CIT 258	Wireless Networking
CIT 263	Visual Basic 2
CIT 266	Interactive COBOL
CIT 268	Object-Oriented COBOL
CIT 273	Database Systems
CIT 279	C# Programming II
CIT 280	ACP Examination

### CIVIL ENGINEERING TECHNOLOGY

CIVL120	Basic Construction Material
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### CONSTRUCTION MANAGEMENT

CMGT 105	Building Construction Documents
CMGT 115	Building Construction Methods
CMGT 121	Building Construction Drawings
CMGT 282	Sustainable Construction

### COMMUNICATION

COMM 105	Speech
COMM 110	Conference and Group Discussion
COMM 115	Oral Interpretation
COMM 200	Business Communications
COMM 204	Technical Writing
COMM 207	Writing for the Web
COMM 220	Introduction to Mass Communication
COMM 245	Introduction to Film

### DENTAL LABORATORY TECHNOLOGY

DENT 111	Anatomy
DENT 121	Complete Dentures I
DENT 132	Occlusion
DENT 153	Fixed Partial Dentures I
DENT 275	Ceramics I

### DEVELOPMENTAL EDUCATION

DEV 006	Basic Grammar Skills
DEV 007	Basic Punctuation Skills
DEV 030	Basic Mathematics
DEV 031	Pre-Algebra
DEV 044	Critical Reading and Thinking
DEV 050	Career/Life Planning

### DENTAL HYGIENE

DHY 282	Biostatistics and Research for the Dental Hygienist
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### DIETARY MANAGER

DMGR102	Dietary Manager Seminar II
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### DIGITAL GRAPHICS AND DESIGN

GRPH 110	Survey of Digital Design
GRPH 112	Intro to Computer Design
GRPH 131	Advertising Design I
GRPH 243	Vector Illustration
GRPH 251	Photoshop Design I
GRPH 252	Digital Imaging II
GRPH 255	Digital Painting
GRPH 273	Advertising Design II
GRPH 282	Digital Publishing II
GRPH 291	Portfolio Development
GRPH 299	Special Topics in Graphics

## Global Campus Courses - continued

### DIGITAL PHOTOGRAPHY

- FOTO 112 Photoshop for Photographers I
- FOTO 113 Photoshop for Photographers II
- FOTO 114 Digital Photography
- FOTO 290 Business of Photography
- FOTO 299 Special Topics in Digital Photography

### EARLY CHILDHOOD DEVELOPMENT

- ECD 107 Curriculum Planning

### ECONOMICS

- ECON 100 Introduction to Economics
- ECON 200 Principles of Microeconomics
- ECON 240 Principles Macroeconomics
- ECON 280 Intermediate Microeconomics

### ELECTRO-MECHANICAL ENGINEERING TECHNOLOGY

- EMEC 251 Control and Controls Logic

### EMERGENCY MEDICAL SERVICES

- EMS 125 Disaster Aid

### ENGLISH

- ENGL 100 Language Development
- ENGL 101 Beginning Composition
- ENGL 102 Essay and Research
- ENGL 111 English Composition
- ENGL 210 Creative Writing
- ENGL 220 Composition and Literature
- ENGL 225 Introduction to Fiction
- ENGL 235 Introduction to Poetry
- ENGL 240 Introduction Science Fiction
- ENGL 250 Writing About the American Experience
- ENGL 251 American Identity
- ENGL 252 Images of Men and Women in Literature
- ENGL 253 Regional American Writing
- ENGL 260 Survey of Modern U.S. Literature
- ENGL 261 Survey of British Literature
- ENGL 262 Survey of British Literature
- ENGL 264 Introduction to Shakespeare
- ENGL 265 European Literature in Translation
- ENGL 270 African-American Writers
- ENGL 281 Writing Fiction
- ENGL 282 Writing Poetry
- ENGL 284 Writing Creative Nonfiction
- ENGL 285 Writing to Publish
- ENGL 298 Special Topics in English
- ENGL 299 Special Topics in English

### ENGINEERING TECHNOLOGY

- ENGT131 Hydraulics and Pneumatics

### ENVIRONMENTAL SCIENCE, SAFETY AND HEALTH

- ENVR 101 Introduction to Environmental Science, Safety and Health
- ENVR 158 Environmental Site Assessment
- ENVR 252 Health and Safety Training for Hazardous Waste Operations
- ENVR 256 Hazardous Materials Refresher Training
- ENVR 282 Sustainable Building Strategies

### FIRE SCIENCE

- FIRE 200 Construction/Collapse for the Experienced Fire Fighter

### FINANCE

- FMGT 101 Personal Finance
- FMGT 201 Corporate Finance
- FMGT 242 International Finance

### GEOLOGY

- GEOL 101 Earth Systems I: Geologic Environment

### GEOGRAPHY

- GEOG 200 World Regional Geography
- GEOG 207 Introduction to Geographic Information Systems
- GEOG 240 World Economic Geography
- GEOG 280 Elements of Cartography

### GEOGRAPHIC INFORMATION SYSTEMS

- GIS 100 Acquiring GIS Data
- GIS 105 Elements of Photogrammetry
- GIS 203 Remote Sensing of Environment
- GIS 251 GIS Software I: ArcGIS
- GIS 253 GIS Software II
- GIS 275 Planning and Implementing GIS
- GIS 277 Introduction to ArcIMS
- GIS 278 Introduction to Programming for GIS
- GIS 279 Introduction to GIS Databases
- GIS 280 Advanced GIS Applications
- GIS 281 Introduction to ArcGIS Server
- GIS 283 GIS in Emergency Management
- GIS 284 GIS in Health
- GIS 290 Practicum Seminar for GIS
- GIS 291 GIS Practicum

### HEALTH INFORMATION TECHNOLOGY

- HIMT 111 Introduction to Health Information Management Technology
- HIMT 112 Electronic Health Concepts
- HIMT 113 Managed Care Trends
- HIMT 121 Advanced Medical Terminology
- HIMT 133 Legal Aspects of the Health Record
- HIMT 135 Health Data Management
- HIMT 141 Pharmacology and HIMT
- HIMT 243 Comparative Health Care Settings in HIMT
- HIMT 245 ICD-9-CM Coding

## Global Campus Courses - continued

HIMT 255	CPT-4 Coding
HIMT 256	Clinical Data Analysis
HIMT 257	Introduction to Health Statistics
HIMT 259	Quality and Resource Management
HIMT 265	Medical Reimbursement
HIMT 267	Principles of Management
HIMT 270	Case Management in Health Care
HIMT 274	Issues in Health Information Management
HIMT 275	Intermediate Coding
HIMT 290	Capstone for HIMT
HIMT 296	Practical Medical Coding Applications in HIMT

### HOSPITALITY MANAGEMENT

HOSP 143	Hospitality and Travel Law
HOSP 153	Nutrition for a Healthy Lifestyle
HOSP 203	Beverage Management
HOSP 206	Management Accounting for Hospitality
HOSP 223	Sports Nutrition
HOSP 257	Global Distribution Systems
HOSP 291	Hospitality Cooperative Work Experience I
HOSP 292	Hospitality Cooperative Work Experience II

### HUMAN RESOURCE MANAGEMENT

HRM 121	Human Resources Management
HRM 220	Labor Relations
HRM 224	Human Resources Records Management
HRM 225	Workplace Safety

### HUMANITIES

HUM 111	Civilization I
HUM 112	Civilization II
HUM 113	Civilization III
HUM 151	American Civilization to 1877
HUM 152	American Civilization since 1877
HUM 222	Classical Mythology
HUM 270	Comparative Religions
HUM 299	Special Topics in Humanities

### INTERACTIVE MEDIA

IMMT 100	Digital Literacy
IMMT 101	Principles of Interactive Media
IMMT 111	Fundamentals of Digital Media
IMMT 122	Digital Media Preparation
IMMT 153	Screenwriting for Digital Video and Sound
IMMT 215	Introduction to Video Game Development
IMMT 216	Media Graphics and Optimization
IMMT 233	3D Environment Design and Development
IMMT 236	Designing in 3rd Dimension
IMMT 237	Beginning Flash (Design)
IMMT 238	Intermediate Flash Development
IMMT 250	File Transfer Using Adobe Acrobat
IMMT 251	Multimedia Practicum
IMMT 252	Multimedia Seminar
IMMT 263	Video Game Development I

IMMT 280	Rich Media Communication
IMMT 283	Web Communication
IMMT 290	Visual Communication
IMMT 297	Special Topics in Interactive Multimedia

### INTERPRETING/ASL EDUCATION

ITT 125	Ethics and Decision Making for Interpreters
ITT 129	Research and Theory of Interpreting
ITT 292	Interpreting/Transliterating Practicum I

### LANDSCAPE DESIGN/BUILD

LAND 110	Landscape CAD Graphics
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### LAW ENFORCEMENT

LAWE 101	Introduction to Criminal Justice
LAWE 115	Community and Personal Relationships
LAWE 215	Introduction to Cyberlaw
LAWE 253	Criminal Procedure
LAWE 273	Legal Computing

### SUPPLY CHAIN MANAGEMENT

LOGI 100	Principles of Supply Chain Management
LOGI 110	Transportation and Traffic Management
LOGI 151	Strategic Procurement I
LOGI 152	Strategic Procurement II
LOGI 205	Freight Claims
LOGI 210	Warehouse Management
LOGI 211	Inventory Management
LOGI 225	International Shipping
LOGI 226	Introduction to Export Administration Regulations
LOGI 227	Electronic Import/Export Documentation
LOGI 228	Importing
LOGI 229	International Transportation Regulatory Compliance
LOGI 241	Logistics Practicum
LOGI 242	Logistics Seminar I
LOGI 246	Procurement Negotiation
LOGI 250	Transportation of Hazardous Materials
LOGI 256	Advanced Purchasing Seminar
LOGI 260	Performance Management for Logistics

### MASSAGE THERAPY

MASS 235	Massage Law and Business Principles for Massage Therapy
MASS 271	Massage Anatomy and Physiology I
MASS 272	Massage Anatomy and Physiology II
MASS 273	Massage Anatomy and Physiology III
MASS 274	Massage Anatomy and Physiology IV

### MEDICAL ASSISTING

MAT 260	Ethical and Professional Principles in the Medical Office
MAT 296	Seminar

## Global Campus Courses - continued

### MARKETING

MKTG 101	Introduction to Retailing
MKTG 111	Marketing Principles
MKTG 122	Web and Electronic Marketing
MKTG 131	Market Research Principles
MKTG 140	Advertising and Promotion
MKTG 141	Interactive Marketing Media
MKGT 142	Media Buying
MKTG 145	Services Marketing
MKTG 146	Nonprofit Marketing
MKTG 150	Introduction to e-Commerce
MKTG 205	Quantitative Methods for Retailing
MKGT 213	Merchandise Buying and Management
MKTG 221	Consumer Behavior
MKTG 223	Sales Principles and Practices
MKGT 224	Public Relations
MKTG 226	Customer Service Principles and Practices
MKTG 229	Organizational Marketing
MKTG 236	Direct Marketing
MKTG 237	Database Marketing
MKTG 265	Understanding Interactive Users
MKTG 266	Marketing Communications on the Web
MKTG 270	Global Marketing/International Business Practice Firm
MKTG 285	Advertising and Promotion on the Web
MKTG 286	Customer Service on the Web
MKTG 287	Public Relations on the Web
MKTG 288	Marketing Research on the Web
MKTG 289	Direct Marketing on the Web
MKTG 290	Government Marketing on the Web
MKGT 292	Nonprofit Marketing Using the Web

### MATH

MATH 101	Business Math
MATH 102	Beginning Algebra I
MATH 103	Beginning Algebra II
MATH 104	Intermediate Algebra
MATH 116	Mathematics for the Liberal Arts
MATH 135	Elementary Statistics
MATH 148	College Algebra

### MECHANICAL ENGINEERING TECHNOLOGY

MECH 111	Manufacturing Processes I
MECH 150	Manufacturing Materials and Processing
MECH 242	Strength of Materials
MECH 244	Statistical Process Control
MECH 250	Materials Science
MECH 260	Basic Mechanisms
MECH 270	Engineering Statistics

### MENTAL HEALTH/ADDICTION STUDIES/ DEVELOPMENTAL DISABILITIES

MHAD 114	Introduction to Addiction Studies
MHAD 117	Documentation Skills

MHAD 236	Foundations in Prevention
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### MEDICAL LABORATORY TECHNOLOGY

MLT 100	Introduction to Health Care
MLT 120	Role and Responsibility of the MLT
MLT 130	Immunology
MLT 141	Hematology I
MLT 220	Immunochemistry
MLT 240	Hematology II
MLT 242	Body Fluids
MLT 243	Body Fluids Lab
MLT 244	Medical Laboratory Case Studies
MLT 250	Clinical Microbiology
MLT 260	Clinical Chemistry

### MULTI-COMPETENCY HEALTH

MULT 101	Medical Terminology
MULT 150	Histologic Techniques
MULT 152	Tissue Identification
MULT 154	Chemistry of Stains I
MULT 156	Chemistry of Stains II
MULT 270	Human Resources Management for Health Services
MULT 272	Health Care Resource Management
MULT 274	TQM/UM/Accreditation
MULT 276	Legal Aspects and Risk Management
MULT290	Exploring the Health Care Profession

### MUSIC

MUS 251	Audio Production I
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### NATURAL SCIENCE

NSCI 101	Natural Science I
NSCI 102	Natural Science II
NSCI 103	Natural Science III

### NURSING CERTIFICATE

NURC 245	RN First Assistant Program
NURC 246	RNFA Experiences in the Operating Room

### NURSING

NURS 100	Health Assessment in Nursing
NURS 109	Professional Student Transition
NURS 110	Introduction to Nursing
NURS 111	Health Promotion of Women and Families
NURS 112	Introduction to Nursing Concepts of Health Maintenance and Restoration
NURS 123	Nursing Skills I
NURS 124	Nursing Skills II
NURS 188	Neonatal Nursing
NURS 191	Basics of Gerontological Nursing
NURS 193	End of Life Care
NURS 195	Nursing Concepts Enhancement I
NURS 196	Nursing Concepts Enhancement II
NURS 198	Information Technology in Health Care

## Global Campus Courses - continued

- NURS 210 Nursing Concepts of Health Maintenance and Restoration I  
NURS 211 Nursing Concepts of Health Maintenance and Restoration II  
NURS 212 Nursing Concepts of Health Maintenance and Restoration III  
NURS 213 Concepts of Nursing Management

### PHILOSOPHY

- PHIL 101 Introduction to Philosophy  
PHIL 130 Ethics  
PHIL 150 Introduction to Logic

### PHYSICS

- PHYS 100 Introduction to Physics  
PHYS 117 College Physics (Mechanics and Heat)  
PHYS 118 College Physics (Electricity, Magnetism and Light)  
PHYS 177 General Physics I  
PHYS 178 General Physics II  
PHYS 179 General Physics III

### PRACTICAL NURSING

- PNUR 102 Introduction to Practical Nursing Concepts

### POLITICAL SCIENCE

- POLS 101 Introduction to American Government  
POLS 165 Introduction to Politics  
POLS 250 International Relations

### PSYCHOLOGY

- PSY 100 Introduction to Psychology  
PSY 200 Educational Psychology  
PSY 230 Abnormal Psychology  
PSY 240 Human Growth and Development through the Life Span  
PSY 251 Adolescent Psychology  
PSY 261 Introduction to Child Development

### QUALITY ASSURANCE TECHNOLOGY

- QUAL 240 Total Quality Management

### REAL ESTATE

- REAL 270 Real Estate Investing

### RESPIRATORY CARE

- RESP 102 Respiratory Care Assistant  
RESP 232 Neonatal and Pediatric Respiratory Care

### SKILLED TRADES TECHNOLOGIES

- SKTR 100 Survey of the Construction Industry  
SKTR 138 Fundamentals of MIG Welding

### SPORT AND EXERCISE STUDIES

- SES 100 Personal Fitness  
SES 113 Aquatics Management  
SES 222 Tennis  
SES 223 Raquetball  
SES 225 Athlete Intervention  
SES 230 Fitness Concepts for Special Population  
SES 233 Outdoor Community Recreation  
SES 234 Sport Marketing  
SES 235 Sport Law  
SES 237 Corporate Health  
SES 238 Aging Fitness and Exercise  
SES 241 Kinesiology  
SES 242 Exercise Prescription  
SES 280 History of Sport  
SES 292 Practicum I  
SES 294 Practicum II  
SES 298 Special Topics in Sport

### SCHOOL FOODSERVICE MANAGEMENT

- SMGR 101 Introduction to School Foodservice

### SOCIOLOGY

- SOC 101 Introduction to Sociology  
SOC 202 Social Problems  
SOC 210 Sociology of Deviance  
SOC 230 Marriage and Family Relations  
SOC 280 American Race and Ethnic Relations

### MODERN LANGUAGES

- SPAN 100 Spanish for the Professions  
SPAN 101 Elementary Spanish I  
SPAN 102 Elementary Spanish II  
SPAN 103 Intermediate Spanish I  
SPAN 104 Intermediate Spanish II

### SOCIAL SCIENCES

- SSCI 100 Globalization: Social Science Perspective  
SSCI 101 Cultural Diversity  
SSCI 102 Popular Culture  
SSCI 103 Social Problems  
SSCI 105 Law and Society  
SSCI 299 Special Topics in the Social Sciences

### SURVEYING

- SURV 299 Special Topics in Civil Engineering Technology

### TECHNICAL COMMUNICATIONS

- TCO 223 Advanced Technical Communications  
TCO 235 Instructional Design  
TCO 236 Computer-Based Training  
TCO 245 HTML-Based Online Documentation  
TCO 297 Special Topics in Technical Communication  
TCO 299 Special Topics in Technical Communication

## **Global Campus Courses - continued**

### **THEATER**

THEA 100 Introduction to the Theater

THEA 230 Introduction to Dramatic Literature

### **VETERINARY TECHNOLOGY**

VET 101 Animal Nutrition

VET 122 Veterinary Parasitology

VET 135 Veterinary Hematology

VET 254 Clinical Seminar

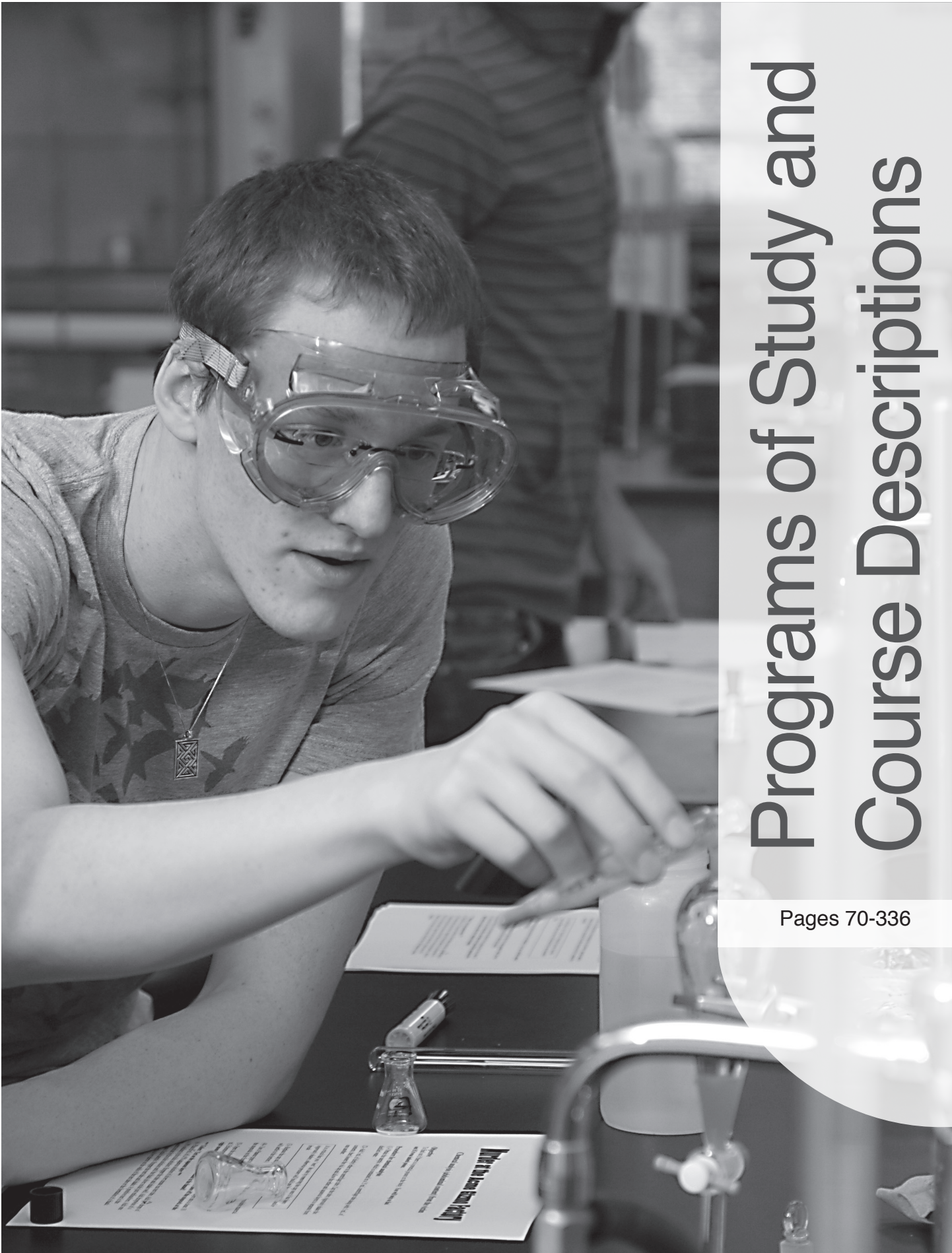
VET 266 Animal Health and Disease II

VET 267 Veterinary Urinalysis and Clinical Chemistry

VET 269 Veterinary Microbiology

VET 274 Clinical Seminar

Please refer to the college website ([csc.edu](http://csc.edu)) to determine what type of distance learning courses are being offered by your program of study.



# Programs of Study and Course Descriptions

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# Programs of Study and Course Descriptions

## General Education Goals

Central to the mission of Columbus State Community College is the provision of General Education studies for all degree programs. General Education comprises the measurable knowledge and skills that serve as the foundation for success in society and in one's discipline, vocation, and life. Columbus State Community College's General Education Goals are an integral part of the curriculum and central to the mission of the college. The faculty at Columbus State Community College has determined that these goals include the following competencies:

### 1. Critical Thinking

Critical thinking involves recognizing, analyzing, and defining problems, drawing logical well-supported conclusions and testing them against relevant criteria and standards. Critical thinking also includes examining issues by identifying and challenging assumptions (including one's own), developing alternative solutions or strategies, and evaluating practical and ethical implications.

### 2. Effective Communication

Effective communication involves writing, speaking, or communicating using language appropriate to the audience, technology, and purpose. Effective communication also includes receiving information/listening actively with understanding, demonstrating college-level reading comprehension, and writing in Standard English.

### 3. Community and Civic Responsibility

Community and civic responsibility involves collaborating and interacting effectively with others and identifying individual and group roles. Community and civic responsibility also includes recognizing social responsibilities, ethics, and individual rights in a democratic society. Other elements include recognizing social diversity, including contributions, traditions, cultures, lifestyles, and/or values of others.

### 4. Quantitative Literacy

Quantitative literacy involves performing mathematical computations using appropriate methods to arrive at accurate results. Quantitative literacy also includes analyzing, interpreting, and explaining the results of computations, including graphs, charts, tables, or statistical data.

### 5. Scientific and Technological Effectiveness

Scientific and technological effectiveness involves differentiating between scientific and nonscientific methods of inquiry and using scientific knowledge in the analysis of civic and environmental issues. Scientific and technological effectiveness also includes integrating technology appropriate to one's vocation or discipline. Other elements include recognizing the impact of science and technology on society and how scientific and technological principles are built and used in the modern world.

### 6. Information Literacy

Information literacy involves defining the information needed to accomplish a specific purpose and accessing, analyzing, synthesizing, and incorporating selected information effectively. Information literacy also includes evaluating information critically and drawing from a variety of perspectives and sources. Other elements include the ethical and legal use of information.

## Career and Technical Programs

### Associate of Applied Science

### Associate of Technical Studies

### Certificate Programs

Technical degree programs are designed to prepare students for immediate employment upon graduation. Programs of Study usually can be completed within two years for students enrolled full time. Baccalaureate degree completion agreements have been made with Ashland University, Capital University, DeVry University, Franklin University, Kaplan University, Ohio Dominican University, Otterbein College, Shawnee State University, the University of Akron, the University of Phoenix, and Wilberforce University that enable technology students to complete baccalaureate degrees in General Studies areas such as business management within two years of full-time study at those institutions. Technology Specific 2+2 Agreements for the Associate of Applied Science to B.A./B.S. degrees have been developed with Bethel College, Ohio Christian College, DeVry University, Embry-Riddle Aeronautical University, Florida International University, Miami University of Ohio, Mount Carmel College of Nursing, Mount St. Joseph College, Ohio University, Sullivan University, The Ohio State University, Tiffin University, The United States Sports Academy, the University of Cincinnati, and the University of Toledo. Columbus State also has 3+1 degree completion agreements with Franklin University for a B.A. or B.S. degree and with Ohio University for a Bachelor of Applied and Technical Studies degree, or a Bachelor's in Criminal Justice. Baccalaureate degree completion information is available from the academic departments and Advising Services.

Within many of the technologies, short-term certificate programs are offered which qualified students can complete in less than two years.



# Arts and Sciences/Transfer Programs

## Associate of Arts Associate of Science The Ohio Transfer Module

The Associate of Arts and Associate of Science degrees are specifically designed to allow for the transfer and application of all credits earned at Columbus State to the bachelor's degree requirements of most colleges and universities. The Associate of Science degree is different from the Associate of Arts degree primarily in the level of mathematics and science coursework required. The Associate of Science degree requires completion of additional math and science courses, which are the foundation for further study in advanced physics, chemistry, mathematics, and engineering.

Specific agreements have been made with colleges at The Ohio State University, Antioch College, Ashland University, Capital University, Central State University, Franklin University, Kent State University, Mount Carmel College of Nursing, Ohio Dominican University, Ohio University, Otterbein College, Shawnee State University, the University of Akron, the University of Cincinnati, the University of Toledo, and Wilberforce University which guarantee admission and the application of all courses taken in the Associate of Arts and Associate of Science degree programs at Columbus State to the bachelor's degree requirements at those institutions. Guides for course selection to meet specific requirements at these schools are available in Advising Services.

Completion of the Associate of Arts and Associate of Science degrees at Columbus State ensures completion of the Ohio Transfer Module. This guarantees the application of a minimum of 60 quarter hours to the General Education Requirements of all state supported institutions in Ohio. Those students who complete the A.A. or A.S. degree are to be given preferential consideration for admission to all Ohio public colleges.

In 2005, at the urging of the Ohio Legislature, all publicly supported state institutions in Ohio agreed to enhance transfer opportunities for Ohio residents by establishing Transfer Assurance Guides (TAGs) which guarantee the transfer and application of disciplinary courses to specific baccalaureate majors. Certified TAGs or University Parallel guides are available in Advising Services or from the Dean of Arts and Sciences.

## Graduation Requirements: Catalog Rights

In order for a student to be considered a candidate for an associate degree, he/she must have completed all the requirements for that degree as described in the College Catalog in effect at the time the student enrolled in the program leading to that degree. If the

requirements for the degree change while the student is enrolled in a degree program, the original requirements will apply to the student until he/she earns the degree or for a period of twelve quarters from the time the student initially enrolled in the program. If the student does not receive a degree within twelve consecutive quarters of initial enrollment, and there is a change in the degree requirements, the Provost for Learning Systems shall decide what requirements the student shall meet in order to be awarded a degree. These catalog rights are also applicable to the Ohio Transfer Module and Ohio Transfer Assurance Guides.

## Graduation Requirements: Associate of Arts Degree

1. All students must satisfactorily complete at least 92 credit hours of approved courses, a minimum of 35 hours of which must be completed at Columbus State. Approved courses are designated below. Satisfactory completion requires a final grade of A, B, C, or D. Transfer credit may be awarded for courses in which a "C" or better has been earned at other accredited institutions, or a "D" or better from public Ohio institutions, if the course level equivalencies have been approved by the Dean of Arts and Sciences. Courses listed in the "Transfer Module" or "Transfer Assurance Guides" of an Ohio college, have been pre-approved for credit toward a Columbus State degree. Credits by examination, proficiency credit, nontraditional credit, and transfer credit do not apply toward meeting residency credit hour requirements.
2. All students must attain an overall grade point average of 2.0 or better for all credit courses at the 100 level or above taken at Columbus State. Grade point averages are calculated on the following scale: A=4, B=3, C=2, D=1, E=0. Number equivalencies are not assigned for grades other than these.
3. All students must complete the following General Education Requirements for the Associate of Arts or the Associate of Science degrees as well as forty-five hours of additional coursework as specified below.
4. All students must file a "Petition to Graduate" during the quarter preceding their graduation quarter. Refer to page 28 of this catalog for complete details.

### I. General Education Core Requirements: 45 hours

**ASC 190 Freshman Seminar (2 hours) or ASC 150 Individual Learning and Motivation (5 hours)** required for all new degree seeking students or students new to Columbus State with less than 15 applicable hours of transfer credit from their previous college. Students are to take this course in conjunction with ENGL 101 or ENGL 111.

#### English Composition: 10–11 hours

##### College Composition (5–6 hours required)

- ENGL 101 Beginning Composition (3 hours) *and*
- ENGL 102 Essay and Research (3 hours) *or*
- ENGL 111 English Composition (5 hours)

(Students who place into ENGL 111 may take ENGL 111 instead of ENGL 101 and ENGL 102.)

**Intermediate Composition (5 hours required)**

Additional courses in this category may not be taken as elective hours.

ENGL 250	Writing About the Amer. Exp. (5 hours)
ENGL 251	The American Identity (5 hours)
ENGL 252	Images of Men and Women in Amer. (5 hours)
ENGL 253	American Regional Writing (5 hours)
ENGL 254	The American Working-Class Identity (5 hours)

**Mathematics, Statistics, and Formal Logic: 5 hours Mathematics**

MATH 116	Mathematics for the Liberal Arts (5 hours)
MATH 130	Mathematical Analysis for Business (5 hours)
MATH 131	Business Calculus I (5 hours)
MATH 132	Business Calculus II (5 hours)
MATH 148	College Algebra (5 hours)
MATH 150	Precalculus (5 hours)
MATH 151	Calculus and Analytical Geometry I (5 hrs)
MATH 152	Calculus and Analytical Geometry II (5 hrs)
MATH 153	Calculus and Analytical Geometry III (5 hrs)
MATH 233	Statistics for Business (5 hrs)
MATH 254	Multivariable Calculus (5 hrs)
MATH 255	Elementary Differential Equations I (5 hrs)
MATH 266	Discrete Mathematical Structures (5 hrs)
MATH 268	Elementary Linear Algebra (5 hours)
MATH 285	Ordinary and Partial Differential Equations (6 hrs)

**Biological and Physical Sciences: 10 hours**

Choose two courses from the approved lists. At least one course must contain a laboratory component. Courses which include a laboratory are designated with an <sup>L</sup>.

Physical Sciences	Biological Sciences
ASTR 161	ANTH 200*
ASTR 162	BIO 111 <sup>L</sup>
CHEM 110 <sup>L</sup>	BIO 112 <sup>L</sup>
CHEM 111 <sup>L</sup>	BIO 125 <sup>L</sup>
CHEM 112 <sup>L</sup>	BIO 127 <sup>L</sup>
CHEM 171 <sup>L</sup>	BIO 174 <sup>L</sup>
CHEM 172 <sup>L</sup>	BIO 175 <sup>L</sup>
CHEM 173 <sup>L</sup>	BIO 215 <sup>L</sup>
GEOL 101 <sup>L</sup>	BIO 262 <sup>L</sup>
GEOL 121 <sup>L</sup>	NSCI103 <sup>L</sup>
GEOL 122 <sup>L</sup>	
PHYS 117 <sup>L</sup>	
PHYS 118 <sup>L</sup>	
PHYS 119 <sup>L</sup>	
PHYS 177 <sup>L</sup>	
PHYS 178 <sup>L</sup>	
PHYS 179 <sup>L</sup>	
NSCI 101 <sup>L</sup>	
NSCI 102 <sup>L</sup>	

\*Note: Students may not use ANTH 200 to satisfy both Biological Science and Social Science requirements.

**Social and Behavioral Sciences: 10 hours**

Choose two courses from two of the content areas listed.

**Economics**

ECON 200	Principles of Microeconomics (5 hours)
ECON 240	Principles of Macroeconomics (5 hours)

**Geography**

GEOG 200	World Regional Geography (5 hours)
GEOG 240	World Economic Geography (5 hours)

**Political Science**

POLS 100	Introduction to Comparative Politics (5 hours)
POLS 101	Introduction to American Government (5 hours)

**Psychology**

PSY 100	Introduction to Psychology (5 hours)
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**Anthropology**

ANTH 200	Introduction to Physical Anthropology (5 hours)*
ANTH 201	World Prehistory (5 hours)
ANTH 202	Introduction to Cultural Anthropology (5 hours)

**Sociology**

SOC 101	Introduction to Sociology (5 hours)
SOC 210	Sociology of Deviance (5 hours)
SOC 280	American Race and Ethnic Relations (5 hours)

\*Note: Students may not use ANTH 200 to satisfy both Biological Science and Social Science requirements.

**Arts and Humanities: 10 hours**

Choose one course from each group.

**Historical Study options**

HUM 111	Civilization I (5 hours)
HUM 112	Civilization II (5 hours)
HUM 113	Civilization III (5 hours)
HUM 131	Chinese Civilization (5 hours)
HUM 132	Japanese Civilization (5 hours)
HUM 151	American Civilization to 1877 (5 hours)
HUM 152	American Civilization Since 1877 (5 hours)
HUM 224	African-American History from Emancipation (5 hours)

**Literature, Culture, and Performing Arts options**

ART 101	History of Western Art (5 hours)
THEA 230	Introduction to Dramatic Literature (5 hours)
ENGL 235	Introduction to Poetry (5 hours)
ENGL 261	Survey of British Literature I (5 hours)
ENGL 262	Survey of British Literature II (5 hours)
ENGL 264	Introduction to Shakespeare (5 hours)
ENGL 270	African-American Writers (5 hours)
ENGL 272	Introduction to Folklore (5 hours)
ENGL 274	Introduction to Non-Western Literature (5 hours)
ENGL 278	The English Bible as Literature (5 hours)
HUM 222	Classical Mythology (5 hours)
HUM 245	Music and Art since 1945 (5 hours)
HUM 254	Introduction to African Literature (5 hours)
HUM 270	Comparative Religions (5 hours)
MUS 101	History of Western Music (5 hours)
PHIL 101	Introduction to Philosophy (5 hours)
PHIL 130	Ethics (5 hours)
PHIL 270	Philosophy of Religion (5 hours)
THEA 100	Introduction to the Theater (5 hours)

**II. Additional Requirements: 45 hours**

An additional **15 hours** is required from a combination of courses in the Arts and Humanities and the Social and Behavioral Sciences. These hours must include **5 hours of Historical Study, 5 hours of Literature, Culture, and the Performing**

**Arts, and 5 hours of Social Sciences.** These courses may be chosen from the above lists or the Transfer Module.

An additional **30 hours** is required from any combination of courses in Arts and Humanities, Social and Behavioral Sciences, Biological and Physical Sciences, and Mathematics. These courses may be chosen from the above General Education Core, or the lists below, or the Transfer Module. Students should choose their additional courses based on their intended major at a four-year institution and in consultation with an academic advisor.

### Arts and Humanities

#### Historical Study

- HUM 181 World Civilization I: Non-Western, Non-American (5 hours)  
HUM 182 World Civilization II: Non-Western, Non-American (5 hours)

#### Literature, Culture, and the Performing Arts

- ART 121 Beginning Drawing (5 hours)  
ART 122 Two-Dimensional Design (5 hours)  
ART 123 Beginning Painting (5 hours)  
ART 131 Three-Dimensional Design (5 hours)  
ART 242 World Cinema (5 hours)  
ENGL 276 Women in Literature (5 hours)  
ENGL 265 European Literature in Translation (5 hours)  
ENGL 240 Introduction to Science Fiction (5 hours)  
ENGL 259 Survey of United States Lit. to 1865 (5 hours)  
ENGL 260 Survey of Modern U.S. Literature (5 hours)  
ENGL 281 Writing Fiction (5 hours)  
ENGL 282 Writing Poetry (5 hours)  
THEA 283 Writing Plays (5 hours)  
THEA 215 Fundamentals of Script Analysis (3 hours)  
THEA 280 Fundamentals of Acting (3 hours)

#### Foreign Languages

Up to 20 hours in any single foreign language.

**Any advanced course which would be appropriate for the student's intended major** at a four-year institution listed under ANTHROPOLOGY, ART, ASTRONOMY, BIOLOGY, CHEMISTRY, COMMUNICATIONS, DANCE, ECONOMICS, EDUCATION, ENGLISH, GEOGRAPHY, GEOLOGY, HISTORY, HUMANITIES, MATH, MUSIC, PHILOSOPHY, PHYSICS, POLITICAL SCIENCE, PSYCHOLOGY, SOCIOLOGY, SOCIAL SCIENCES, SPEECH AND HEARING SCIENCE, OR THEATER.

Business Related: ACCT 106, ACCT 107, FMGT 101, LEGL 264, LOGI 219, MKTG 111

Computer Information Science: CIT 173, 265, 273, 275

Other options may be chosen from pre-approved lists available from Advising Services. Careful selection of Columbus State courses can ensure the greatest applicability of Columbus State credits to the requirements for a baccalaureate degree. Students should consult a specific college transfer guide, Transfer Assurance Guide or University Parallel Guide available from Advising Services. Online transfer advising support is available at [www.csc.edu](http://www.csc.edu). Go to the "Arts and Sciences" home page, "Transfer Information," and then "u.select."

## Associate of Science Degree

1. All students must satisfactorily complete at least 92 credit hours of approved courses, a minimum of 35 hours of which must be completed at Columbus State. Approved courses are designated below. Satisfactory completion requires a final grade of A, B, C, or D. Transfer credit may be awarded for courses in which a "C" or better has been earned at other accredited institutions, or a "D" or better from public Ohio institutions, if the course level equivalencies have been approved by the Dean of Arts and Sciences. Courses listed in the "Transfer Module" or "Transfer Assurance Guides" of an Ohio college, have been pre-approved for credit toward a Columbus State degree. Credits by examination, proficiency credit, nontraditional credit, and transfer credit do not apply toward meeting residency credit hour requirements.
2. All students must attain an overall grade point average of 2.0 or better for all credit courses at the 100 level or above taken at Columbus State. Grade point averages are calculated on the following scale: A=4, B=3, C=2, D=1, E=0. Number equivalencies are not assigned for grades other than these.
3. All students must complete 45 hours of General Education Requirements and 45 hours of additional coursework as specified in the following lists.
4. All students must file a completed "Petition to Graduate" form with Records and Registration by the published deadline date for the intended quarter of graduation. Refer to page 28 of this catalog for complete details.

### I. General Education Core Requirements: 45 hours

**ASC 190 Freshman Seminar (2 hours) or ASC 150 Individual Learning and Motivation (5 hours)** required for all new degree seeking students or students new to Columbus State with less than 15 applicable hours of transfer credit from their previous college. Students are to take this course in conjunction with ENGL 101 or ENGL 111.

#### English Composition: 10 – 11 hours

##### College Composition (5–6 hours required)

- ENGL 101 Beginning Composition (3 hours) *and*  
ENGL 102 Essay and Research (3 hours) *or*  
ENGL 111 English Composition (5 hours)

(Students who place into ENGL 111 may take ENGL 111 instead of ENGL 101 and ENGL 102.)

##### Intermediate Composition (5 hours required)

Additional courses in this category may not be taken as elective hours.

- ENGL 250 Writing About the Amer. Exp. (5 hours)  
ENGL 251 The American Identity (5 hours)  
ENGL 252 Images of Men and Women in Amer. (5 hours)  
ENGL 253 American Regional Writing (5 hours)  
ENGL 254 The American Working-Class Identity (5 hours)

#### Mathematics, Statistics, and Formal Logic: 5 hours

- MATH 148 College Algebra (5 hours) *or*  
MATH 130 Mathematical Analysis for Business (5 hours)

## Biological and Physical Sciences: 10 hours

Choose two courses from the approved list. At least one course must contain a laboratory component. Courses which include a laboratory are designated with an <sup>L</sup>.

### Approved Associate of Science Courses

#### Physical Sciences

CHEM 110<sup>L</sup>  
CHEM 111<sup>L</sup>

CHEM 112<sup>L</sup>  
CHEM 171<sup>L</sup>  
CHEM 172<sup>L</sup>  
CHEM 173<sup>L</sup>  
GEOL 121<sup>L</sup>  
GEOL 122<sup>L</sup>  
PHYS 117<sup>L</sup>  
PHYS 118<sup>L</sup>  
PHYS 119<sup>L</sup>  
PHYS 177<sup>L</sup>  
PHYS 178<sup>L</sup>  
PHYS 179<sup>L</sup>

#### Biological Sciences

ANTH 200\*  
BIO 127<sup>L</sup>

BIO 174<sup>L</sup>  
BIO 175<sup>L</sup>  
BIO 215<sup>L</sup>  
BIO 262<sup>L</sup>

\*Note: Students may not use ANTH 200 to satisfy both Biological Science and Social Science requirements.

## Social and Behavioral Sciences: 10 quarter hours required

Choose two courses from two of the content areas listed.

### Economics/

ECON 200 Principles of Microeconomics (5 hours)  
ECON 240 Principles of Macroeconomics (5 hours)

### Geography

GEOG 200 World Regional Geography (5 hours)  
GEOG 240 World Economic Geography (5 hours)

### Political Science

POLS 100 Introduction to Comparative Politics (5 hours)  
POLS 101 Introduction to American Government (5 hours)

### Psychology

PSY 100 Introduction to Psychology (5 hours)

### Anthropology

ANTH 200 Introduction to Physical Anthropology (5 hours)\*  
ANTH 201 World Prehistory (5 hours)  
ANTH 202 Introduction to Cultural Anthropology (5 hours)

### Sociology

SOC 101 Introduction to Sociology (5 hours)  
SOC 210 Sociology of Deviance (5 hours)  
SOC 280 American Race and Ethnic Relations (5 hours)

\*Note: Students may not use ANTH 200 to satisfy both Biological Science and Social Science requirements.

## Arts and Humanities: 10 hours

Choose one course from each group.

### Historical Study options

HUM 111 Civilization I (5 hours)  
HUM 112 Civilization II (5 hours)

HUM 113 Civilization III (5 hours)  
HUM 131 Chinese Civilization (5 hours)  
HUM 132 Japanese Civilization (5 hours)  
HUM 151 American Civilization to 1877 (5 hours)  
HUM 152 American Civilization Since 1877 (5 hours)  
HUM 224 African-American History from Emancipation (5)

### Literature, Culture, and Performing Arts options

ART 101 History of Western Art (5 hours)  
THEA 230 Introduction to Dramatic Literature (5 hours)  
ENGL 235 Introduction to Poetry (5 hours)  
ENGL 261 Survey of British Literature I (5 hours)  
ENGL 262 Survey of British Literature II (5 hours)  
ENGL 264 Introduction to Shakespeare (5 hours)  
ENGL 270 African-American Writers (5 hours)  
ENGL 272 Introduction to Folklore (5 hours)  
ENGL 274 Introduction to Non-Western Literature (5 hours)  
ENGL 278 The English Bible as Literature (5 hours)  
HUM 222 Classical Mythology (5 hours)  
HUM 245 Music and Art since 1945 (5 hours)  
HUM 254 Introduction to African Literature (5 hours)  
HUM 270 Comparative Religions (5 hours)  
MUS 101 History of Western Music (5 hours)  
PHIL 101 Introduction to Philosophy (5 hours)  
PHIL 130 Ethics (5 hours)  
PHIL 270 Philosophy of Religion (5 hours)  
THEA 100 Introduction to the Theater (5 hours)

## II. Additional Requirements: 45 hours

An additional five hours of Math at the level of MATH 150 or above, or MATH 131 or above, or Statistics 135.

### Foreign Languages

Up to 20 hours in any single foreign language.

**Any advanced course which would be appropriate for the student's intended major** at a four-year institution listed under ANTHROPOLOGY, ART, ASTRONOMY, BIOLOGY, CHEMISTRY, COMMUNICATIONS, DANCE, ECONOMICS, EDUCATION, ENGLISH, GEOGRAPHY, GEOLOGY, HISTORY, HUMANITIES, MATH, MUSIC, PHILOSOPHY, PHYSICS, POLITICAL SCIENCE, PSYCHOLOGY, SOCIOLOGY, SOCIAL SCIENCES, SPEECH AND HEARING SCIENCE, OR THEATER.

Business Related: ACCT 106, ACCT 107, FMGT 101, LEGL 264, LOGI 219, MKTG 111

Computer Information Science: CIT 173, 265, 273, 275

Other elective options may be chosen from pre-approved lists available from Advising Services. Careful selection of Columbus State elective courses can ensure the greatest applicability of Columbus State credits to the requirements for a baccalaureate degree. Students should consult a specific college transfer guide, Transfer Assurance Guide or University Parallel Guide available from Advising Services. Online transfer advising support is available at [www.csc.edu](http://www.csc.edu). Go to the "Arts and Sciences" home page, "Transfer Information," and then "u.select."

# Ohio Transfer Policy

## Institutional Transfer

The Ohio Board of Regents in 1990, following a directive of the 119th Ohio General Assembly, developed the Ohio Articulation and Transfer Policy to facilitate students' ability to transfer credits from one Ohio public college or university to another in order to avoid duplication of course requirements. A subsequent policy review and recommendations produced by the Articulation and Transfer Advisory Council in 2004, together with mandates from the 125th Ohio General Assembly in the form of Amended Substitute House Bill 95, have prompted improvements of the original policy. While all state-assisted colleges and universities are required to follow the Ohio Articulation and Transfer Policy, independent colleges and universities in Ohio may or may not participate in the transfer policy. Therefore, students interested in transferring to independent institutions are encouraged to check with the college or university of their choice regarding transfer agreements. In support of improved articulation and transfer processes, the Ohio Board of Regents will establish a transfer clearinghouse to receive, annotate, and convey transcripts among state-assisted colleges and universities. This system is designed to provide standardized information and help colleges and universities reduce undesirable variability in the transfer credit evaluation process.

## Transfer Module

The Ohio Board of Regents' Transfer and Articulation Policy established the Transfer Module, which is a subset or entire set of a college or university's General Education curriculum in A.A., A.S., and baccalaureate degree programs. Students in applied associate degree programs may complete some individual transfer module courses within their degree program or continue beyond the degree program to complete the entire transfer module. The Transfer Module contains 54-60 quarter hours or 36-40 semester hours of course credit in English composition (minimum 5-6 quarter hours or 3 semester hours); mathematics, statistics and formal/symbolic logic (minimum of 3 quarter hours or 3 semester hours); arts/humanities (minimum 9 quarter hours or 6 semester hours); social and behavioral sciences (minimum of 9 quarter hours or 6 semester hours); and natural sciences (minimum 9 quarter hours or 6 semester hours). Oral communication and interdisciplinary areas may be included as additional options. Additional elective hours from among these areas make up the total hours for a completed Transfer Module.

Courses for the Transfer Module should be 100- and 200-level general education courses commonly completed in the first two years of a student's course of study. Each state-assisted university, technical and community college is required to establish and maintain an approved Transfer Module.

Transfer Module course(s) or the full module completed at one college or university will automatically meet the requirements of individual Transfer Module course(s) or the full Transfer Module at another college or university once the student is admitted. Students may be required, however, to meet additional general education requirements at the institution to which they transfer. For example, a student who completes the Transfer Module at Institution S (sending institution) and then transfers to Institution R (receiving institution) is said to have completed the Transfer Module por-

tion of Institution R's general education program. Institution R, however, may have general education courses that go beyond its Transfer Module. State policy initially required that all courses in the Transfer Module be completed to receive its benefit in transfer. However, subsequent policy revisions have extended this benefit to the completion of individual Transfer Module courses on a course-by-course basis.

## Transfer Assurance Guides

Transfer Assurance Guides (TAGs) comprise Transfer Module courses and additional courses required for an academic major. A TAG is an advising tool to assist Ohio university, community and technical college students planning specific majors to make course selections that will ensure comparable, compatible, and equivalent learning experiences across the state's higher-education system. A number of area-specific TAG pathways in the arts, humanities, business, communication, education, health, mathematics, science, engineering, engineering technologies, and the social sciences have been developed by faculty teams.

TAGs empower students to make informed course selection decisions and plans for their future transfer. Advisors at the institution to which a student wishes to transfer should also be consulted during the transfer process. Students may elect to complete the full TAG or any subset of courses from the TAG. Because of specific major requirements, early identification of a student's intended major is encouraged.

Students who complete Columbus State's degree requirements in Communication Skills, Mathematics, Humanities, Biological and Physical Sciences, and Social and Behavioral Sciences will automatically have completed the Transfer Module.

## Transfer Module

### English Composition

#### College Composition (5–6 hours required)

- ENGL 101 Beginning Composition (3) *and*
- ENGL 102 Essay and Research (3) *or*
- ENGL 111 English Composition (5)

#### Intermediate Composition (5 hours required)

- ENGL 250 Writing about the American Experience (5)
- ENGL 251 The American Identity (5)
- ENGL 252 Images of Men and Women in America (5)
- ENGL 253 American Regional Writing (5)
- ENGL 220 Composition and Literature (3)

## Mathematics and Logical Analysis

Select a minimum of one course.

### Mathematics (5 hours required)

- MATH 116 Mathematics for the Liberal Arts (5)
- MATH 130 Mathematical Analysis for Business I (5)
- MATH 131 Business Calculus I (5)
- MATH 132 Business Calculus II (5)
- MATH 148 College Algebra (5)
- MATH 150 Pre-Calculus (5)

MATH 151	Calculus and Analytic Geometry I (5)
MATH 152	Calculus and Analytic Geometry II (5)
MATH 153	Calculus and Analytic Geometry III (5)
MATH 233	Statistics for Business (5)
MATH 254	Multivariable Calculus (5)
MATH 255	Elementary Differential Equations (5)
MATH 266	Discrete Mathematical Structures (5)
MATH 268	Elementary Linear Algebra (5)
MATH 285	Ordinary and Partial Differential Equations (6)

## Biological and Physical Sciences

Select two courses. At least one must contain a lab.

NSCI 101	Natural Science I (5)
NSCI 102	Natural Science II (5)
NSCI 103	Natural Science III (5)

### Biological Sciences

BIO 111	Introductory Biology I (5)
BIO 112	Introductory Biology II (5)
BIO 215	General Microbiology (5)
BIO 125	General Botany (5)
BIO 126	Introduction to Ecology (5)
BIO 261	Human Anatomy (5)
BIO 262	Human Physiology (5)
BIO 263	Human Pathophysiology (5)
BIO 174	Biological Sciences I (5)
BIO 175	Biological Sciences II (5)
BIO 201	Animal Diversity and Systemics (5)

### Physical Sciences

<b>ASTR 161</b>	<b>The Solar System (5)</b>
<b>ASTR 162</b>	<b>Stars and Galaxies (5)</b>
<b>CHEM 110</b>	<b>Chemistry and Society (5)</b>
CHEM 111	Elementary Chemistry I (5)
CHEM 112	Elementary Chemistry II (5)
CHEM 113	Elements of Organic and Biochemistry (5)
CHEM 171	General Chemistry I (5)
CHEM 172	General Chemistry II (5)
CHEM 173	General Chemistry III (5)
GEOL 101	Earth Systems I (5)
GEOL 121	Physical Geology (5)
PHYS 117	College Physics - Mechanics and Heat (5)
PHYS 118	College Physics - Elect, Magnetism & Light (5)
PHYS 119	College Physics - Modern Physics (5)
PHYS 177	General Physics I (5)
PHYS 178	General Physics II (5)
PHYS 179	General Physics III (5)

## Arts/Humanities

Choose two courses. One must be historical study.

### Historical Study

HUM 111	Civilization I (5)
HUM 112	Civilization II (5)
HUM 113	Civilization III (5)
HUM 111	Civilization I (5)
HUM 131	Chinese Civilization (5)
HUM 132	Japanese Civilization (5)
HUM 151	American Civilization to 1877 (5)
HUM 152	American Civilization since 1877 (5)
HUM 224	African-American History from Emancipation (5)

## Literature, Culture, and Performing Arts:

ART 101	History of Western Art (5)
ENGL 235	Introduction to Poetry (5)
ENGL 240	Introduction to Science Fiction (3)
ENGL 262	Survey of British Literature (5)
ENGL 264	Introduction to Shakespeare (5)
ENGL 265	Modern European Lit. in Translation (5)
ENGL 270	African-American Writers (5)
ENGL 272	Introduction to Folklore (5)
ENGL 274	Introduction to Non-Western Literature (5)
ENGL 276	Women in Literature (5)
ENGL 278	The English Bible as Literature (5)
HUM 222	Classical Mythology (5)
HUM 245	Music and Art Since 1945 (5)
HUM 251	History of Latin America (5)
HUM 252	The Islamic World and the Middle East (5)
HUM 253	History of China and Japan (5)
HUM 254	Introduction to African Literature (5)
HUM 270	Comparative Religions (5)
MUS 101	History of Western Music (5)
PHIL 101	Introduction to Philosophy (5)
PHIL 130	Ethics (5)
PHIL 270	Philosophy of Religion (5)
THEA 100	Intro to the Theatre (5)
THEA 230	Introduction to Dramatic Literature (5)

## Social and Behavioral Sciences

Choose two courses.

### Integrated/Interdisciplinary

SSCI 101	Cultural Diversity (5)
SSCI 102	American Popular Culture(5)
SSCI 105	Law and Society (5)

### Economics

ECON 100	Introduction to Economics (5)
ECON 200	Principles of Microeconomics (5)
ECON 240	Principles of Macroeconomics (5)

### Geography

GEOG 200	World Regional Geography (5)
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### Political Science

POLS 100	Introduction to Comparative Politics (5 hrs)
POLS 101	Introduction to American Government (5)

### Psychology

PSY 100	Introduction to Psychology (5)
PSY 200	Educational Psychology (5)
PSY 230	Abnormal Psychology (5)
PSY 135	Psychology of Adjustment (3)
PSY 240	Human Growth and Development (4)
PSY 251	Adolescent Psychology (5)
PSY 261	Introduction to Child Development (5)
PSY 267	Social Psychology (5)

### Sociology/Anthropology

ANTH 200	Introduction to Physical Anthropology (5)
ANTH 201	World Prehistory (5)
ANTH 202	Introduction to Cultural Anthropology (5)
SOC 101	Introduction to Sociology (5)
SOC 202	Social Problems (5)

SOC 210	Sociology of Deviance (5)
SOC 230	Marriage and Family Relations (5)
SOC 280	American Race and Ethnic Relations (5)

### Conditions for Transfer Admission

1. Ohio residents with associate degrees from state-assisted institutions and a completed, approved Transfer Module shall be admitted to a state institution of higher education in Ohio, provided their cumulative grade point average is at least 2.0 for all previous college-level courses. Further, these students shall have admission priority over out-of-state associate degree graduates and transfer students.
2. When students have earned associate degrees but have not completed a Transfer Module, they will be eligible for preferential consideration for admission as transfer students if they have grade point averages of at least a 2.0 for all previous college-level courses.
3. In order to encourage completion of the baccalaureate degree, students who are not enrolled in an A.A. or A.S. degree program but have earned 60 semester or 90 quarter hours or more of credit toward a baccalaureate degree with a grade point average of at least a 2.0 for all previous college-level courses will be eligible for preferential consideration for admission as transfer students.
4. Students who have not earned an A.A. or A.S. degree or who have not earned 60 semester hours or 90 quarter hours of credit with a grade point average of at least a 2.0 for all previous college level courses are eligible for admission as transfer students on a competitive basis.
5. Incoming transfer students admitted to a college or university shall compete for admission to selective programs, majors, and units on an equal basis with students native to the receiving institution.

Admission to a given institution, however, does not guarantee that a transfer student will be automatically admitted to all majors, minors, or fields of concentration at the institution. Once admitted, transfer students shall be subject to the same regulations governing applicability of catalog requirements as native students. Furthermore, transfer students shall be accorded the same class standing and other privileges as native students on the basis of the number of credits earned. All residency requirements must be completed at the receiving institution.

### Acceptance of Transfer Credit

To recognize courses appropriately and provide equity in the treatment of incoming transfer students and students native to the receiving institution, transfer credit will be accepted for all successfully completed college-level courses completed in and after Fall 2005 from Ohio state-assisted institutions of higher education. Students who successfully completed A.A. or A.S. degrees prior to Fall 2005 with a 2.0 or better overall grade point average would also receive credit for all college-level course they have passed. (See Ohio Articulation and Transfer Policy, Definition of Passing Grade and Appendix D.) While this reflects the baseline policy requirement, individual institutions may set equitable institutional policies that are more accepting. Pass/fail courses, credit by examination courses, experiential learning courses, and other nontraditional credit courses that meet these conditions will also be accepted and posted to the student record.

### Responsibility of Students

In order to facilitate transfer with maximum applicability of transfer credit, prospective transfer students should plan a course of study that will meet the requirements of a degree program at the receiving institution. Students should use the Transfer Module, Transfer Assurance Guides, and Course Applicability System for guidance in planning the transfer process. Specifically, students should identify early in their collegiate studies an institution and major to which they desire to transfer. Furthermore, students should determine if there are language requirements or any special course requirements that can be met during the freshman or sophomore year. This will enable students to plan and pursue a course of study that will articulate with the receiving institution's major. Students are encouraged to seek further information regarding transfer from both their advisor and the college or university to which they plan to transfer.

### Appeals Process

Following the evaluation of a student transcript from another institution, the receiving institution shall provide the student with a statement of transfer credit applicability. At the same time, the institution must inform the student of the institution's appeals process. The process should be multi-level and responses should be issued within 30 days of the receipt of the appeal.

The Columbus State Community College appeals process begins after the student with previous college credit receives an e-mail, which indicates that some previous coursework may not be applicable to the student's new degree. The e-mail explains the procedure for requesting a second evaluation of the transcript. If the re-evaluation is not satisfactory to the student, the student may then appeal by asking the Registrar to initiate the next step in the appeals process, which consists of a review of the transcript and supporting documentation by the department housing the academic discipline of the course(s) in question. Appeals denied at the department level will automatically be forwarded to the Dean of Arts and Sciences for a final decision on behalf of the college. If the appeal is denied at this level, the student will be advised in writing of the reasons for the denial and how to appeal to the state level.

**Fulfillment of the Associate of Arts or Associate of Science degree requirements assures fulfillment of Transfer Module requirements.**

## Columbus State Community College Transfer Agreements

Columbus State Community College has established transfer agreements with the following institutions. Please see your academic advisor for specific transfer course information.

### Associate of Arts and Associate of Science Degrees to B.A. and B.S. Degrees

- Antioch College
- Ashland University
- Capital University
- Central State University
- Franklin University

Kent State University  
Ohio Dominican University  
Ohio University  
The Ohio State University - All Colleges  
Otterbein College  
Shawnee State University  
University of Akron  
University of Cincinnati- School of Planning, College of  
Design, Art, Architecture and Planning  
University of Toledo  
Wilberforce University

#### **Online Bachelor's Degree Completion**

##### **Franklin University**

##### **Kaplan University**

##### **Miami University**

A.A.S. in Electronic Engineering Technology to B.S.

##### **Ohio University**

A.A.S. in Law Enforcement to Bachelor of Criminal Justice

A.A.S. in Legal Assisting to Bachelor of Criminal Justice

A.A.S. to Bachelor of Technical and Applied Studies

##### **Strayer University**

All Columbus State degrees

##### **University of Toledo**

A.A.S. in Technical Communication to B.A.

A.A.S. in Health Information Management to B.S. in  
Health Information Management

#### **Degree Completion Programs for All Columbus State Degrees**

Ashland University  
Capital University  
Central State University  
DeVry University  
Franklin University  
Kaplan University  
Ohio Dominican University  
Otterbein College  
Shawnee State University  
Strayer University  
The University of Akron  
University of Phoenix  
Wilberforce University

#### **Guaranteed Admission to All Graduates of Columbus State (A.A., A.S., or A.A.S.)**

Ashland University  
Central State University  
Ohio Dominican University  
Otterbein College  
Shawnee State University  
The University of Akron  
University of Phoenix  
Wilberforce University

#### **Technology Specific Agreements for Associate of Applied Science Degrees**

##### **Bethel College**

Interpreting/American Sign Language Education

##### **Bowling Green State University**

A.A.S. in Environmental Science, Safety and Health to a  
B.S. in Environmental Health

##### **Cleveland State University College of Business**

###### **Administration**

Supply Chain Management (Logistics)

Marketing

##### **Ohio Christian University**

Accounting

Business Management

Early Childhood Development

Nursing

##### **DeVry University**

Accounting

Business Management

Computer Information Technology

Electronic Engineering Technology

##### **Embry-Riddle Aeronautical University**

Aviation Maintenance Technology

##### **Florida International University**

Hospitality Management to Hotel and Food Service Mgmt.

##### **Miami University**

Electronic Engineering Technology

Electro-Mechanical Engineering Technology

Mechanical Engineering Technology

##### **Mount Carmel College of Nursing**

A.A.S. in Nursing to B.S. in Nursing

##### **Mount St. Joseph College**

All A.A.S. degrees in Health, Human and Public Services

##### **Northern Kentucky University**

A.A.S. in Construction Management to B.S. in Construction  
Management

##### **Ohio University**

All A.A.S. degrees in Health, Human and Public Services

Hospitality Management to Hotel and Food Service Mgmt.

A.A.S. in Law Enforcement to Bachelor of Criminal Justice

A.A.S. in Legal Assisting to Bachelor of Criminal Justice

A.A.S. to Bachelor of Technical and Applied Studies

##### **The Ohio State University**

A.A.S. in Automotive Technology, Business Management,  
Construction Management, Nursing, Engineering Technolo-  
gies, and Applied Technologies to B.S. in Technical Educa-  
tion and Training, College of Education.

A.A.S. in Construction Management leading to the B.S. in  
Agriculture in Construction Systems Management

A.A.S. in Early Childhood Development leading to B.S. in  
Early Childhood Development and Education

A.A.S. in Health Information Management Technology to  
B.S. in Health Information Management and Systems

A.A.S. in Mechanical Engineering to B.S. in Industrial  
Technology Education

##### **Sullivan University**

Hospitality Management

##### **Tiffin University**

Business Management to B.S. in Business Administration

Law Enforcement to B.S. in Criminal Justice

##### **The United States Sports Academy**

Sport and Exercise Studies to Bachelor of Sport Science

Associate of Arts or Associate of Science to Bachelor of  
Sport Science



### **University of Cincinnati**

Chemical Dependency to Addictions Major, Sociology  
Health Information Management Technology to B.S. in  
Health Information Management

### **University of Findlay**

A.A.S. in Environmental Science, Safety and Health to a  
B.S. in Environmental Management

### **University of Toledo**

Electronic Engineering Technology to Computer Science  
and Engineering  
Health Information Management to Health Information  
Management  
Technical Communication to B.A. in Liberal Studies

## **Graduation Requirements Associate of Applied Science Degree**

### **Requirements of All Graduates**

1. The satisfactory completion of 90-110 quarter credit hours as required by the particular program.
2. The attainment of a “C” (2.00) average in all technical courses and a “C” (2.00) average in all nontechnical courses.
3. The completion of no fewer than 35 of the required credit hours, including no fewer than 20 credit hours in technical courses approved by the department chairperson, while in attendance at Columbus State Community College. Credits by examination/proficiency, nontraditional credit, and transfer credit do not apply toward meeting residency credit hour requirements.
4. All students must file a completed “Petition to Graduate” with Records and Registration by the published deadline date of their intended quarter of graduation. Refer to page 28 of this catalog for complete details.

### **General Education Requirements**

1. 12 credit hours in English/Communication Skills:  
ENGL 101, ENGL 102 (students placing into ENGL 111 can take ENGL 111 instead of ENGL 101 AND ENGL 102), COMM 105, COMM 110 or COMM 115 (depending on the technology requirement), and one of the following three courses: COMM 200, COMM 202, or COMM 204.
2. Five credit hours in Humanities: HUM 111, HUM 112, HUM 113, HUM 151, HUM 152, or HUM 224.
3. Five credit hours in Social and Behavioral Sciences for students in Engineering and Health and Human Services degree programs: SSCI 100, SSCI 101, SSCI 102, SSCI 105 or GEOG 240.  
Five credit hours in Biological and Physical Sciences for students in the Business and Public Services degree programs: NSCI 101 or BIO 104 and 105.  
Following are exceptions to this requirement:
  - a. Mental Health/Chemical Dependency/Mental Retardation students must take BIO 112 to fulfill the requirement.
  - b. Early Childhood Development and Interpreting/Transliterating students must take NSCI 101 or BIO 104 and 105 to fulfill the requirement.
  - c. Computer Information Technology, Dietetic Technician Major, and Medical Office Administration students must take SSCI 100, SSCI 101, SSCI 102, SSCI 105 or GEOG 240 to fulfill the requirements.

### **Basic Studies Requirements**

Each technical program requires completion of at least 21 credit hours in Basic Studies. Basic Studies are those that provide students with the scientific and theoretical foundations of their technology, or those that provide students with an understanding of the legal, social, economic, or political environments within which they will practice their technology. Courses that fulfill the Basic Studies requirements vary from program to program. They are listed in the following section, with the listings of technical program requirements.

### **Technical Studies Requirements**

Each technical program requires completion of 45–67 credit hours in courses clearly identifiable with the technical skills, proficiency, and knowledge required for career competency. Technical studies requirements also vary from program to program; they are also listed in the following section by program.

Students need to work closely with an assigned advisor to assure they meet all requirements for graduation. The student is responsible for meeting all requirements.

## **Graduation Requirements Associate of Technical Studies Degree “Designing Your Own Degree”**

### **Application Procedures**

The Associate of Technical Studies degree program enables a student to design an individualized program of study to fulfill a unique career goal that cannot be met through the completion of any one of the college’s technical programs. This is accomplished by selecting courses from up to four different technical disciplines, thereby fashioning a coherent technical program. In order to be considered for admission to this program, an applicant must:

1. Demonstrate a level of maturity and motivation which gives promise of successfully handling the responsibilities inherent in this program.
2. Satisfy the general admission requirements of Columbus State Community College.
3. Prepare and submit the Associate of Technical Studies (A.T.S.) application, which includes the proposed program of study.

To prepare and submit the A.T.S. application, applicants should first call Advising Services to set up an appointment with an academic advisor, (614) 287-2668. The advisor will then provide the student with an application. Next, the student should submit the application draft, which includes a personal statement and rationale for the ATS program.

The application will then be reviewed and the degree content will be developed by the Office of the Dean of Career and Technical Programs. Upon final approval, the Dean’s Office will identify the faculty advisor(s) or others with whom the student will work for his/her A.T.S. program.

Columbus State reserves the right not to approve any A.T.S. request that, in the opinion of the appropriate department chair or dean,

does not contain depth, rigor, and coherence at levels comparable with existing career and technical degree programs.

### **Graduation Requirements of all A.T.S. Graduates**

1. The satisfactory completion of 90–110 credit hours.
2. The attainment of a C (2.00) average in all technical courses and a C (2.00) average in all nontechnical courses.
3. The completion of no fewer than 35 of the required credit hours, including no fewer than 20 credit hours in technical courses approved by the department chairperson(s), while in attendance at Columbus State Community College. Credit by examination/proficiency, nontraditional credit, and transfer credit do not apply toward meeting residency credit hour requirements.
4. All students must file a completed “Petition to Graduate” with Records and Registration by the published deadline date of their intended quarter of graduation. Refer to page 28 of this catalog for complete details.

## **Honors Program**

Columbus State offers an honors program for eligible students. Honor courses offer students more challenging, faster-paced coursework. Courses in English, Humanities, and Social Sciences will be open to students who have completed or placed into ENGL 111 and have received permission from the Director of the Honors Program. Please see the quarterly list of course offerings for the complete listing of honors courses. For more information on the honors program, call (614) 287-2512.

### **\*\*Specific Program Requirements\*\***

In the next section of the catalog, the requirements for Columbus State’s Programs of Study are listed alphabetically. Students can locate a program of interest and read through the listing of required courses. The first three or four alpha identifiers of each course number indicate which department offers the course. A chart in the Course Description Section shows all the departments and their corresponding identifiers.

# Academic Programs

## ARTS AND SCIENCES DIVISION

**Associate of Arts Degree**

**Associate of Science Degree**

**A.A.S. in Technical Communication**

## CAREER AND TECHNICAL PROGRAMS DIVISION

**Associate of Applied Science Degree**

**Associate of Technical Studies Degree**

**Certificate Programs**

**(A.A.S. Degrees unless the A.T.S. degree is indicated or the program title contains the word “certificate”)**

### Accounting

- Certificate of Accounting Concentration (CPA Exam Preparation)
- Certificate of Fraud Examination
- Certificate of Internal Auditing
- Certificate of Taxation Specialist

### Architecture

- Architecture Transfer Option
- Architectural CAD Drafting Certificate
- 3D Visualization Certificate

### Automotive Technology

- Vocational Education Transfer Option with The Ohio State University
- Automotive Service Management Major
- Ford ASSET Program
- Maintenance and Light Repair Certificate
- TechLINK Program
- Toyota – T-Ten Certificates
- YAATC

### Aviation Maintenance Technology

- Aviation Maintenance Technician Certificate

### Business Management

- Vocational Education Transfer Option with The Ohio State University
- Business Management Major
- Entrepreneurship Major
- Public Administration Track
- Basic Project Manager Certificate
- Entrepreneurship Certificate
- Leadership Development Certificate
- Managing Interpersonal Skills Certificate
- Nonprofit Management Certificate
- Pre-MBA Certificate
- Project Management Team Certificate
- Public Administration Certificate

### Business Office Applications

- Administrative Assistant Major
- Administrative Assistant Medical Cognate
- Bookkeeping Certificate
- Office Skills Certificate
- Office Specialist Certificate

### Civil Engineering Technology

- Civil Track
- Survey Track
- Surveying Certificate

### Computer Information Technology

- Vocational Education Transfer Option with The Ohio State University
- Game Developer Track
- MIS Project Management Track
- Network Administrator Track

- Software Developer Track
- Web Developer Track
- CCNA Discovery Certificate
- Computer Literacy Certificate
- Database Specialist Certificate
- Information Security Certificate
- Management Information Systems Certificate
- Network Administrator Certificate
- Software Developer Certificate
- System Z Certificate

### Construction Management

- Vocational Education Transfer Option with The Ohio State University
- Building Information Modeling Certificate
- Construction Project Management Assistant Certificate
- Estimating/Bidding Certificate
- Facility Conservation and Energy Management Certificate
- Field Supervision Certificate
- Residential Construction Management Certificate

### Dental Hygiene

### Dental Laboratory Technology/Small Business Management (A.T.S.)

- Dental Laboratory Technology Certificate

### Digital Design and Graphics

- Desktop Publishing Certificate
- Digital Design Certificate
- Digital Media Certificate
- Photoshop for Illustration and Design Certificate

### Digital Photography

- Photography Certificate
- Photoshop for Photographers Certificate

### Early Childhood Development

- Child Development Association (CDA) Credential Preparation Certificate
- Preschool Education Certificate

### Electro-Mechanical Engineering Technology

### Electronic Engineering Technology

- Computer Electronics Major (Technology Systems Technician Track)

### Emergency Medical Services Technology

- EMT–Basic Certificate
- EMT–Paramedic Certificate

### EMS/Fire Science (A.T. S.)

### Engineering Technologies Certificates

- Computer Aided Drafting Technician Certificate
- Engineering Assembly Technician Certificate
- Engineering Technician Certificate
- Manufacturing Maintenance Technician Certificate

### Environmental Science, Safety and Health

- Health and Safety for Hazardous Waste Operations Certificate
- Occupational Health and Safety Certificate
- Sustainable Building Certificate
- Water/Wastewater Technology Certificate

### Finance

### Fire Science

### Geographic Information Systems

- GIS Certificate

### Health Information Management Technology

- Medical Coding Certificate

## Academic Programs (continued)

### **Heating, Ventilating and Air Conditioning**

#### **Technology**

High Pressure Boiler License Training Program  
Large Commercial Certificate  
Residential/Light Commercial Certificate

### **Hospitality Management**

Culinary Apprenticeship Major  
Dietetic Technician Major  
Hotel, Tourism and Event Management Major  
Restaurant and Foodservice Management Major  
Restaurant and Foodservice Management Major-Baking and Pastry Arts Track  
Baking Certificate  
Dietary Manager Certificate  
Meeting and Event Management Certificate  
School Foodservice Manager Certificate

### **Human Resources Management Technology**

#### **Interactive Media**

Digital Video and Sound Major  
Video Game Art and Animation Track  
Rich Media Communication Certificate  
Visual Communication Certificate  
Web Communication Certificate

### **Interpreting/American Sign Language Education**

American Sign Language/Deaf Studies Certificate

### **Landscape Design/Build**

#### **Law Enforcement**

Corrections Major  
Law Enforcement Major  
Law Enforcement Major –Academy Track

### **Marketing**

Direct Marketing Major  
Retail Management Major  
Direct Marketing Certificate  
Electronic Marketing Certificate  
Pre-MBA Certificate

### **Massage Therapy**

Massage Therapy LMT Degree Completion  
Massage Therapy Certificate  
Massage Therapy Advanced Techniques Certificate

### **Mechanical Engineering Technology**

#### **Medical Assisting (A. T. S.)**

Medical Assisting Certificate

#### **Medical Laboratory Technology**

Clinical Laboratory Assisting Certificate

### **Mental Health/Addiction Studies/Developmental Disabilities**

Mental Health Track  
Addiction Studies Track  
Developmental Disabilities Track  
Advanced Mental Health Certificate  
Advanced Addiction Studies Certificate  
Advanced Developmental Disabilities Certificate  
Community/Habilitation Assistant Certificate  
Community Living Specialist Certificate

### **Multi-Competency Health**

Basic Electrocardiography Certificate  
Health Care Manager Certificate  
Histology Certificate  
Phlebotomy Certificate  
Clinical Laboratory Assisting Certificate  
Complementary Care Certificate

Nurse Aide Training Program Certificate  
Patient Care Skills Certificate  
Pranic Healing Certificate Level I  
Pranic Healing Certificate Level II  
Pranic Healing Certificate Level III  
Registered Nurse First Assistant Certificate  
Train the Trainer Nurse Aide Certificate

### **Nuclear Medicine Technology**

#### **Nursing**

Vocational Education Transfer Option with The Ohio State University  
Practical Nursing Program  
Complementary Care Certificate  
Nurse Aide Training Program Certificate  
Patient Care Skills Certificate  
Pranic Healing Certificate Level I  
Pranic Healing Certificate Level II  
Pranic Healing Certificate Level III  
Registered Nurse First Assistant Certificate  
Train the Trainer Nurse Aide Certificate

### **Paralegal Studies**

Paralegal Studies Certificate (Post Baccalaureate Option)

### **Quality Assurance Technology**

#### **Radiography**

Limited Radiography Certificate

#### **Real Estate**

Appraisal Certificate  
Real Estate Pre-Licensure Certificate

### **Respiratory Care**

Registered Respiratory Therapist Program  
Sleep Study Certificate

### **Skilled Trades Technology**

Apprenticeship Partnership Degree Programs  
Associate of Technical Studies Degree in Construction Trades  
Facilities Maintenance Degree  
Facilities Maintenance Certificate  
Facilities Module Certificates  
Intermediate Welder Certificate  
Introduction to the Construction Industry Certificate

### **Sport and Exercise Studies**

Exercise Science Major  
Physical Education Major  
Sport Management Major  
Exercise Specialist Certificate

### **Sterile Processing Technology (A.T.S.)**

Sterile Processing Technology Certificate

### **Supply Chain Management**

International Commerce Major  
Strategic Procurement Major  
International Business Certificate  
International Commerce Certificate  
Strategic Procurement Certificate  
Supply Chain Management Certificate

### **Surgical Technology**

Surgical Technology Certificate

### **Veterinary Technology**

# Accounting

## Accounting Associate Degree

### Certificate of Accounting Concentration

(CPA Exam Preparation)

### Certificate of Fraud Examination

### Certificate of Internal Auditing

### Certificate of Taxation Specialist

### (Bookkeeping Certificate: See Business Office

Applications)

### CPA Exam Review (courses only; no certificate)

Accountants, and the theoretical principles they use in their work, stand at the very center of our financial and economic activities. Economists, investors, business executives, labor leaders, bankers, and government officials all rely upon financial statements and other reports prepared by accountants to summarize and interpret the multitude of financial transactions that comprise day-to-day economic activity. The true value of an accountant is measured by his or her ability to develop and present understandable, reliable analyses of financial positions and the results of operations upon which business decisions are based.

The Accounting Associate Degree program prepares graduates for employment as accountants in business, industry, and government. Many experienced accountants become owners/operators of their own public accounting firms. The program emphasizes the use of personal computers along with manual procedures of accounting. The Accounting Associate Degree program is ideally suited to the needs of those who wish to take the Ohio CPA Examination with qualifying examinations upon graduation.

### Certificate of Accounting Concentration (CPA Exam Preparation)

The Certificate of Accounting Concentration is intended for individuals who possess a bachelor's, a master's, or a doctoral degree in an area other than accounting and want to qualify under Ohio law to sit for the Ohio CPA exam. The 61 hours of course work recommended would provide candidates with the broadest possible knowledge of all four parts of the Ohio exam.

### Certificate of Fraud Examination

The Certificate of Fraud Examination will develop the skills required to be successful in the challenging and interesting field of fraud examination. Students will learn how to prevent fraud, detect fraud, and investigate fraud within a company or government agency. Fraud examiners find employment in internal audit departments, private practice, and various governmental and regulatory agencies. Fraud examiners also serve as expert witnesses in both criminal and civil cases.

### Certificate of Internal Auditing

The Certificate of Internal Audit program develops the competencies required for today's internal auditor or the business professional involved with, or responsible for, related issues. The topics covered in this certificate program include Sarbanes-Oxley compliance, internal auditing, operational auditing, fraud control,

and fraud prevention. These topics will be covered in eight 5-week courses. Courses meet one evening per week, making them convenient for the working professional. This certificate can be obtained easily in a year, taking one course at a time.

### Certificate of Taxation Specialist

The Certificate of Taxation Specialist was developed to provide students with an understanding of the fundamental concepts of practicing in all areas of taxation. Students will obtain the needed tools and skills necessary to be employable within a tax firm or pursue their own tax preparation practice. This certificate will also allow students to pursue this specialized area of employment opportunity without the extensive coursework that is required in the Associate Degree.

### Traditional Classes and Distance Learning Choices at Columbus State

The Accounting program offers both traditional and distance learning (DL) options for students. The traditional learning experience provides students with high quality instruction in small classes at the downtown campus and off-campus locations. Accounting also offers distance learning courses, which provide the same high quality learning as traditional instruction and provide the flexibility of completing course work online or through video based instruction.

Upon completion of the Associate of Applied Science degree in Accounting, the graduate will be able to:

- Apply generally accepted accounting principles to measure, process, and communicate financial information about a business entity.
- Use accounting computer software to maintain accounting records and prepare financial statements.
- Prepare flowcharts and evaluate the internal control of an accounting system.
- Apply theory and practical applications to budgeting, break-even analysis, product costing, profit planning, and cost analysis for decision making purposes.
- Compare and use financial statements for decision-making purposes.
- Explain the purpose and standards for an independent audit, as well as the procedures used in applying auditing standards while conducting an independent audit.
- Identify and describe each of the rules contained in the AICPA Code of Professional Conduct.
- The student will be able to apply the rules from the Internal Revenue Code and various state and local governing authorities in the calculation and reporting of taxable income, income tax liabilities for diverse business and not-for-profit entities, as well as other tax returns. Additionally, the student will understand the nature of the federal tax system and research tax issues.

## Accounting Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101 Beginning Composition .....	3
BMGT 111 Management .....	5
ACCT 106 Financial Accounting .....	5
ACCT 107 Managerial Accounting .....	5
ECON 200 Principles of Microeconomics .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>23</b>

<b>Quarter 2</b>	
ENGL 102 Essay and Research .....	3
GEOG 240 World Economic Geography .....	5
ACCT 108 Intermediate Preparedness .....	4
ACCT 126 Accounting Systems.....	4
FMGT 201 Corporate Finance.....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>21</b>

<b>Quarter 3</b>	
COMM 200 Business Communications .....	3
COMM 105 Speech .....	3
ACCT 250 Intermediate Accounting I.....	4
ACCT 211 Cost Accounting.....	4
LEGL 264 Legal Environment of Business.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 4</b>	
MATH 135 Elementary Statistics .....	5
ACCT 252 Intermediate Accounting II .....	4
ACCT 232 Federal Taxation I .....	4
HUM XXX Humanities 111, 112, 113, 151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 5</b>	
ACCT 253 Intermediate Accounting III .....	4
ACCT 236 Federal Taxation II .....	4
ACCT 241 Auditing I: Principles .....	3
BMGT 272 Case Studies in Strategic Management.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>

<b>Quarter 6</b>	
ACCT XXX Accounting Technical Elective .....	4
ACCT 242 Auditing II: Applications .....	3
ACCT 243 Professional Standards and Ethics for Accountants.....	1
ACCT 271* Accounting Practicum.....	3
ACCT 272* Accounting Seminar.....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>13</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>108</b>

\* Must be taken together

### Technical Elective must be selected from the following list of courses:

ACCT 121 Data Processing for Accountants .....	4
BOA 119 Basic Internal Controls and Fraud Prevention .....	2
ACCT 231 State and Local Taxation .....	4
ACCT 239 Advanced Taxation .....	4
ACCT 240 Tax Practice.....	4
ACCT 258 Advanced Accounting.....	4
ACCT 266 Public Administration/Fund Accounting .....	4
ACCT 275 Fraud Examination I .....	2
ACCT 276 Fraud Examination II.....	2
ACCT 277 Fraud and the Legal Environment.....	4
ACCT 278 Fraud and Investigative Procedures.....	4
ACCT 281 Sarbanes-Oxley Act I.....	2
ACCT 282 Sarbanes-Oxley Act II.....	2
ACCT 285 CPA Exam Preparation: Auditing and Attestation .....	3
ACCT 286 CPA Exam Preparation: Business Environment .....	3
ACCT 287 CPA Exam Preparation: Financial Accounting & Reporting..	3
ACCT 288 CPA Exam Preparation: Regulation.....	4
ACCT 291 Internal Audit I.....	2
ACCT 292 Internal Audit II.....	2
ACCT 293 Operational Auditing.....	2
ACCT 294 Internal Audit: Special Topics.....	2
ACCT 295-299 Studies in Contemporary Accounting.....	1-5

## Certificate of Accounting Concentration (CPA Exam Preparation)

COURSE	CR
<b>Quarter 1</b>	
ACCT 106 Financial Accounting .....	5
ACCT 107 Managerial Accounting .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>10</b>

<b>Quarter 2</b>	
ACCT 108 Intermediate Preparedness .....	4
ACCT 126 Accounting Systems .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>8</b>

<b>Quarter 3</b>	
ACCT 250 Intermediate Accounting I.....	4
ACCT 211 Cost Accounting.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>8</b>

<b>Quarter 4</b>	
LEGL 264 Legal Environment of Business.....	4
ACCT 252 Intermediate Accounting II .....	4
ACCT 232 Federal Taxation I .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>12</b>

<b>Quarter 5</b>	
ACCT 253 Intermediate Accounting III .....	4
ACCT 236 Federal Taxation II .....	4
ACCT 241 Auditing I: Principles .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>11</b>

<b>Quarter 6</b>	
ACCT 266 Public Administration/Fund Accounting.....	4
ACCT 242 Auditing II: Applications .....	3
ACCT 258 Advanced Accounting.....	4
ACCT 243 Professional Standards and Ethics for Accountants.....	1
<b>TOTAL CREDIT HOURS .....</b>	<b>12</b>
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>	<b>61</b>

## Certificate of Fraud Examination

COURSE	CR
<b>Quarter 1</b>	
ACCT 275 Fraud Examination I .....	2
ACCT 276 Fraud Examination II .....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>4</b>

<b>Quarter 2</b>	
ACCT 277 Fraud and the Legal Environment.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>4</b>

<b>Quarter 3</b>	
ACCT 278 Fraud and Investigative Procedures.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>4</b>

<b>Quarter 4</b>	
ACCT 281 Sarbanes-Oxley Act I.....	2
ACCT 282 Sarbanes-Oxley Act II.....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>4</b>
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>	<b>16</b>

## Certificate of Internal Auditing

COURSE	CR
<b>Quarter 1</b>	
ACCT 275 Fraud Examination I .....	2
ACCT 276 Fraud Examination II .....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>4</b>

<b>Quarter 2</b>	
ACCT 281 Sarbanes-Oxley Act I.....	2
ACCT 282 Sarbanes-Oxley Act II.....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>4</b>

<b>Quarter 3</b>	
ACCT 291	Internal Audit I.....2
ACCT 292	Internal Audit II.....2
<b>TOTAL CREDIT HOURS</b>	<b>4</b>

<b>Quarter 4</b>	
ACCT 293	Operational Auditing.....2
ACCT 294	Internal Audit: Special Topics.....2
<b>TOTAL CREDIT HOURS</b>	<b>4</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>16</b>

## Certificate of Taxation Specialist

COURSE CR

<b>Quarter 1</b>	
ACCT 231	State and Local Taxation.....4
ACCT 232	Federal Taxation I.....4
<b>TOTAL CREDIT HOURS</b>	<b>8</b>

<b>Quarter 2</b>	
ACCT 236	Federal Taxation II.....4
LEGL 264	Legal Environment of Business.....4
<b>TOTAL CREDIT HOURS</b>	<b>8</b>

<b>Quarter 3</b>	
ACCT 239	Advanced Taxation.....4
BOA 113	Quickbooks I.....1
<b>TOTAL CREDIT HOURS</b>	<b>5</b>

<b>Quarter 4</b>	
ACCT 240	Tax Practice.....4
BOA 114	Quickbooks II.....1
<b>TOTAL CREDIT HOURS</b>	<b>5</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>26</b>

Note: The prerequisite for ACCT 231 (State and Local Taxation) and ACCT 232 (Federal Taxation I) is ACCT 106 (Financial Accounting)

## Applied Technologies (See Skilled Trades)

## Appraisal Certificate (See Real Estate)

## Architecture

### Architecture Associate Degree Architecture Transfer Option Architectural CAD Drafting Certificate 3D Visualization Certificate

Architecture graduates assist architects and others in preparing plans and specifications. Many also work for builders and contractors, land developers, remodelers, facility and property managers, and with building product manufacturers and retailers. The Columbus job market for architecture graduates is remaining strong as Columbus continues to grow.

Columbus State's Associate Degree program in Architecture teaches manual and CAD drafting, product selection and specification, and code evaluation skills used daily in the occupation. Students in the program share common courses in materials, structures, blueprint reading and co-op work experiences with other programs in the Construction Sciences Department. This provides architecture students with a strong foundation of technical skills and a sense of the teamwork required in the construction industry.

The Architecture program provides students with a solid educational background in communication skills, math, computer literacy and operations, and humanities and behavioral sciences.

Upon completion of the associate degree in Architecture, the graduate will be able to:

- Use traditional manual drafting and drawing methods to express relevant ideas graphically. These include orthographic projection, one-point and two-point perspective, isometric and axonometric drawing generation.
- Use current CAD (Computer Aided Drafting) and 3D modeling software to prepare architectural drawings and other applicable graphics.
- Understand, interpret, organize, and generate architectural drawings.
- Understand and be familiar with the relationship and coordination implications between architectural and engineering drawings (site, structural, electrical, lighting, mechanical and plumbing).
- Research materials, consult with industry experts, and use CSI (Construction Specification Institute) standards relevant to the preparation of architectural drawings and specifications.
- Use applicable building and zoning codes relevant to the preparation of architectural drawings and specifications.
- Understand the basic principals of detailing building structures utilizing wood, steel, and concrete manuals and handbooks.

- Understand and be familiar with project coordination, total project development, and professional practice.
- Understand and be familiar with the basic principles and materials of sustainable architecture, the primary organizations that are promoting and encouraging sustainability in architecture, and LEED standards and scoring.
- Understand and demonstrate an ability to work with the building design process as a problem solving approach to devise a building to meet client needs.

### Architecture Transfer Option

This plan of study should be considered in order to enhance a student's opportunity for transferring to a four-year institution with a major in architecture. This transfer option contains additional course requirements in mathematics and the physical sciences and fewer architecture courses than the basic Architecture program. The student interested in this track should consult with an academic advisor in the department at the start of the program. The transfer option provides the student with the same degree as the regular program option in Architecture, an Associate of Applied Science degree.

### Architectural CAD Drafting Certificate

Over the past couple of decades CAD drafting has become a necessary tool for architects, engineers and other related professions. The courses in this certificate will provide students with training in the two most popular CAD programs in use today, AutoCAD and MicroStation. Upon completion of these courses the student will have a functional understanding of how to use each program.

However, it should be emphasized that if the student wishes to have a greater understanding of architecture or engineering, then additional coursework in the desired field should be pursued. A greater understanding of what one is drafting will be necessary for those seeking CAD drafting positions in today's job market. Therefore, this certificate is best suited for those individuals who already have an understanding of manual drafting or already have experience in a related field of work.

The ARCH 110 manual drafting prerequisite may be waived for those individuals with prior manual drafting or other related work experience. Please see an Architecture advisor for permission to waive the manual drafting prerequisite.

### 3D Visualization Certificate

This post-associate certificate program will provide students with advanced coursework in 3D modeling, rendering and animation. Two separate tracks of study are available. One track concentrates upon the use of form•Z while the other track concentrates upon the use of Autodesk 3ds Max. The student may choose to pursue one track or the other or may choose to do both.

This certificate is geared towards professionals and students with prior experience in architecture, interior design, graphic design, or other related field. Prerequisites for entering this certificate program: associate degree or higher in a related field of study; completion of 50 or more credit hours within a related field of study; or permission from a faculty member.

### Sustainable Building Certificate

See Environmental Science, Safety and Health for additional information and plan of study.

### Architecture Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ARCH 110 Construction Drafting: Manual I .....	2
CIVL 120 Basic Construction Materials .....	3
CMGT 121 Building Construction Drawings .....	3
ENGL 101 Beginning Composition .....	3
MATH 104 Intermediate Algebra .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>

<b>Quarter 2</b>	
ARCH 111 Architectural Drafting: Manual II .....	4
ARCH 112 Construction Drafting: CAD I .....	2
ENGL 102 Essay and Research .....	3
MATH 148 College Algebra .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>14</b>

<b>Quarter 3</b>	
ARCH 100 Introduction to the History of Architecture .....	5
ARCH 113 Architectural Drafting: CAD II.....	2
ARCH 155 Residential Construction/Wood Structures .....	3
ARCH 161 Presentation Drawings .....	3
MECH 130 Statics.....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>17</b>

<b>Quarter 4</b>	
ARCH 214 Electricity (First Term).....	2
ARCH 215 Lighting (Second Term).....	2
MECH 242 Strength of Materials.....	4
SSCI XXX Social Science 100, 101, 102, 105 or GEOG 240.....	5
COMM 105 Speech ( <i>or</i> )	
COMM 110 Conference and Group Discussion.....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>

<b>Quarter 5</b>	
ARCH 114 Architectural Drafting: CAD III .....	2
ARCH 221 Design Studio I .....	3
ARCH 232 Building Construction Standards .....	3
ARCH 250 Building Enclosure Materials .....	3
LAND 152 Site Planning .....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>15</b>

<b>Quarter 6</b>	
ARCH 223 Design Studio II.....	3
ARCH 237 Structures: Steel, Concrete and Masonry.....	4
COMM 204 Technical Writing .....	3
ENVR 282 Sustainable Building Strategies .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>13</b>

<b>Quarter 7</b>	
ARCH 266 Working Drawings .....	5
ARCH 270 Professional Practice and Management .....	3
XXX XXX Technical Elective .....	3
HUM XXX Humanities 111, 112, 113, 151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>
<b>TOTAL DEGREE CREDIT HOURS</b> .....	<b>107</b>

Technical Electives must be selected from the following list of courses:

ARCH 115 MicroStation CAD Drafting I .....	3
ARCH 240 3D Modeling and Rendering: AutoCAD .....	3
ARCH 242 3D Visualization: form•Z I .....	4
ARCH 274 Revit Architecture .....	3
ARCH 276 Sketchup.....	2
ARCH 282 Sustainable Design Strategies .....	3
ARCH 283 Sustainable Energy Performance .....	3
ARCH 291 Field Experience .....	3
ARCH 299 Special Topics in Architecture .....	1-5
CMGT 105 Building Construction Documents .....	3



CMGT 215	Introduction to Building Information Modeling BIM.....	3
CMGT 282	Sustainable Construction .....	3
LAND 101	Landscape Principles .....	3
LAND 206	Landscape Graphics .....	4

## Architecture Transfer Option

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
ARCH 110	Construction Drafting: Manual I.....	2
CIVL 120	Basic Construction Materials .....	3
CMGT 121	Building Construction Drawings .....	3
ENGL 101	Beginning Composition .....	3
MATH 151	Calculus and Analytical Geometry I .....	5
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

<b>Quarter 2</b>		
ARCH 111	Architectural Drafting: Manual II .....	4
ARCH 112	Construction Drafting: CAD I .....	2
ENGL 102	Essay and Research .....	3
MATH 152	Calculus and Analytical Geometry II .....	5
<b>TOTAL CREDIT HOURS</b>		<b>14</b>

<b>Quarter 3</b>		
ARCH 100	Introduction to the History of Architecture .....	5
ARCH 113	Architectural Drafting: CAD II.....	2
ARCH 155	Residential Construction/Wood Structures.....	3
ARCH 161	Presentation Drawings .....	3
MECH 130	Statics.....	4
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

<b>Quarter 4</b>		
ARCH 214	Electricity (First Term).....	2
ARCH 215	Lighting (Second Term).....	2
MECH 242	Strength of Materials.....	4
SSCI XXX	Social Science 100, 101, 102, 105 or GEOG 240.....	5
COMM 105	Speech ( <i>or</i> ) .....	
COMM 110	Conference and Group Discussion.....	3
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

<b>Quarter 5</b>		
ARCH 114	Architectural Drafting: CAD III .....	2
ARCH 221	Design Studio I .....	3
ARCH 232	Building Construction Standards .....	3
ARCH 250	Building Enclosure Materials .....	3
LAND 152	Site Planning .....	4
<b>TOTAL CREDIT HOURS</b>		<b>15</b>

<b>Quarter 6</b>		
ARCH 223	Design Studio II .....	3
ARCH 237	Structures: Steel, Concrete and Masonry.....	4
COMM 204	Technical Writing .....	3
ENVR 282	Sustainable Building Strategies .....	3
PHYS 117	College Physics (Mechanical and Heat) .....	5
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

<b>Quarter 7</b>		
PHYS 118	College Physics (Electricity, Magnetism and Light) .....	5
ARCH 270	Professional Practice and Management .....	3
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS</b>		<b>13</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>109</b>

## Architectural CAD Drafting Certificate

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
ARCH 112	Construction Drafting: CAD I .....	2
<b>TOTAL CREDIT HOURS</b>		<b>2</b>

<b>Quarter 2</b>		
ARCH 113	Architectural Drafting: CAD II.....	2
<b>TOTAL CREDIT HOURS</b>		<b>2</b>

<b>Quarter 3</b>		
ARCH 114	Architectural Drafting: CAD III .....	2
<b>TOTAL CREDIT HOURS</b>		<b>2</b>

<b>Quarter 4</b>		
ARCH 115	MicroStation CAD Drafting I .....	3
<b>TOTAL CREDIT HOURS</b>		<b>3</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>9</b>

## 3D Visualization Certificate

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
form•Z track		
ARCH 242	3D Visualization: form•Z I .....	4
	( <i>or</i> ) .....	

<b>3ds Max track</b>		
ARCH 246	3D Visualization: 3ds Max I .....	4
<b>TOTAL CREDIT HOURS</b>		<b>4</b>

<b>Quarter 2</b>		
form•Z track		
ARCH 243	3D Visualization: form•Z II.....	4
	( <i>or</i> ) .....	

<b>3ds Max track</b>		
ARCH 247	3D Visualization: 3ds Max II .....	4
<b>TOTAL CREDIT HOURS</b>		<b>4</b>

<b>Quarter 3</b>		
form•Z and 3ds Max track		
ARCH 252	Post Production .....	3
<b>TOTAL CREDIT HOURS</b>		<b>3</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>11</b>

# Automotive Technology

## Automotive Technology Associate Degree Automotive Service Management Major Ford ASSET Program Maintenance and Light Repair Certificate YAATC

### Vocational Education Transfer Option with The Ohio State University College of Education

Graduates of the associate degree program in Automotive Technology are qualified for entry-level positions as automotive service technicians, service advisors, and entry-level managers. Many persons already employed in the field use the program to progress to advanced technical or management positions, and to prepare for Automotive Service Excellence (ASE) certification examinations.

#### Automotive Technology Associate Degree

The Automotive Technology program prepares students for successful careers as service technicians in the rapidly growing automotive repair industry. By providing students with exposure and hands-on experience on a variety of domestic and import vehicles, this broad-based curriculum prepares graduates for a wide range of job opportunities in new car dealerships, independent repair shops, or fleet repair facilities.

The Automotive Technology program at Columbus State offers courses designed for a variety of individuals ranging from the beginner to those with advanced skills and years of experience. Students may earn an associate degree, obtain ASE certification, or take individual courses to meet their educational goals. The associate degree program in Automotive Technology provides instruction in all aspects of the automobile, including the latest electronic systems. Students master the skills needed to diagnose and repair automobiles while working in the college's well-equipped auto lab. The experienced faculty work closely with students to prepare them for a career and to become certified A.S.E. (National Institute for Automotive Service Excellence) Master Automotive Technicians.

Columbus State's automotive program was the nation's first college automotive program to be certified by A.S.E. to train Master Automotive Technicians. To receive this certification, the program is evaluated against industry standards of quality every five years by a team of external evaluators. The certification process ensures that the curriculum includes all of the appropriate competencies needed to properly prepare entry-level technicians and is delivered by A.S.E. certified faculty, on current technology equipment and vehicles. All automotive faculty are A.S.E. Master Certified technicians with extensive industry repair experience. The program was recently re-evaluated and granted accreditation until 2014.

Upon completion of the Associate of Applied Science degree in Automotive Technology, the graduate will be able to:

- identify the major systems of the automobile and correctly assess a

system for proper operation.

- synthesize a customer's symptom into a set of possible system malfunctions and then into a sub-set of possible system component malfunctions.
- select the correct type and source of automotive information and then employ that information to devise a repair strategy
- evaluate components and identify the failed component and the root cause of failure.
- present the prescribed solution and justify the cost of the solution to address a repair concern including presenting alternatives and explaining why the recommendation is the best choice.
- determine the correct procedure for the repair and then correctly perform the procedure.
- apply proper ethical consideration when recommending needed repairs and managing the employer's resources when conducting such repairs.
- employ self teaching techniques mastered during the program in order to remain abreast of advancements in technology.
- apply good customer relations skills in all interactions with service customers.

#### TechLINK: Cooperative Work Experience

The Automotive Technology Department firmly believes that the best way to learn to become a highly skilled automotive technician is through a combination of on-campus learning and real-life work. Columbus State works closely with students to help those interested in finding paid cooperative work experience placements in local shops. Students who are actively working in cooperative work placements in area dealerships and independent repair shops follow the same curriculum as the general Automotive Technology Program. However, since students are working in the automotive repair industry as well as taking coursework on campus, the scheduling of courses is arranged to coordinate with the students' work schedule. Contact Bill Warner (614) 287-2675, the department cooperative work experience advisor, for further information on cooperative placement opportunities.

In addition to meeting all of the objectives of the general Automotive Technology program, participation in cooperative education is designed to:

- Fill the local shortage of qualified, entry-level technicians needed by area automotive repair shops.
- Provide participating students with paid industry work experience to enhance the learning experience and to enable them to successfully transition from the classroom to the workplace.
- Provide a course of study that will enable successful graduates to have the knowledge and skills necessary to develop an upward career path in automotive repair.

NOTE: Students must be able to place into DEV031 math or higher and ENGL100 or higher before beginning any of the Automotive Technology technical courses.

## Automotive Technology Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101 Beginning Composition.....	3
MATH 101 Business Mathematics .....	5
AUTO 061 Basic Automotive Systems and Theories of Operation.....	4
AUTO 062 Auto Shop Orientation and Service.....	4
CIT 101 PC Applications 1 .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>19</b>

<b>Quarter 2</b>	
AUTO 150 Brake Systems: Theory and Operation.....	4
AUTO 160 Electrical Systems: Theory and Operation.....	4
ENGL 102 Essay and Research .....	3
HUM XXX Humanities 111, 112, 113, 151, or 224.....	5
BMGT XXX Business Management Elective .....	3-5
<b>TOTAL CREDIT HOURS .....</b>	<b>19-21</b>

<b>Quarter 3</b>	
AUTO 170 Heating/Air Conditioning Systems: Theory and Operation .....	4
AUTO 120 Automatic Transmissions: Operation and Overhaul.....	4
AUTO 125 Automatic Transmissions: Diagnosis and In-Car Repair .....	3
AUTO 165 Electrical/Electronic: Diagnosis and Repair.....	3
NSCI 101 or PHYS 100 Science Elective .....	4-5
<b>TOTAL CREDIT HOURS .....</b>	<b>18-19</b>

<b>Quarter 4</b>	
AUTO 110 Engine Operation and Overhaul .....	4
AUTO 115 Engine Diagnosis and In-Car Repair.....	3
AUTO 140 Suspension and Steering: Theory and Operation .....	4
SSCI XXX Social Science 101, 102, 105, (or) GEOG 240 .....	5
AUTO 175 Heating/Air Conditioning Systems: Diagnosis and Repair.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>19</b>

<b>Quarter 5</b>	
AUTO 130 Manual Transmissions/Driveline: Operation and Overhaul .....	4
AUTO 135 Manual Transmissions: Diagnosis and In-Car Repair.....	3
AUTO 180 Engine Performance: Theory and Operation.....	4
COMM 204 Technical Writing .....	3
AUTO 155 Brake Systems: Diagnosis and Repair.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 6</b>	
AUTO 185 Computerized Engine Performance.....	4
COMM 105 Speech .....	3
AUTO 145 Suspension and Steering: Diagnosis and Repair .....	3
XXXX XXX Technical Elective .....	2
AUTO 300 Shop Experience.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>108-111</b>

### TECHNICAL ELECTIVES

AUTO 210 Current Trends in Engine Repair.....	2
AUTO 220 Current Trends in Automatic Transmissions.....	2
AUTO 230 Current Trends in Manual Transmissions.....	2
AUTO 240 Current Trends in Suspension Steering.....	2
AUTO 250 Current Trends in Brake Systems.....	2
AUTO 260 Current Trends in Electrical Systems .....	2
AUTO 270 Current Trends in Heating and A/C.....	2
AUTO 280 Current Trends in Engine Performance.....	2
AUTO 181 Fundamentals of Alternative Fuels.....	3
AUTO 182 Hybrid Vehicles: Theory & Operation.....	3
AUTO 186 Advanced Alternative Fuel Systems.....	2
AUTO 190 Automotive Business Management.....	3
AUTO 191 Service Advising.....	3
AUTO 192 Automotive Service Management .....	3
AUTO 197 Automotive Parts Management.....	3
AUTO 245 Steering, Suspension and Brakes: Diagnosis and Evaluation .....	3
AUTO 265 Electrical Diagnosis and Evaluation.....	3
AUTO 297/298/299 Special Topics in Emerging Technology .....	1-2-3
TOYO 237 Toyota Manual and Automatic Transmissions .....	3
TOYO 257 Toyota Susp., Steering, and Brake Systems .....	3
TOYO 267 Toyota Electrical Systems.....	4
TOYO 277 – Toyota Climate Control Systems .....	1.5
TOYO 287 – Toyota Engine Controls I and Hybrid Gen. Service .....	3

## Automotive Service Management Major

Service Management major prepares students for entry into management positions available in automotive repair facilities. Potential job titles for graduates include service director, service manager, service advisor, dispatcher, customer relations specialist, or independent shop owner. The Service Management major shares the general education courses and first year of basic technical courses within the Automotive Technology program. During the second year of the program, it supplements the foundational technical knowledge with the fundamental management principles and practices students need to know to be successful in a management career.

Upon completion of the program students earn an Associate of Applied Science degree in Automotive Technology – Service Management major. The program is designed to:

- Provide students with fundamental knowledge of the theory and operation of all automotive systems.
- Provide students with a broad-based background in general business management principles and practices.
- Provide students with knowledge of a wide range of current automotive-specific management practices and principles.
- Prepare students for entry-level management-track positions in the automotive repair industry.

## Automotive Service Management Major

COURSE	CR
<b>Quarter 1</b>	
AUTO 061 Basic Automotive Systems and Theories of Operation.....	4
AUTO 062 Auto Shop Orientation and Service.....	4
MATH 101 Business Math .....	5
ENGL 101 Beginning Composition.....	3
CIT 101 PC Applications 1 .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>19</b>

<b>Quarter 2</b>	
AUTO 110 Engine Operation and Overhaul .....	4
AUTO 150 Brake Systems: Theory and Operation.....	4
AUTO 160 Electrical Systems: Theory and Operation.....	4
BMGT 101 Introduction to Business.....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 3</b>	
AUTO 170 Heating/Air Conditioning Systems: Theory and Operation .....	4
AUTO 120 Automatic Transmissions Operation and Overhaul.....	4
AUTO 180 Engine Performance: Theory and Operation.....	4
BMGT 111 Management .....	5
ENGL 102 Essay and Research .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>20</b>

<b>Quarter 4</b>	
AUTO 140 Steering and Suspension: Theory and Operation .....	4
AUTO 130 Manual Transmissions/Driveline: Operation and Overhaul .....	4
COMM 200 Business Communications .....	3
AUTO 190 Automotive Business Management.....	3
AUTO 191 Service Advising.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 5</b>	
HUM XXX Humanities 111, 112, 113, 151, 152, or 224.....	5
COMM 105 Speech .....	3
AUTO 192 Automotive Service Management .....	3
NSCI 101 Natural Science I (or)	
PHYS 100 Physics.....	4-5
AUTO 193 Automotive Service Merchandising.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>18-19</b>

<b>Quarter 6</b>	
SSCI XXX Social Science 101, 102, 105 (or) GEOG 240 .....	5
QUAL 240 Total Quality Management .....	3
AUTO 197 Automotive Parts: Management .....	3
XXX XXX Technical Elective .....	2
XXX XXX Technical Elective .....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>106-107</b>

**TECHNICAL ELECTIVES**

BMGT 216 Business Ethics .....	3
AUTO 195 Automotive Parts: Inventory Control .....	2
AUTO 196 Automotive Parts: Sales .....	2
AUTO 101 Auto Care .....	3
AUTO 297/298/299 Special Topics in Emerging Technology .....	1-2-3

**Ford ASSET**

ASSET is a partnership between Ford Motor Company, Ford-Lincoln-Mercury dealers and Columbus State Community College. The program provides students with an opportunity to become highly trained technicians employed by Ford, Lincoln and Mercury dealerships. The program:

- Trains students to diagnose, service, and maintain Ford automotive products using Ford recommended procedures, special tools, and service publications.
- Ensures that ASSET-trained technicians can easily become familiar with new systems and components as they are introduced.
- Provides paid work experience during the program to reinforce what is being taught in the classroom.
- Allows ASSET-trained students to earn an Associate’s Degree in Automotive Technology, ASE Certifications, and most importantly, Ford Certifications.

ASSET is an Associate Degree program divided into two parts: 1) The Maintenance and Light Repair Certificate program is completed first; 2) Then Ford-specific instruction begins with 11 weeks of classroom/lab instruction alternating with 11 weeks of paid co-op work experience at a sponsoring Ford, Lincoln, or Mercury dealership for the remaining 18 months. For more information, students can refer to the Web site ([www.csc.edu/autotech](http://www.csc.edu/autotech)) and/or contact ASSET Coordinator, Chuck Wilson (614) 287-5408.

**Ford ASSET Program**

<b>COURSE</b>	<b>CR</b>
<b>Quarter 1</b>	
CIT 101 PC Applications 1 .....	3
ENGL 101 Beginning Composition .....	3
AUTO 160 Electrical Systems: Theory and Operation.....	4
AUTO 150 Brake Systems: Theory and Operation .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>14</b>
<b>Quarter 2</b>	
AUTO 140 Steering and Suspension: Theory and Operation.....	4
AUTO 170 Heating/Air Conditioning Systems: Theory and Operation...	4
ENGL 102 Essay and Research.....	3
SSCI XXX Social Science Elective: SSCI 100, 101, 102, 105 (or) GEOG 240 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>
<b>Quarter 3</b>	
FORD 100 Introduction to Ford Technology .....	4
FORD 103 Manual Transmissions/Drivelines.....	4

FORD 101 Basic Engines.....	4
COMM 200 Business Communication (or)	
COMM 204 Technical Writing.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>

**Quarter 4**

FORD 301 Cooperative Work Experience/Seminar I.....	5
FORD 114 Steering and Suspension Diagnosis .....	2
MATH 101 Business Math.....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>12</b>

**Quarter 5**

FORD 116 Auto Electronics/Engine Controls .....	4
FORD 165 Antilock Brake Systems.....	2
FORD 164 Electronic Steering and Suspension Systems .....	2
FORD 108 Engine Performance.....	5
HUM XXX HUM 111, 112, 113, 151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

**Quarter 6**

FORD 111 Engine Repair.....	2
COMM 105 Speech.....	3
FORD 302 Cooperative Work Experience/Seminar II .....	5
<b>TOTAL CREDIT HOURS.....</b>	<b>10</b>

**Quarter 7**

NSCI 101 or PHYS 100 Science Elective .....	5
FORD 102 Automatic Transmissions.....	5
FORD 270 Advanced Climate Control Diagnosis.....	2
FORD 126 Advanced Electronic Engine Controls.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>

**Quarter 8**

BMGT 101 Principles of Business (5) (or)	
BMGT 231 Entrepreneurship I (4) (or)	
FMGT 101 Personal Finance (4) .....	4-5
FORD 303 Cooperative Work Experience/Seminar 3 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>9-10</b>
<b>TOTAL DEGREE CREDIT HOURS.....</b>	<b>110-111</b>

## Maintenance and Light Repair Certificate Program

Students whose needs demand a short-term career track program can choose the Light Maintenance and Repair Certificate program. This program can be completed in six to nine months and gives students the knowledge and skills necessary to enter the automotive repair industry quickly.

Upon completion of this program, graduates are employable at local auto repair companies performing automotive maintenance services. Since this program is part of the Automotive Technology program, certificate completers can continue their education in the college degree program at any time to expand their knowledge and skills and work toward A.S.E. Master Technician certification.

COURSE	CR
<b>Quarter 1</b>	
AUTO 061 Basic Automotive Systems and Theories of Operation .....	4
AUTO 062 Auto Shop Orientation and Service .....	4
<b>Quarter 2</b>	
AUTO 150 Brake Systems: Theory and Operation .....	4
AUTO 160 Electrical Systems: Theory and Operation.....	4
<b>Quarter 3</b>	
AUTO 140 Suspension and Steering System: Theory and Operation .....	4
AUTO 170 Heating/Air Conditioning Systems: Theory and Operation.....	4
<b>Total Credit Hours</b> .....	<b>24</b>
<b>Optional (Ford Certifications):</b>	
AUTO 245 Steering, Suspension and Brakes: Diagnosis and Evaluation.....	3
AUTO 265 Electrical Systems: Diagnosis and Evaluation.....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>6</b>

## YAATC

The Youth and Adult Automotive Training Center (YAATC) is designed for disadvantaged, at-risk individuals who have a desire to gain technical knowledge in automotive repair as well as increased self-sufficiency. This program allows a student to build a new perspective on life and on a career. YAATC prepares each dedicated student to graduate with the technical knowledge to perform automotive maintenance and light repairs and the opportunity to begin an extremely rewarding career in the automotive industry. YAATC helps create a more diverse workforce in the automotive industry and helps fill the void of qualified automotive technicians. It provides basic skills training, case management services, community agency referrals, job readiness instruction, intensive automotive technical instruction, co-op experiences, and permanent job placements in the automotive repair industry. For more information, contact (614) 287-5504.

## Vocational Education Transfer Option with The Ohio State University College of Education

The Automotive Technology program at Columbus State has completed an articulation agreement with the Technical Education and Training Program of The Ohio State University College of Education. This agreement allows automotive students to complete an associate degree at Columbus State, transfer their credits to Ohio State, and complete a baccalaureate degree in Technical Education Training. Students completing the program at OSU are eligible for certification by the Ohio Department of Education to teach in related high school vocational programs throughout the State of Ohio. Interested students should contact their Columbus State department chairperson for curriculum requirements and additional details. Note: Course requirements for this transfer option may differ from the standard plan of study published in the catalog.

# Aviation Maintenance Technology

## Aviation Maintenance Technology Associate Degree Aviation Maintenance Technician Certificate

Aviation Maintenance Technicians are a vital component of the fast-paced and exciting aviation industry. Aerospace industry growth creates a continual demand for newly trained AMTs and interesting job locations abound. Due to the unique skills of the aviation maintenance technician, there are many career opportunities within the aviation maintenance field as well as in non-aviation industries.

Students in the Aviation Maintenance Technology program may pursue technical training for the Airframe and Powerplant Certificate or the Associate of Applied Science degree. The Airframe and Powerplant Certificate program covers all the essential subject areas necessary for successful completion of the Federal Aviation Administration (FAA) certification process for the mechanic ratings. Students who complete the certificate program may take additional course work in English, mathematics, physics, and other electives to receive an Associate of Applied Science degree. The certificate and associate degree can be completed in eight quarters.

The Aviation Maintenance facility is located at the Columbus State Southwest Center at Bolton Field Airport (KTZR), southwest of Columbus. The 10,000 square foot hangar houses the college's fleet of single and multi-engine, reciprocating, and turbine-powered aircraft. Well-equipped classrooms and laboratories provide students with an enjoyable setting for learning and a unique hands-on experience in an airport environment.

The Aviation Maintenance Technology program is approved by the Federal Aviation Administration (FAA Certificate No. DL9T090R) and meets the requirements of FAA Regulation Part 147. Students successfully completing the appropriate technical studies are qualified to take the exams for the FAA Airframe and Powerplant certificate rating.

Upon completion of the Aviation Maintenance Technology curriculum, the graduate will be able to:

- Service, inspect, and complete repairs and alterations on airframes, engines, propellers, and associated systems (including environmental, electrical, fuel, hydraulic, and pneumatic systems).
- Utilize the regulations and technical manuals to safely complete inspections, repairs and alterations of aircraft, and complete the required maintenance entries after completion.
- Properly use precision measuring equipment for the accuracy demanded by the aviation industry.
- Understand blueprints used for the repair and alteration of aircraft and utilize them to affect the repair or alteration.
- Identify aircraft materials and hardware and their structural properties. Correctly identify corrosion and the proper treatment and prevention methods and techniques.
- Identify and use nondestructive testing methods used in the Aviation Industry.
- Meet FAA certification requirements for the Airframe and Powerplant Certificates.

# Aviation Maintenance Technology Associate

## Degree

COURSE	CR
<b>Quarter 1</b>	
AMT 101 Introduction to Aviation .....	4
AMT 110 AMT Regulations, Privileges and Documentation.....	4
AMT 115 Aircraft DC Electricity.....	5
MECH 120 Mechanical Drafting I .....	3
ENGL 101 Beginning Composition .....	3
<b>TOTAL CREDIT HOURS.....</b>	<b>19</b>
<b>Quarter 2</b>	
AMT 130 Aircraft Ground Handling and Safety.....	2
AMT 140 Aircraft Tools, Hardware and Materials .....	5
AMT 145 Aircraft AC Electricity .....	5
AMT 150 Basic Aircraft Inspection Systems .....	2
ENGL 102 Essay and Research.....	3
MATH 103 Beginning Algebra II.....	4
<b>TOTAL CREDIT HOURS.....</b>	<b>21</b>
<b>Quarter 3</b>	
AMT 160 Aircraft Reciprocating Engine Maintenance 1 .....	4
AMT 162 Aircraft Reciprocating Engine Maintenance 2 .....	5
AMT 165 Aircraft Propellers.....	3
AMT 175 Aircraft Electrical Systems 1 .....	3
MATH 111 Technical Math I .....	4
<b>TOTAL CREDIT HOURS.....</b>	<b>19</b>
<b>Quarter 4</b>	
AMT 180 Aircraft Turbine Engine Maintenance 1 .....	5
AMT 182 Aircraft Turbine Engine Maintenance 2 .....	5
AMT 190 Aircraft Ice/Rain Protection Systems .....	2
AMT 195 Aircraft Electrical Systems 2 .....	4
PHYS 181 Technical Physics (Mechanics).....	4
<b>TOTAL CREDIT HOURS.....</b>	<b>20</b>
<b>Quarter 5</b>	
AMT 210 Aircraft Sheet Metal Structures .....	5
AMT 212 Aircraft Wood, Dope and Fabric .....	3
AMT 215 Aircraft Environmental Controls .....	3
AMT 220 Aircraft Fuel Systems .....	3
MECH 150 Manufacturing Materials and Processes .....	4
COMM 204 Technical Writing.....	3
<b>TOTAL CREDIT HOURS.....</b>	<b>21</b>
<b>Quarter 6</b>	
AMT 235 Aircraft Instrumentation.....	4
AMT 240 Aircraft Composite Structures .....	3
AMT 245 Aircraft Landing Gear and Fluid Power Systems.....	6
AMT 250 Advanced NDI for Aircraft.....	3
SSCI XXX Social Science 100, 101, 102, 105 or GEOG 240 .....	5
<b>TOTAL CREDIT HOURS.....</b>	<b>21</b>
<b>Quarter 7</b>	
AMT 255 Aircraft Navigation and Communication Systems.....	4
AMT 260 Aircraft Rigging and Assembly .....	3
AMT 262 Fundamentals of Helicopter Maintenance.....	3
AMT 270 Aircraft Conformity Inspections.....	5
COMM 105 Speech .....	3
(A basic related elective from the three options immediately below.)	
BMGT 101 Principles of Business ( <i>or</i> ).....	5
ENVR 101 Intro. to Environmental Science, Safety, and Health ( <i>or</i> ) .....	4
EET 115 Basic Digital Systems .....	5
<b>TOTAL CREDIT HOURS.....</b>	<b>22-23</b>
<b>Quarter 8</b>	
AMT 280 Advanced Aircraft Maintenance Practices .....	6
AMT 285 Aircraft Weight and Balance.....	3
AMT 290 Human Factors in Aviation Maintenance .....	4
AMT 295 Aircraft Systems Review .....	3
HUM XXX Humanities 111, 112, 113, 151, 152, or 224.....	5
<b>TOTAL CREDIT HOURS.....</b>	<b>21</b>
<b>TOTAL DEGREE CREDIT HOURS.....</b>	<b>164-165</b>

## Aviation Maintenance Technician Certificate

COURSE	CR
<b>Quarter 1</b>	
AMT 101 Introduction to Aviation.....	4
AMT 110 AMT Regulations, Privileges and Documentation.....	4
AMT 115 Aircraft DC Electricity.....	5
MECH 120 Mechanical Drafting 1.....	3
<b>TOTAL CREDIT HOURS.....</b>	<b>16</b>
<b>Quarter 2</b>	
AMT 130 Aircraft Ground Handling and Safety.....	2
AMT 140 Aircraft Tools, Hardware and Materials.....	5
AMT 145 Aircraft AC Electricity.....	5
AMT 150 Basic Aircraft Inspection Systems.....	2
<b>TOTAL CREDIT HOURS.....</b>	<b>14</b>
<b>Quarter 3</b>	
AMT 160 Aircraft Reciprocating Engine Maintenance 1.....	4
AMT 162 Aircraft Reciprocating Engine Maintenance 2.....	5
AMT 165 Aircraft Propellers.....	3
AMT 175 Aircraft Electrical Systems 1.....	3
<b>TOTAL CREDIT HOURS.....</b>	<b>15</b>
<b>Quarter 4</b>	
AMT 180 Aircraft Turbine Engine Maintenance 1.....	5
AMT 182 Aircraft Turbine Engine Maintenance 2.....	5
AMT 190 Aircraft Ice/Rain Protection Systems.....	2
AMT 195 Aircraft Electrical Systems 2.....	4
<b>TOTAL CREDIT HOURS.....</b>	<b>16</b>
<b>Quarter 5</b>	
AMT 210 Aircraft Sheet Metal Structures.....	5
AMT 212 Aircraft Wood, Dope and Fabric.....	3
AMT 215 Aircraft Environmental Controls.....	3
AMT 220 Aircraft Fuel Systems.....	3
<b>TOTAL CREDIT HOURS.....</b>	<b>14</b>
<b>Quarter 6</b>	
AMT 235 Aircraft Instrumentation.....	4
AMT 240 Aircraft Composite Structures.....	3
AMT 245 Aircraft Landing Gear and Fluid Power Systems.....	6
AMT 250 Advanced NDI for Aircraft.....	3
<b>TOTAL CREDIT HOURS.....</b>	<b>16</b>
<b>Quarter 7</b>	
AMT 255 Aircraft Navigation and Communication Systems.....	4
AMT 260 Aircraft Rigging and Assembly.....	3
AMT 262 Fundamentals of Helicopter Maintenance.....	3
AMT 270 Aircraft Conformity Inspections.....	5
<b>TOTAL CREDIT HOURS.....</b>	<b>15</b>
<b>Quarter 8</b>	
AMT 280 Advanced Aircraft Maintenance Practices.....	6
AMT 285 Aircraft Weight and Balance.....	3
AMT 290 Human Factors in Aviation Maintenance.....	4
AMT 295 Aircraft Systems Review.....	3
<b>TOTAL CREDIT HOURS.....</b>	<b>16</b>
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>	<b>122</b>

## Business Management

**Associate of Applied Science Degree**  
**Business Management Major**  
**Entrepreneurship Major**  
**Public Administration Track**  
**Basic Project Manager Certificate**  
**Entrepreneurship Certificate**  
**Leadership Development Certificate**  
**Managing Interpersonal Skills Certificate**  
**Nonprofit Management Certificate**  
**Pre-MBA Certificate**  
**Project Management Team Certificate**  
**Public Administration Certificate**  
**Vocational Education Transfer Option with The**  
**Ohio State University College of Education**

In order to compete effectively in the 21st century, successful managers and entrepreneurs need strong interpersonal, communication, analytical, and decision-making skills. Columbus State's Business Management curriculum focuses on meeting these requirements for students who wish to attain an Associate Degree in Business Management or who wish to upgrade current job performance skills. The emphasis in the program is on skill applications through the latest teaching techniques and technologies.

The **Basic Project Manager Certificate** is comprised of five (5) courses totaling 20 credit hours. This certificate can become the platform to accelerate PMI or other recognized professional certifications or will provide substantial value in itself. Students will develop a personal project management methodology which will enhance their resume. Potential employers, with or without project management knowledge, will easily be able to see the value of this document. *Note: Completion of the Project Management Team Certificate is required prior to commencing work on the Basic Project Manager Certificate.*

The **Entrepreneurship Certificate** provides the developing small business student/entrepreneur an expedient opportunity to gain specific knowledge of small business operations. This certificate is composed of two (2) courses in basic business development and operations, three (3) business finance related courses, (bookkeeping basics, personal finance, and an accounting software program), a basic marketing course, and a course that addresses the legal environment of business.

NOTE: For those Entrepreneurship students whose work schedules do not allow for the traditional classroom instruction, all of these certificate courses are offered via distance learning (DL). All seven (7) courses may be applied toward a degree program.

The **Leadership Development Certificate** teaches an awareness of current trends in leadership and develops the skills necessary for leaders to face today's organizational challenges. Students learn to identify and acquire fundamental skill sets that serve to strengthen their leadership potential, including conflict resolution, communication skills, creative thinking, and managing diversity. This four (4) course certificate program is available to both degree,

as well as non-degree seeking students interested in improving their leadership skills

The **Managing Interpersonal Skills Certificate** provides students with the knowledge and skills necessary to develop and maintain effective interpersonal relationships, both professionally and personally. Since more than two-thirds of the competencies desired of the average employee are interpersonal rather than technical in nature, this set of knowledge and skills is essential for effective job performance. This sequence of innovative, highly interactive courses provides students with the opportunity to learn about themselves as well as others. This four (4) course certificate program is available to degree and non-degree-seeking students.

Business Management also offers a Certificate in **Nonprofit Management**. This four course sequence prepares individuals for leadership roles in a variety of nonprofit organizations, including those in the fields of adult human service, health care, cultural arts, the environment, youth service, faith-based, and professional/trade. The program is dynamic, interactive, and practical and yields insights and skills immediately applicable to the workplace. The curriculum was validated by professionals in the field and is taught by faculty with significant practical and academic nonprofit experience. This four (4) course certificate program is available to degree, as well as non-degree-seeking students.

The MBA (Master of Business Administration) is one of the most sought-after professional degrees not only by those currently working in business but also by many other professionals (such as physicians, attorneys, public-sector managers, and entrepreneurs) who are increasingly in need of these types of skills. The **Pre-MBA Certificate** is designed for individuals who have already completed a baccalaureate degree and wish to pursue an MBA, or for professionals in various fields who wish a basic grounding in business principles through an introduction to the basic business disciplines. All of the courses in this certificate can be completed online. NOTE: We strongly recommend that you meet with an advisor from your target MBA college prior to beginning this certificate program, since admission requirements vary greatly.

The **Project Management Team Certificate** is comprised of five (5) courses which total 19 credit hours. This certificate provides students with an understanding of the fundamental concepts of project management. Students will obtain the needed tools to improve project-related employee work performance while adding value to their organization. *Note: Completion of the Project Management Team Certificate is required prior to commencing work on the Basic Project Manager Certificate.*

The **Certificate in Public Administration** is a short term program for those professionals who wish to increase their skills and training to enter or advance careers in government or nonprofit positions. This certificate program will assist those college graduates who have earned a degree but require further training in public administration. The program seeks to provide an understanding and appreciation of public administration in a representative democracy.

Columbus State Community College's Business Management program is accredited by the Association of Collegiate Business Schools and Programs (ACBSP).

### **Vocational Education Transfer Option with The Ohio State University College of Education.**

The Business Management program at Columbus State has completed an articulation agreement with the Technical Education and Training Program of The Ohio State University College of Education.

This agreement allows Business Management students to complete their associate degree at Columbus State, transfer their credits to Ohio State, and complete a baccalaureate degree in Technical Education and Training. Students completing the Ohio State program may be eligible for certification by the Ohio Department of Education to teach in related high school career and technical education programs throughout the State of Ohio.

Interested students should contact their assigned faculty advisor for curriculum requirements and additional details. Please note that course requirements for this transfer option may differ from the standard plan of study published in the catalog.

### **Traditional Classes and Distance Learning Choices at Columbus State**

The Business Management program offers traditional and distance learning (DL) options for our students. The traditional classroom experience continues to provide students with quality instruction in a small classroom setting at the downtown campus and off-campus locations. The Business Management program also offers distance learning courses that provide the same high quality learning as traditional instruction, yet with the added flexibility of being able to complete course work online.

### **Business Management Major**

Upon completion of the program for an associate degree in Business Management with a Business Management major, the graduate will be able to:

- Demonstrate knowledge of the management functions and skills within an organizational system as they interact in a dynamic and diverse global environment.
- Demonstrate a working knowledge of current legal, ethical, social, financial, and economic environmental factors as they apply to business.
- Prepare and present effective written and oral business related reports.
- Work effectively as a member of a team.
- Use appropriate technology and other resources to research, analyze and integrate both quantitative and qualitative data to solve business problems.
- Appropriately apply the management functions both departmentally and to the organization as a whole.
- Assess and develop individual communication, leadership and team building styles.
- Recognize and adapt to the communication, leadership and team building styles of others.



## Business Management Major

COURSE	CR
<b>Quarter 1</b>	
BMGT 101 Principles of Business .....	5
BMGT 102 Managing Interpersonal Skills I.....	3
BOA 101 Business Grammar .....	3
CIT 101 PC Applications 1 .....	3
MATH 102 Beginning Algebra I.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 2</b>	
BMGT 111 Management.....	5
ENGL 101 Beginning Composition .....	3
LEGL 264 Legal Environment of Business.....	4
ECON 200 Principles of Microeconomics .....	5
XXX XXX Business or Technical Elective .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>20</b>

<b>Quarter 3</b>	
BMGT 211 Organizational Behavior .....	4
BMGT 216 Ethics and Leadership .....	4
COMM 110 Conference and Group Discussion (or)	
COMM 105 Speech.....	3
MKTG 111 Marketing Principles.....	5
ENGL 102 Essay and Research .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>19</b>

<b>Quarter 4</b>	
COMM 200 Business Communication.....	3
BMGT 258 Enterprise Planning and Analysis .....	4
BMGT 280 Business Professional Development.....	3
HRM 121 Human Resource Management.....	4
ACCT 106 Financial Accounting .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>19</b>

<b>Quarter 5</b>	
ACCT 107 Managerial Accounting.....	5
BMGT 260 Business Management Seminar .....	2
BMGT 261 Business Management Practicum.....	3
FMGT 201 Corporate Finance .....	5
<b>TOTAL CREDIT HOURS.....</b>	<b>15</b>

<b>Quarter 6</b>	
NSCI 101 Natural Science.....	5
BMGT 272 Case Studies in Strategic Management.....	4
HUM XXX 111,112,113,151,152 or 224 .....	5
HRM 220 Labor Relations ( <i>or</i> ).....	5
BMGT 253 The Art and Science of Managing Conflict.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>18-19</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>109-110</b>

NOTE: Those students who intend to complete their associate degree at Columbus State Community College and then transfer to another college to complete their baccalaureate degree should confirm the math requirements at the target transfer college; math requirements vary greatly.

### Computing Skills Requirement:

Business Management majors are expected to have mastered MS Word, Excel, PowerPoint, and Access software applications.

Students who HAVE proficiency in ONE OR MORE of the foregoing applications should choose from the following courses to complete the three (3) credit Computer Skills Requirement.

BOA 113 QuickBooks I .....	1
BOA 172A Excel (Module 1) .....	1
BOA 188A Power Point (Module 1) .....	1
BOA 189A Access (Module I) .....	1
BOA 191A Word (Module 1) .....	1

### Business/Technical Electives:

COURSE	CR
BMGT 103 Managing Interpersonal Skills II .....	3
BMGT 108 21 <sup>st</sup> Century Workplace Skills.....	4
BMGT 123 Risk Management .....	3
BMGT 201 Creative Problem Solving.....	3

BMGT 208 Organizational Communication.....	3
BMGT 218 Management Training for Supervisors.....	5
BMGT 230 Organizational Development and Change .....	5
BMGT 245 Introduction to Nonprofit Management .....	5
BMGT 246 Operational Management of Nonprofit Organizations.....	5
BMGT 247 Legal and Financial Issues in Nonprofit Management .....	5
BMGT 248 Leadership Seminar in Nonprofit Management.....	5
BMGT 253 The Art and Science of Conflict Resolution .....	4
BMGT 257 Project Management Principles .....	3
BMGT 281-285 Studies in Contemporary Business .....	1-5
BOA 113 QuickBooks I .....	1
BOA 114 QuickBooks II.....	1
BOA 172 Excel (Modules 1 & 2) .....	2
BOA 172A Excel (Module 1) .....	1
BOA 188 Power Point (Modules 1 & 2).....	2
BOA 188A Power Point (Module 1) .....	1
BOA 189A Access (Module I) .....	1
BOA 191A Word (Module 1) .....	1
CIT 093 Project Management .....	1
FMGT 101 Personal Finance .....	4
FMGT 211 Investments .....	4
LOGI 219 International Business.....	3

## Entrepreneurship Major

In addition to the Business Management core outcomes, a graduate pursuing the Entrepreneurship major will be able to:

- Demonstrate knowledge of the skills needed to start a new business.
- Demonstrate knowledge of the research methods and skills needed to start, expand, or purchase a business.
- List and explain the major factors influencing the success or failure of a small business.
- Develop a business plan.
- Demonstrate knowledge of the functional and interpersonal management skills needed to operate a small business.

## Entrepreneurship Major

COURSE	CR
<b>Quarter 1</b>	
BMGT 101 Principles of Business.....	5
BMGT 102 Managing Interpersonal Skills.....	3
CIT 101 PC Applications 1 .....	3
ENGL 101 Beginning Composition .....	3
MATH 102 Beginning Algebra I.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 2</b>	
BMGT 111 Management .....	5
ECON 200 Principles of Microeconomics .....	5
ENGL 102 Essay and Research .....	3
BMGT 231 Entrepreneurship I.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 3</b>	
ACCT 106 Financial Accounting .....	5
COMM 200 Business Communications.....	3
MKTG 111 Marketing Principles.....	5
BMGT 232 Entrepreneurship II .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 4</b>	
ACCT 107 Managerial Accounting.....	5
BMGT 216 Ethics and Leadership .....	4
HRM 121 Human Resources Management .....	4
LEGL 264 Legal Environment of Business .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 5</b>	
BMGT 238 Entrepreneurship Practicum .....	3
BMGT 239 Entrepreneurship Seminar.....	2

FMGT 201	Corporate Finance .....	5
HUM XXX	Humanities 111,112,113,151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>15</b>

**Quarter 6**

BMGT 272	Cases Studies in Strategic Management .....	4
NSCI 101	Natural Science .....	5
COMM 105	Speech .....	3
MKTG 226	Customer Service Principles .....	3
XXX XXX	Technical Elective .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....</b>	<b>102</b>

**Computing Skills Requirement:**

Entrepreneurship Majors are expected to have mastered MS Word, Excel, PowerPoint, and Access software applications. Students who possess proficiency in ONE OR MORE of the foregoing applications should choose from the following courses to complete the three (3) credit hour Computer Skills Requirement.

BOA 113	QuickBooks I .....	1
BOA 172A	Excel (Module 1) .....	1
BOA 188A	Power Point (Module 1) .....	1
BOA 189A	Access (Module 1) .....	1
BOA 191A	Word (Module 1) .....	1

**Technical Electives:**

**NOTE:** Students currently serving as Owner/Manager of a small business, upon proof of ownership/management, may substitute the following electives for the BMGT 238 Entrepreneurship Practicum experience. The following courses may be used by Entrepreneurship Majors to satisfy the Technical Elective requirement.

BMGT 108	21 <sup>st</sup> Century Workplace Skills .....	4
BMGT 201	Creative Problem Solving .....	3
BMGT 211	Organizational Behavior .....	4
LOGI 219	International Business .....	3
BMGT 253	The Art and Science of Managing Conflict.....	4
BMGT 280	Business Professional Development .....	4
BOA 113	QuickBooks I .....	1
BOA 114	QuickBooks II .....	1
BOA 172A	Excel (Module 1) .....	1
MKTG 150	Introduction to e-Commerce .....	3

**Public Administration Track**

In addition to the Business Management core outcomes, a graduate pursuing the Public Administration Track will be able to:

- Demonstrate knowledge of the skills needed pursue a career in government, nongovernment, and nonprofit organizations.
- Demonstrate knowledge of the research methods and skills necessary to function in a government, nongovernment, and nonprofit work environment.
- Demonstrate knowledge of the functional and interpersonal skills needed to operate in a government and nonprofit work environment.
- Demonstrate knowledge of the budgetary functions needed to function in a government and nonprofit work environment.

**Public Administration Track**

<b>COURSE</b>	<b>CR</b>	
<b>Quarter 1</b>		
BMGT 111	Management.....	5
BMGT 102	Managing Interpersonal Skills I.....	3
BOA 101	Business Grammar .....	3
CIT 101	PC Applications 1 .....	3
MATH 102	Beginning Algebra I.....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>

**Quarter 2**

ACCT 106	Financial Accounting .....	5
BMGT 150	Principles of Public Administration .....	3
BMGT 211	Organizational Behavior .....	4
ENGL 101	Beginning Composition .....	3
LEGL 102	The Legal System .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>

**Quarter 3**

ACCT 231	State and Local Taxation .....	4
COMM 105	Speech.....	3
ENGL 102	Essay and Research .....	3
HRM 121	Human Resource Management.....	4
POLS 101	Intro to American Government .....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>19</b>

**Quarter 4**

BMGT 253	The Art and Science of Managing Conflict.....	4
BMGT 280	Business Professional Development .....	3
ECON 200	Principles of Microeconomics .....	5
COMM 200	Business Communication.....	3
XXX XXX	Technical Elective .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>

**Quarter 5**

BMGT 260	Business Management Seminar .....	2
BMGT 261	Business Management Practicum.....	3
BMGT 205	Public Safety Management .....	3
BMGT 216	Ethics and Leadership.....	4
HUM XXX	HUM 111, 112, 113, 151 or 152 .....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>17</b>

**Quarter 6**

ACCT 266	Public Administration/Fund Accounting.....	4
BMGT 206	Seminar Topics in Public Administration .....	3
BMGT 207	Capstone Seminar in Public Administration .....	4
XXX XXX*	Public Administration Technical Elective.....	3
NSCI 101	Natural Science .....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>19</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....</b>	<b>109</b>

**Computing Skills Requirement:**

Public Administration Track students are expected to have mastered MS Word, Excel, PowerPoint, and Access software applications. Students who HAVE proficiency in ONE OR MORE of the foregoing applications should choose from the following courses to complete the three (3) credit Computer Skills Requirement.

BOA 113	QuickBooks I .....	1
BOA 172A	Excel (Module 1) .....	1
BOA 188A	Power Point (Module 1) .....	1
BOA 189A	Access (Module 1) .....	1
BOA 191A	Word (Module 1) .....	1

**Technical Electives\*:**

The following courses may be used by Public Administration Track students to satisfy the Technical Elective requirement.

BMGT 201	Creative Problem Solving.....	3
BMGT 204	Management in Political Environment .....	3
BMGT 208	Organizational Communication .....	3
BMGT 245	Introduction to Nonprofit Management .....	5
BMGT 247	Legal and Financial Issues in Nonprofit Mgt.....	5
FMGT 201	Corporate Finance.....	5

**Basic Project Manager Certificate**

<b>COURSE</b>	<b>CR</b>	
BMGT 102	Managing Interpersonal Skills.....	3
BMGT 216	Ethics and Leadership .....	4
BMGT 208	Organizational Skills and Communication .....	3
BMGT 250	Project Management Methodologies .....	5
BMGT 259	Project Management Capstone .....	5
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....</b>	<b>20</b>

**NOTE:** Completion of the Project Management Team Certificate is required PRIOR to that of the Basic Project Manager Certificate.

## Entrepreneurship Certificate

COURSE	CR
BMGT 231 Entrepreneurship I.....	4
BMGT 232 Entrepreneurship II.....	4
BOA 111 Bookkeeping Basics.....	4
BOA 113 QuickBooks I.....	1
FMGT 101 Personal Finance.....	4
LEGL 264 Legal Environment of Business.....	4
MKTG 111 Marketing Principles.....	5
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>	<b>26</b>

## Leadership Development Certificate

COURSE	CR
BMGT 216 Ethics and Leadership.....	4
BMGT 230 Organizational Development and Change Management.....	5
PLUS	
BMGT 201 Creative Problem Solving ( <i>or</i> ).....	3
BMGT 253 The Art and Science of Managing Conflict.....	4
BMGT 208 Organizational Communications.....	3
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>	<b>15-16</b>

## Managing Interpersonal Skills Certificate

COURSE	CR
BMGT 102 Managing Interpersonal Skills I.....	3
BMGT 103 Managing Interpersonal Skills II.....	3
BMGT 253 The Art and Science of Managing Conflict.....	4
BMGT 201 Creative Problem Solving ( <i>or</i> ).....	3
BMGT 280 Business Professional Development.....	4
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>	<b>13-14</b>

## Nonprofit Management Certificate

COURSE	CR
BMGT 245 Introduction to Nonprofit Management.....	5
BMGT 246 Operational Management of Nonprofit Organizations.....	5
BMGT 247 Legal and Financial Issues in Nonprofit Management.....	5
BMGT 248 Leadership Seminar in Nonprofit Management.....	5
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>	<b>20</b>

## Pre-MBA Certificate

**NOTE:** We strongly recommend that you first meet with the advisor(s) of your target MBA college(s) PRIOR to beginning this certificate program, since MBA programs vary greatly.

COURSE	CR
ACCT 269 Foundations of Accounting.....	5
BMGT 111 Management.....	5
ECON 200 Principles of Microeconomics.....	5
FMGT 201 Corporate Finance.....	5
MATH 135 Elementary Statistics.....	5
MKTG 111 Principles of Marketing.....	5
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>	<b>30</b>

**NOTE:** Individuals who have completed one or more of the above courses can substitute the following:

BMGT 257 Project Management Principles.....	3
ECON 240 Principles of Macroeconomics.....	5
LEGL 261 Business Law I.....	3
LOGI 100 Principles of Supply Chain Management.....	5

## Project Management Team Certificate

COURSE	CR
ACCT 131 Cost Estimating.....	4
BMGT 201 Creative Problem Solving.....	3
BMGT 253 The Art and Science of Managing Conflict.....	4
BMGT 254 Project Management Techniques.....	5
BMGT 257 Project Management Principles.....	3
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>	<b>19</b>

**NOTE:** Completion of the Project Management Team Certificate is required PRIOR to that of the Basic Project Manager Certificate.

## Public Administration Certificate

COURSE	CR
BMGT 150 Principles of Public Administration.....	3
BMGT 204 Managing a Political Environment.....	3
BMGT 205 Public Safety Management.....	3
BMGT 206 Seminar Topics in Public Administration.....	3
BMGT 208 Organizational Communication.....	3
PLUS	
BMGT XXX Choice of 2 BMGT courses.....	6
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>	<b>21</b>

# Business Office Applications

## Associate of Applied Science Degree

### Administrative Assistant Major

### Administrative Assistant Medical Cognate

### Bookkeeping Certificate

### Office Skills Certificate

### Office Specialist Certificate

The Occupational Outlook Handbook, published by the United States Department of Labor, has forecast that this occupation is expected to be among those with the largest number of new jobs. This handbook indicates that opportunities should be best for applicants with extensive knowledge of business software applications. Administrative assistants today perform fewer clerical tasks and are increasingly taking on the roles of information and communication managers. The Business Office Applications Technology offers an associate degree in Business Office Applications with an Administrative Assistant major that will enable students to acquire advanced software and keyboarding skills as well as management and team-building skills. Students will participate in office simulations and an office internship that will prepare them to become an integral part of any office management team. These skills will enable a graduate to assume responsibility without direct supervision, display initiative, exercise judgment, and prepare business communications documents.

The Medical Cognate prepares students to work in medical settings such as hospitals, medical offices, clinics, dental offices, and insurance companies.

Three certificates are also available. The Office Skills Certificate program prepares students for entry-level office positions. Students develop skills and business application knowledge in word processing, electronic spreadsheets, database management systems, presentation graphics, information management, keyboarding, and bookkeeping.

Columbus State's Office Specialist Certificate program prepares students for the globally-recognized Microsoft® Business Applications Specialist certification. In today's workplace, more employers require that office workers be knowledgeable in all areas of Microsoft Office software applications. Students develop skills in word processing, electronic spreadsheets, presentation graphics, database management, and desktop management. These skills prepare students to be more productive while using the most up-to-date technologies. This certificate is available as a distance learning (DL) option.

The Bookkeeping Certificate prepares students for a career in office bookkeeping. This bookkeeping certificate includes preparatory courses enabling students to sit for a nationally recognized Bookkeeping certification exam. This certificate program may be completed in three quarters and provides a solid foundation of accounting and bookkeeping principles, electronic spreadsheets, and computerized accounting software packages. This certificate is also available as a distance learning (DL) option.

Columbus State Community College's business degree programs are accredited by the Association of Collegiate Business Schools and Programs (ACBSP).

Upon completion of the associate degree in Business Office Applications, the graduate will be able to:

- Develop and maintain electronic and manual filing systems.
- Compose or draft responses to business correspondence, use correct grammar, and use punctuation rules accurately.
- Perform bookkeeping tasks using spreadsheet software.
- Prepare written and oral presentations using presentation graphics software.
- Demonstrate knowledge of management theory, functions, and skills.
- Demonstrate a working knowledge of current legal, ethical, social, financial, and economic environmental factors as they apply to business.
- Use appropriate business office applications technology and other resources to research, analyze, and integrate data to solve business problems.
- Work effectively as a member of a team.

### Administrative Assistant Major

In addition to the general Business Office Applications competencies, a graduate in the Administrative Assistant major will be able to:

- Use operating systems and desktop features and functions to organize and manage files and documents effectively to increase productivity.
- Prepare presentation graphics and present information.
- Research information using a variety of resources including the Internet.
- Use computers to integrate business office applications and graphics into documents.
- Transcribe a variety of documents accurately and at an acceptable production rate.

### Administrative Assistant Medical Cognate

In addition to the general competencies, a graduate choosing the Medical Cognate will be able to:

- Demonstrate an understanding of the structure and organization of current health care systems.
- Demonstrate the ability to spell, pronounce, and define basic medical terminology.

### Administrative Assistant Major

COURSE		CR
<b>Quarter 1</b>		
MATH 101	Business Math.....	5
BOA 101	Business Grammar .....	3
BOA 132	Document Formatting and Skill Building I .....	3
BOA 105	Desktop and Document Management.....	1
BOA 191	Word I (Modules 1 and 2).....	2
BOA 150	Office Procedures I .....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>17</b>
<b>Quarter 2</b>		
BOA 151	Office Procedures II.....	3
BMGT 101*	Principles of Business.....	5
BOA 133	Document Formatting and Skill Building II.....	3

BOA 192	Word II (Modules 3 and 4)	2
BOA 189	Access (Modules 1 and 2)	2
BOA 188	PowerPoint (Modules 1 and 2)	2
BOA 172	Excel I (Modules 1 and 2)	2
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

**Quarter 3**

BMGT 102	Managing Interpersonal Skills	3
ENGL 101	Beginning Composition	3
BOA 121	Records Management	3
BOA 111	Bookkeeping Basics I	4
BOA XXX*	Technical Elective	3
BOA 173A	Excel Module 3	1
BOA 173B	Excel Module 4	1
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

**Quarter 4**

BMGT 216	Business Ethics and Leadership	4
BOA 138	Computer Transcription	3
BOA 193	Word III	3
BOA XXX*	Technical Elective	3
ENGL 102	Essay and Research	3
BOA 125	MS Outlook ®	3
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

**Quarter 5**

BOA 195	Office Integration	1
NSCI 101	Natural Science I	5
FMGT 101*	Personal Finance	4
HUM XXX	111, 112, 113, 151, 152, or 224	5
COMM 105	Speech (or)	
COMM 110	Conference and Group Discussion	3
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

**Quarter 6**

BOA 106	Internet Research	1
COMM 200	Business Communications	3
LEGL 264	Legal Environment of Business	4
BOA 250	Capstone	4
BOA 270	Business Office Applications Practicum	2
BOA 271	Business Office Applications Practicum Seminar	2
<b>TOTAL CREDIT HOURS</b>		<b>16</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>107</b>

\*Students specializing in the medical cognate will substitute from the cognate list for this course.

**Technical Electives**

BOA 113	QuickBooks I	1
BOA 114	QuickBooks II	1
BOA 139	Keyboarding Improvement	1
BOA 190A	Access Module 3	1
BOA 190B	Access Module 4	1
BOA 112	Bookkeeping Basics II	4
BOA 167	Desktop Publishing	3
BOA 115	Computer Bookkeeping with Peachtree®	3
BOA 116	Adjusting Entries and Error Corrections	2
BOA 117	Payroll	2
BOA 118	Inventory and Depreciation	2
BOA 119	Internal Controls and Fraud Prevention	2
BOA 196	Office Specialist Review I	1
BOA 197	Office Specialist Review II	1

**Administrative Assistant Medical Cognate**

The following two courses are required:

MLT 100	Introduction to Health Care	3
MULT 101	Medical Terminology	2

Choose 10 or more additional credit hours from the following courses:

BIO 261	Human Anatomy	5
HIMT 112	Electronic Health Concepts	2
HIMT 113	Managed Care Trends	2
HIMT 121	Advanced Medical Terminology	3
HIMT 133*	Legal Aspects of Health Information	3
HIMT 135*	Health Data Management	3

\*Check prerequisites; signature may be required to enroll in this class.

**Bookkeeping Certificate**

**COURSE** **CR**

**Quarter 1**

BOA 172A	Excel (Module 1)	1
BOA 172B	Excel (Module 2)	1
BOA 111	Bookkeeping Basics I	4
BOA 113	QuickBooks I (first term)	1
BOA 114	QuickBooks II (second term)	1
<b>TOTAL CREDIT HOURS</b>		<b>8</b>

**Quarter 2**

BOA 173A	Excel Module 3	1
BOA 173B	Excel Module 4	1
BOA 115	Computer Bookkeeping with Peachtree®	3
BOA 112	Bookkeeping Basics II	4
<b>TOTAL CREDIT HOURS</b>		<b>9</b>

**Quarter 3**

BOA 116	Adjusting Entries and Error Corrections	2
BOA 117	Payroll	2
BOA 118	Inventory and Depreciation	2
BOA 119	Internal Controls and Fraud Prevention	2
<b>TOTAL CREDIT HOURS</b>		<b>8</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>25</b>

**Office Skills Certificate**

**COURSE** **CR**

**Quarter 1**

BOA 101	Business Grammar	3
BOA 105	Desktop and Document Management	1
BOA 132	Document Formatting and Skill Building I	3
BOA 150	Office Procedures I	3
BOA 191	Word I (Modules 1 and 2)	2
<b>TOTAL CREDIT HOURS</b>		<b>12</b>

**Quarter 2**

BOA 151	Office Procedures II	3
BOA 133	Document Formatting and Skill Building II	3
BOA 172	Excel I (Modules 1 and 2)	2
BOA 188	PowerPoint (Modules 1 and 2)	2
BOA 189A	Access (Module 1)	1
BOA 189B	Access (Module 2)	1
<b>TOTAL CREDIT HOURS</b>		<b>12</b>

**Quarter 3**

BOA 111	Bookkeeping Basics I	4
BOA 138	Computer Transcription	3
BOA 192	Word II (Modules 3 and 4)	2
BOA 121	Records Management	3
<b>TOTAL CREDIT HOURS</b>		<b>12</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>36</b>

**Office Specialist Certificate**

**COURSE** **CR**

**Quarter 1**

BOA 191A	Word Module 1	1
BOA 172A	Excel Module 1	1
BOA 188A	PowerPoint Module 1	1
BOA 189A	Access Module 1	1
BOA 131	Introduction to Keyboarding	3
BOA 105	Desktop and Document Management	1
<b>TOTAL CREDIT HOURS</b>		<b>8</b>

**Quarter 2**

BOA 191B	Word Module 2	1
BOA 172B	Excel Module 2	1
BOA 188B	PowerPoint Module 2	1
BOA 189B	Access Module 2	1
<b>TOTAL CREDIT HOURS</b>		<b>4</b>

<b>Quarter 3</b>	
BOA 192A	Word Module 3 .....1
BOA 173A	Excel Module 3.....1
BOA 190A	Access Module 3.....1
BOA 125	Outlook .....3
BOA 196	OS Specialist Review I .....1
<b>TOTAL CREDIT HOURS</b>	<b>.....7</b>

<b>Quarter 4</b>	
BOA 192B	Word Module 4 .....1
BOA 173B	Excel Module 4.....1
BOA 190B	Access Module 4.....1
BOA 197	OS Specialist Review II .....1
BOA 195	Office Integration.....1
<b>TOTAL CREDIT HOURS</b>	<b>.....5</b>
<b>TOTAL CERTIFICATE HOURS</b>	<b>.....24</b>

# Civil Engineering Technology

## Associate Degree in Civil Engineering Technology – Civil Track

## Associate Degree in Civil Engineering Technology – Survey Track

### Surveying Certificate

The Associate of Applied Science Degree in Civil Engineering Technology provides a basis for entry-level careers in all phases of the construction continuum: planning, design, construction and operations. The Associate of Applied Science is designed as a terminal degree providing those skills necessary for immediate employment. Program graduates are prepared to work for either private or governmental segments of the construction industry requiring civil engineering technicians. Specific employment positions include manual or computer assisted (CAD) construction drawing and contract document preparation for commercial, heavy and industrial/institutional projects, construction inspection, survey crew operations, and construction material quality control and quality assurance.

In addition to providing entry-level positions, the degree provides opportunities for individuals seeking career changes, continuing education, and skills enhancement. The Civil Engineering Technology degree is preparation for immediate, productive employment.

Upon completion of the associate degree in Civil Engineering Technology, the graduate will be able to:

- Prepare engineering drawings for public and private work projects utilizing computer aided drafting (CAD). Perform standardized field and laboratory testing on civil engineering materials soils, aggregates, asphalt and Portland cement concrete, masonry, steel and wood in accordance with American Society of Testing Methods (ASTM) procedures and Ohio Department of Transportation Construction Materials Specifications.
- Correctly apply regulatory and industry standards to design

public utility systems, including sanitary wastewater collection systems, storm-water management systems and water distribution systems.

- Apply an integrated system of digital levels, total stations, data collectors/controllers, global positioning system equipment and associated software in surveying and construction related problem solving applications including building, utility and transportation systems.
- Determine forces and stresses in elementary structural systems.
- Apply Ohio Department of Transportation (ODOT), Federal Highway Administration (FHWA), and industry design standards to plan, design, and detail a simulated highway including drainage structures.
- Apply subdivision regulations and surveying laws in the preparation of preliminary sketch, preliminary plat, and final plat for a major private platted land subdivision.
- Perform preliminary site investigations, research infrastructure records, secure appropriate codes and regulations, and prepare a set of preliminary drawings of an urban redevelopment site.
- Perform quantity takeoffs and estimates for heavy construction projects.

The Civil Engineering Technology Surveying Certificate is a one-year, three-quarter program, which provides a basis for entry-level careers in survey field and office operations. The one-year certificate is a directed focus program, which empowers students with those skills necessary for construction layout of buildings and roadways and, working under the direction of a Registered Surveyor, in land surveying and subdivision of land. Specific employment positions include instrument person, field crew chief, and drafter/designer.

The Surveying Certificate encompasses those surveying courses, which, when coupled with a Bachelor of Science in Civil Engineering, fulfill the State of Ohio Board of Registration for Engineers and Surveyors Education Requirements toward registration as a Professional Surveyor.

## Civil Engineering Technology – Civil Track

COURSE	CR
<b>Quarter 1</b>	
ARCH 110	Construction Drafting: Manual I .....2
CIVL 120	Basic Construction Materials .....3
CMGT 105	Building Construction Documents.....3
CMGT 121	Building Construction Drawings .....3
ENGL 101	Beginning Composition .....3
MATH 148	College Algebra .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 2</b>	
ARCH 112	Construction Drafting: CAD I .....2
CMGT 131	Construction Quantity Survey.....3
CIVL 123	Heavy Construction Drawings.....3
CIVL 125	Heavy Construction Methods .....3
ENGL 102	Essay and Research .....3
MATH 150	Pre-Calculus.....5
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 3</b>	
ARCH 113	Architectural Drafting: CAD II.....2
CIVL 121	Heavy Construction Materials .....3
COMM 105	Speech ( <i>or</i> )

COMM 110	Conference and Group Discussion.....	3
COMM 204	Technical Writing.....	3
SURV 141	Basic Surveying.....	4
ENVR 160	OSHA 10-Hour Construction Safety and Health.....	1
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

**Quarter 4**

CIVL 221	Elementary Hydraulics .....	3
ENVR 252	Health and Safety Training .....	3
CIVL 243	Heavy Construction Estimating.....	3
MECH 130	Statics.....	4
SURV 241	Route Surveying .....	4
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

**Quarter 5**

ARCH 115	MicroStation CAD Drafting I.....	3
CIVL 223	Public Utility Systems .....	3
MECH 242	Strength of Materials .....	4
PSY 100	Introduction to Psychology (or)	
SSCI 105	Law and Society (or)	
SOC 101	Introduction to Sociology .....	5
SURV 245	Survey Law .....	3
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

**Quarter 6**

HUM XXX	Humanities 111, 112, 113, 151, 152 or 224 .....	5
SURV 243	Heavy Construction Standards .....	3
SURV 248	Advanced Surveying Systems.....	4
SURV 249	Land Subdivision Systems .....	3
XXX XXX	Tech Elective.....	3
<b>TOTAL CREDIT HOURS</b>		<b>18</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>107</b>

**\*Technical Electives must be selected from the following list of courses:**

ARCH 237	Structures, Steel, Concrete & Masonry.....	3
SURV 242	Computer Applications in Surveying.....	3
SURV 247	Townsite/Urban Development .....	3
CIVL 299	Special Topics In Civil Engineering .....	1-5

**Civil Engineering Technology – Survey Track**

**COURSE CR**

**Quarter 1**

ARCH 110	Construction Drafting: Manual I .....	2
SURV 100	Introduction to Geomatics.....	2
CIVL 120	Basic Construction Materials .....	3
CMGT 121	Building Construction Drawings .....	3
ENGL 101	Beginning Composition .....	3
MATH 148	College Algebra .....	5
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

**Quarter 2**

ARCH 112	Construction Drafting: CAD I .....	2
CIVL 123	Heavy Construction Drawings.....	3
ENGL 102	Essay and Research .....	3
ENVR 160	OSHA 10-Hour Construction Safety and Health.....	1
GIS 105	Photogrammetry.....	2
MATH 150	Pre-Calculus .....	5
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

**Quarter 3**

ARCH 113	Construction Drafting: CAD II.....	2
CIVL 121	Heavy Construction Materials .....	3
COMM 105	Speech (or)	
COMM 110	Conference and Group Discussion.....	3
COMM 204	Technical Writing.....	3
LAND 152	Site Planning .....	4
SURV 141	Basic Surveying .....	4
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

**Quarter 4**

GIS 251	GIS Software I .....	3
GEOG 280	Introduction to Cartography.....	5
REAL 102	Real Estate Law .....	4
SURV 242	Computer Applications in Surveying.....	3
SURV 241	Route Surveying .....	4
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

**Quarter 5**

ARCH 115	Microstation CAD Drafting .....	3
GIS 203	Remote Sensing .....	3
ENVR 252	Health and Safety Training .....	3
PSY 100	Introduction to Psychology (or)	
SSCI 105	Law and Society (or)	
SOC 101	Introduction to Sociology .....	5
SURV 245	Survey Law .....	3
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

**Quarter 6**

HUM XXX	Humanities 111, 112, 113, 151, 152 or 224 .....	5
SURV 243	Heavy Construction Standards .....	3
SURV 248	Advanced Surveying Systems.....	4
SURV 249	Land Subdivision Systems .....	3
XXXX XX	Technical Elective.....	3
<b>TOTAL CREDIT HOURS</b>		<b>18</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>107</b>

**\*Technical Electives must be selected from the following list of courses:**

CIVL 291	Field Experience .....	3
GIS 253	GIS Software II.....	3
SURV 247	Townsite/Urban Development .....	3
SURV 299	Special Topics in Surveying.....	1-5

**Surveying Certificate**

**COURSE CR**

**Quarter 1**

ARCH 110	Construction Drafting: Manual I (First Term).....	2
ARCH 112	Construction Drafting: CAD I (Second Term).....	2
ENGL 101	Beginning Composition .....	3
MATH 148	College Algebra .....	5
SURV 100	Introduction to Geomatics.....	2
SURV 141	Basic Surveying .....	4
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

**Quarter 2**

ENGL 102	Essay and Research .....	3
GIS 251	GIS Software I .....	3
ENVR 160	OSHA 10-Hour Construction Safety and Health.....	1
REAL 102	Real Estate Law .....	3
SURV 241	Route Surveying.....	4
SURV 245	Survey Law .....	3
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

**Quarter 3**

COMM 204	Technical Writing .....	3
SURV 242	Computer Applications in Surveying.....	3
SURV 243	Heavy Construction Standards .....	3
SURV 248	Advanced Surveying Systems.....	4
SURV 249	Land Subdivision Systems.....	3
XXXX XXX*	Technical Elective .....	2-4
<b>TOTAL CREDIT HOURS</b>		<b>18-20</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>53-55</b>

**\*Technical Elective Options**

GIS 105	Photogrammetry.....	2
GIS 203	Remote Sensing .....	3
SURV 247	Townsite/Urban Development .....	3
SURV 299	Special Topics in Surveying.....	1-5

# Computer Information Technology

## Computer Information Technology

### Associate of Applied Science Degree

#### Game Developer Track

#### MIS/Project Management Track

#### Network Administrator Track

#### Software Developer Track

#### Web Developer Track

#### Cisco Certified Network Administrator (CCNA)

#### Discovery Certificate

#### Computer Literacy Certificate

#### Database Specialist Certificate

#### Information Security Certificate

#### Management Information Systems Certificate

#### Network Administrator Certificate

#### Software Developer Certificate

#### System Z Certificate

#### Vocational Education Transfer Option with

#### The Ohio State University

The Computer Information Technology curriculum provides graduates with a foundation of logic, programming, operating systems, applications, systems analysis, and networking through a core set of courses. Learners may choose to specialize in Game Developer, Network Administrator, Software Developer, or Web Developer. CIT offers a number of industry subject-specific certificates in database, networking, hardware/software, and applications.

Upon completion of the associate degree in Computer Information Technology, **Game Developer Track**, the graduate will be able to:

- Demonstrate an understanding of the history, current industry and occupations that constitute the video game industry.
- Develop a broad understanding of the components of a successful video game by working collaboratively with students in the design area
- Apply creative thinking and problem solving skills through the completion of a collaborative major capstone project.
- Understand the roles and responsibilities of team members and their collaboration in all phases of design, development and implementation.
- Demonstrate appropriate software and programming skills that directly support video game development processes.
- Be able to work as part of a larger technical/design team to complete tasks on time and on budget.
- Possess the necessary depth of understanding of complex principles and details and know how to apply these fundamentals and details by undertaking open-ended technical and creative projects.
- Understand the fundamentals of game development for both Windows and specific consoles such as Xbox.
- Develop a comprehensive professional portfolio to be used in pursuing jobs and/or internship opportunities.

Upon completion of the associate degree in Computer Information Technology, **MIS/Project Management Track**, the graduate will

be able to:

- Participate in collaborative projects utilizing the Systems Development Life Cycle (SDLC).
- Determine project requirements of a computer Network System.
- Create documentation using PC-based applications software.
- Define project goals clearly.
- Design and produce a UML requirement model.
- Implement a UML design in IT Project.
- Determine task dependencies and schedules.
- Assign and optimize resources.
- Produce the implementation plan.
- Manage and respond to change.
- Measure and present results effectively.
- Apply practical aspects learned in the classroom by managing or assisting in managing IT projects.

Upon completion of the associate degree in Computer Information Technology, **Network Administrator Track**, the graduate will be able to:

- Participate in collaborative projects utilizing the Systems Development Life Cycle (SDLC).
- Determine project requirements of a computer network system.
- Create project documentation using PC-based applications software.
- Install a variety of server configurations using current network software and protocols.
- Apply workstation configurations using a variety of operating systems commands.
- Integrate project requirements utilizing current database technology.
- Apply operating systems commands for effective disk management.
- Complete a series of exercises to prepare for a popular vendor certification program.

Upon completion of the associate degree in Computer Information Technology, **Software Developer Track**, the graduate will be able to:

- Determine project requirements.
- Design a targeted information technology.
- Develop applications using programming languages.
- Identify networking concepts.
- Prepare project documentation.
- Participate in collaborative projects utilizing the Systems Development Life Cycle (SDLC).

Upon completion of the associate degree in Computer Information Technology, **Web Developer Track**, the graduate will be able to:

- Participate in collaborative projects utilizing the Systems Development Life Cycle (SDLC).
- Determine project requirements.
- Create project documentation using PC-based applications software.
- Develop applications using Web programming languages.
- Create a multiple page, multiple presentation Web site.
- Integrate project requirements for an e-commerce Web site using current database and networking technology.
- Complete a series of exercises to prepare for a popular vendor certification program.
- Apply operating systems fundamentals for effective disk management.



The **Cisco Certified Network Administrator (CCNA) Discovery Certificate** is a curriculum that provides foundational networking knowledge, practical experience, and soft-skills development to prepare students for entry-level careers in IT and networking. The curriculum focuses on networking for simple home or small office networks to complex enterprise networks. Students are introduced to advanced technologies such as voice, video, wireless and security and gain hands-on experience with switches, routers, cables and other networking technologies. The Cisco Discovery Certificate curriculum prepares students for two different Cisco certification exams, Cisco Certified Entry Network Technician (CCENT), and Cisco Certified Network Associate (CCNA).

In working toward the **Computer Literacy Certificate**, the student will learn the fundamental components and terminology of personal computer hardware and software basic concepts. This certificate is designed for beginning computer users to develop computer literacy skills. Upon completion of the Computer Literacy Certificate, the student will be able to:

- Use the Windows operating system to manage files and folders, including creating, renaming, copying, deleting, and moving.
- Demonstrate proficiency within the Blackboard environment.
- Navigate and explore the Internet and the World Wide Web utilizing Microsoft Internet Explorer.
- Utilize the Internet as an effective research tool.
- Describe the basic elements and terminology of the Windows operating system.
- Create and edit Word documents including a research paper, a resume, and a business letter.
- Create and format an Excel worksheet with embedded charts, formulas, and functions.
- Perform a What-if Analysis in Excel.
- Create and use an Access database including tables, queries, and reports.
- Create a slide show in PowerPoint.
- Integrate Office 2003 Applications and the WWW.

In addition to many of the Computer Information Technology competencies, a graduate with a **Database Specialist Certificate** will be able to:

- Prepare a systems design utilizing a database management system.
- Design and implement an Oracle and Access database.
- Perform basic administration functions of a database management system.
- Understand data warehousing systems.
- Use the Visual Basic.NET language to interface with a database management system.

In addition to many of the Computer Information Technology competencies, a graduate with an **Information Security Certificate** will be able to:

- Describe and analyze security threats.
- Protect an organization's system and data.
- Design disaster recovery strategies for the enterprise.
- Design and implement computer forensics strategies.
- Assess network vulnerabilities.
- Recognize and respond to security threats.
- Design and develop security audits for an organization.
- Understand the ethical issues related to network security.

- Design and implement wireless networks.
- Work with VPNs and firewalls.
- Protect Internet connections and intranets as well as critical data from attacks.
- Learn how to carry out and implement secure communications across unsecured networks.

In addition to many of the Computer Information Technology competencies, a graduate with a **Management Information Systems (MIS) Certificate** will be able to:

- Define project goals clearly
- Design & produce a UML requirement model
- Implement a UML design in IT Project
- Determine task dependencies and schedules
- Assign and optimize resources
- Produce the implementation plan
- Manage and respond to change
- Measure and present results effectively
- Apply practical aspects learned in the classroom by managing or assisting in managing IT projects

In addition to many of the Computer Information Technology competencies, a graduate with a **Network Administrator Certificate** will be able to:

- Describe the various types of distributed processing systems and operating systems.
- Design, create, and operate a distributed DBMS.
- Use at least one major LAN operating system.
- Complete an industry standard network system examination.
- Design, create, and implement a distributed processing system to support the information processing requirements for a large information management organization to include installing a DBMS.

In addition to many of the Computer Information Technology competencies, a graduate with a **Software Developer Certificate** will be able to:

- Demonstrate techniques of object analysis and object design.
- Design and code programs in C++ and Visual Basic.NET.
- Debug a C# or Visual Basic.NET program.
- Develop Web front-end applications.
- Utilize a database for a Web application.

The **System Z Certificate** was developed to address industry's continuing need for skilled professionals with mainframe skills. This certificate was designed by area companies and IBM Corporation, which will provide access to hardware/software, course materials/speaker notes, student textbooks, etc. The System Z Certificate is a four-course sequence focused on the basics of enterprise networking, and it is designed for individuals with significant IT working experience or for current students with instructor's permission.

### Specific Certificate Admissions Information

Certain certificate programs have additional requirements for admission.

#### Database Specialist Certificate

Complete MATH 102 and faculty advisor approval

#### Information Security Certificate

CIT 151 Networking 1

## Network Administrator Certificate

Complete CIT 151 Networking 1

## Software Developer Certificate

MATH 104 Intermediate Algebra

Work experience approved by the Department Chair

## Software/Hardware Requirements

Students taking courses in this curriculum may need to own or have access to hardware or software to pursue this degree. This is particularly important for students who are enrolled in distance learning-based sections of a particular course. Check with the program advisor to discuss specific course needs and options.

**Note:** Some courses may require prerequisites; please ensure to fulfill required prerequisites or meet with your program advisor to discuss.

## Computer Information Technology Associate Degree, Game Developer Track

COURSE	CR
<b>Quarter 1</b>	
ENGL 101	Beginning Composition .....
IMMT 115	Survey of Digital Gaming Industry.....
MATH 148	College Algebra .....
HUM XXX	HUM 111, 112, 113, 151, 152 or 224 .....
CIT 103	Computer Concepts and Logic .....
<b>TOTAL CREDIT HOURS</b>	<b>19</b>

<b>Quarter 2</b>	
IMMT 188	Introduction to 3D Game Production.....
MATH 150	Pre-Calculus.....
IMMT 236	3D Modeling .....
CIT 121	PC Operating Systems .....
CIT 120	Foundations of Game Programming 1 .....
<b>TOTAL CREDIT HOURS</b>	<b>20</b>

<b>Quarter 3</b>	
MATH 151	Calculus and Analytic Geometry I.....
CIT 167	C++ Programming .....
CIT 127	Structured Programming .....
CIT 128	Concepts of 3D Graphics.....
ENGL 102	Essay and Research .....
<b>TOTAL CREDIT HOURS</b>	<b>20</b>

<b>Quarter 4</b>	
COMM 207	Writing for the Web .....
CIT 206	Foundations of Game Programming 2 .....
CIT 227	Data Structures and Algorithms .....
CIT 228	Computer Graphics 1 .....
CIT 245	Introductions to Game Prototyping and Development .....
<b>TOTAL CREDIT HOURS</b>	<b>19</b>

<b>Quarter 5</b>	
MATH 152	Calculus and Analytic Geometry II.....
CIT 229	Computer Graphics 2 .....
CIT 246	Game Development Project – Part 1 .....
PHYS 117	College Physics: Mechanics & Heat.....
<b>TOTAL CREDIT HOURS</b>	<b>17</b>

<b>Quarter 6</b>	
COMM 105	Speech ( <i>or</i> ) .....
COMM 110	Conference and Group Discussion .....
CIT 226	Digital Audio/Video Programming .....
CIT 247	Game Development Project – Part 2 .....
<b>TOTAL CREDIT HOURS</b>	<b>9</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>104</b>

## Computer Information Technology Associate Degree, MIS/Project Management Track

COURSE	CR
<b>Quarter 1</b>	
CIT 101	PC Applications I.....
CIT 103	Computer Concepts and Logic .....
MATH 148	College Algebra .....
ACCT 269	Foundations of Accounting .....
ENGL 101	Beginning Composition .....
<b>TOTAL CREDIT HOURS</b>	<b>19</b>

<b>Quarter 2</b>	
CIT 121	PC Operating Systems .....
CIT 163	Visual Basic 1 .....
CIT 110	Unified Modeling Language .....
ENGL 102	Essay and Research .....
BMGT 257	Project Management .....
IMMT 122	Digital Media Preparation.....
<b>TOTAL CREDIT HOURS</b>	<b>19</b>

<b>Quarter 3</b>	
CIT 175	Systems Analysis 1 .....
CIT 151	Networking 1 .....
CIT 263	Visual Basic 2 .....
BMGT 111	Management .....
MKTG 226	Customer Service Principles and Practices.....
<b>TOTAL CREDIT HOURS</b>	<b>20</b>

<b>Quarter 4</b>	
CIT 275	Systems Analysis II .....
CIT 173	Database Programming.....
CIT 264	Visual Basic 3 .....
CIT 130	MIS II: Project Management Fundamentals .....
COMM 105	Speech ( <i>or</i> ) .....
COMM 110	Conference and Group Discussion .....
<b>TOTAL CREDIT HOURS</b>	<b>17</b>

<b>Quarter 5</b>	
CIT 230	MIS III: Project Management Case Studies .....
CIT 251	Networking 2 .....
CIT 273	Database Systems.....
COMM 200	Business Communications .....
HUM XXX	HUM 111, 112, 113, 151, 152, or 224 .....
<b>TOTAL CREDIT HOURS</b>	<b>17</b>

<b>Quarter 6</b>	
CIT 137	Advanced Information Presentation .....
CIT290/299	Seminar and Practicum ( <i>or</i> ) .....
CIT 281	Capstone for Software Developer.....
SSCI XXX	SSCI 100, 101, 102, 105, or GEOG 240.....
CIT XXX	Technical Elective .....
<b>TOTAL CREDIT HOURS</b>	<b>17</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>109</b>

### Technical Elective

CIT 241	Intro. to the Mainframe – z/OS Basics.....
CIT 242	Intro. to the Mainframe – Lg Scale Commercial .....
CIT 243	Intro. to the Mainframe – Networking .....
CIT 244	Intro. to the Mainframe – Security .....

## Computer Information Technology Associate Degree, Network Administrator Track

COURSE	CR
<b>Quarter 1</b>	
CIT 101	PC Applications .....
CIT 103	Computer Concepts and Logic.....
CIT 121	PC Operating Systems .....
CIT 123	Workstation Systems.....
ENGL 101	Beginning Composition .....
BMGT 257	Project Management Principles .....
<b>TOTAL CREDIT HOURS</b>	<b>18</b>

<b>Quarter 2</b>	
CIT 102C	PC Applications 2 Module 3 (Access).....1
CIT 151	Networking 1.....3
MATH 148	College Algebra.....5
COMM 105	Speech ( <i>or</i> )
COMM 110	Conference and Group Discussion.....3
MKTG 226	Customer Services Principles and Practices.....4
ENGL 102	Essay and Research.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 3</b>	
CIT 175	Systems Analysis 1.....4
CIT 251	Networking 2.....3
CIT 233	Expert Access.....3
CIT 250	Network Comm. Systems.....3
ACCT 269	Foundations of Accounting.....5
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>

<b>Quarter 4</b>	
CIT 171	Database Administration/SQL.....4
CIT 163	Visual Basic 1.....4
CIT 252	Networking 3.....4
IMMT 112	Fundamentals of Interactive Design.....3
LAW 215	Introduction to Cyberlaw.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>

<b>Quarter 5</b>	
CIT 257	Network Security.....3
CIT 253	TCP/IP.....3
CIT 255	Networking 4.....4
HUM XXX	Humanities 111, 112, 113, 151, 152, or 224.....5
COMM 204	Technical Writing.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>

<b>Quarter 6</b>	
CIT 258	Wireless Networking.....3
CIT 290/299	CIT Seminar/Practicum ( <i>or</i> ) CIT 282 Capstone Web/Net.....5
CIT xxx	Technical Elective.....4
SSCI XXX	SSCI 100, 101, 102, 105, or GEOG 240.....5
<b>TOTAL CREDIT HOURS</b>	<b>.....17</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....108</b>

**Technical Electives**

CIT 110	Unified Modeling Language.....3
CIT 130	MIS II: Project Management Fundamentals.....3
<b>CIT 160</b>	<b>CCNA Voice.....4</b>
<b>CIT 164</b>	<b>CCNA Security.....4</b>
<b>CIT 166</b>	<b>CCNA Wireless.....4</b>
CIT 241	Intro. to the Mainframe – z/OS Basics.....4
CIT 243	Intro. to the Mainframe – Networking.....4
CIT 244	Intro. to the Mainframe – Security.....4
CIT 259	Advanced Network Security.....3
CIT 260	Web Security.....3
CIT 271	Data Mining and Data Warehousing.....4
CIT 276	Information Security Audit.....3
CIT 277	Computer Forensics.....3
CIT 278	Business Continuity and Disaster Recovery.....3

**Computer Information Technology Associate Degree, Software Developer Track**

<b>COURSE</b>	<b>CR</b>
<b>Quarter 1</b>	
CIT 101	PC Applications I.....3
CIT 103	Computer Concepts and Logic.....3
MATH 148	College Algebra.....5
ACCT 269	Foundations of Accounting.....5
ENGL 101	Beginning Composition.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 2</b>	
CIT 121	PC Operating Systems.....3
CIT 163	Visual Basic 1.....4
CIT 175	Systems Analysis 1.....4

ENGL 102	Essay and Research.....3
CIT 110	Unified Modeling Language.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....17</b>

<b>Quarter 3</b>	
CIT 145	HTML.....3
CIT 151	Networking 1.....3
CIT 263	Visual Basic 2.....4
CIT 275	Systems Analysis 2.....4
MKTG 226	Customer Services Principles and Practices.....4
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>

<b>Quarter 4</b>	
CIT 147	JavaScript Fundamentals.....3
CIT 179	C# Programming I.....4
CIT 169	Java Programming 1.....3
CIT 173	Database Programming.....3
CIT 264	Visual Basic 3.....4
COMM 105	Speech ( <i>or</i> )
COMM 110	Conference and Group Discussion.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....20</b>

<b>Quarter 5</b>	
CIT 279	C# Programming 2.....4
CIT 269	Java Programming 2.....3
CIT 273	Database Systems.....3
COMM 204	Technical Writing.....3
HUM XXX	HUM 111, 112, 113, 151, 152, or 224.....5
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>

<b>Quarter 6</b>	
CIT290/299	CIT Seminar/Practicum ( <i>or</i> )
CIT 281	Capstone for Software Developer.....5
BMGT 111	Management.....5
IMMT 122	Digital Media Preparation.....3
SSCI XXX	Social Sciences 100, 101, 102, 105, or GEOG 240.....5
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....110</b>

**Computer Information Technology Associate Degree, Web Developer Track**

<b>COURSE</b>	<b>CR</b>
<b>Quarter 1</b>	
CIT 101	PC Applications I.....3
CIT 103	Computer Concepts and Logic.....3
MATH 148	College Algebra.....5
SSCI XXX	Social Sciences 100, 101, 102, 105, or GEOG 240.....5
ENGL 101	Beginning Composition.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 2</b>	
CIT 121	PC Operating Systems.....3
CIT 102	PC Applications 2.....3
CIT 139	Web Essentials.....3
CIT 175	Systems Analysis 1.....4
ENGL 102	Essay and Research.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....16</b>

<b>Quarter 3</b>	
CIT 145	HTML.....3
CIT 163	Visual Basic 1.....4
CIT 233	Expert Access.....3
COMM 207	Writing for the Web.....3
IMMT 112	Fundamentals of Interactive Design.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....16</b>

<b>Quarter 4</b>	
CIT 212	Web Database Development.....3
CIT 151	Networking 1.....3
CIT 169	Java Programming 1.....3
MKTG 111	Marketing Principles.....5
ACCT 269	Foundations of Accounting.....5
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 5</b>		
CIT 147	JavaScript Fundamentals .....	3
CIT 213	Designing an e-Commerce Website.....	3
CIT 269	Java Programming 2 .....	3
COMM 204	Technical Writing.....	3
MKTG 226	Customer Service Principles and Practices.....	4
IMMT 262	Web Publishing Site Design.....	4
<b>TOTAL CREDIT HOURS</b> .....		<b>20</b>

<b>Quarter 6</b>		
CIT 171	Database Administration/SQL .....	4
CIT290/299	CIT Seminar/Practicum (or) CIT 282 Capstone Web/Net.....	5
HUM XXX	HUM 111, 112, 113, 151, 152 or 224 .....	5
COMM 105	Speech (or) .....	
COMM 110	Conference and Group Discussion.....	3
<b>TOTAL CREDIT HOURS</b> .....		<b>17</b>
<b>TOTAL DEGREE CREDIT HOURS</b> .....		<b>107</b>

### Vocational Education Transfer Option with The Ohio State University College of Education

The Computer Information Technology, Web Developer program at Columbus State has completed an articulation agreement with the Technical Education and Training Program of the Ohio State University College of Education. This agreement allows Computer Information Technology, Web Developer students to complete their associate degree at Columbus State, transfer their credits to Ohio State, and complete a baccalaureate degree in Technical Education and Training. Students completing the Ohio State program may be eligible for certification by the Ohio Department of Education to teach in related high school career and technical education programs throughout the State of Ohio. Interested students should contact their Columbus State department chairperson for curriculum requirements and additional details. Please note that course requirements for this transfer option may differ from the standard plan of study published in the catalog.

### CCNA Discovery Certificate

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
CIT 150	Networking for Home and Small Business.....	4
<b>TOTAL CREDIT HOURS</b> .....		<b>4</b>
<b>Quarter 2</b>		
CIT 152	Working at a Small-to-Medium Business.....	4
<b>TOTAL CREDIT HOURS</b> .....		<b>4</b>
<b>Quarter 3</b>		
CIT 154	Introducing Routing and Switching in the Enterprise.....	4
<b>TOTAL CREDIT HOURS</b> .....		<b>4</b>
<b>Quarter 4</b>		
CIT 156	Designing and Supporting Communications Technology .....	4
<b>TOTAL CREDIT HOURS</b> .....		<b>4</b>
<b>Quarter 5</b>		
CIT XXX	Technical Elective.....	4
<b>TOTAL CREDIT HOURS</b> .....		<b>4</b>
<b>Quarter 6</b>		
CIT 158	CISCO Certification Review.....	1
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....		<b>21</b>

#### Technical Electives

CIT 160	CCNA Voice .....	4
CIT 164	CCNA Security .....	4
CIT 166	CCNA Wireless.....	4

### Computer Literacy Certificate

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
CIT 095	Computer File Management .....	1
CIT 100	Computer Literacy .....	1
<b>Quarter 2</b>		
CIT 094	Web Learning Tools .....	1
<b>Quarter 3</b>		
CIT 101	PC Applications I.....	3
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....		<b>6</b>

### Database Specialist Certificate

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
CIT 233	Expert Access .....	3
CIT 175	Systems Analysis 1 .....	4
<b>TOTAL CREDIT HOURS</b> .....		<b>7</b>
<b>Quarter 2</b>		
CIT 171	Database Administration/SQL .....	4
CIT 273	Database Systems.....	3
<b>TOTAL CREDIT HOURS</b> .....		<b>7</b>
<b>Quarter 3</b>		
CIT 173	Database Programming .....	3
CIT 271	Data Mining and Data Warehousing .....	4
<b>TOTAL CREDIT HOURS</b> .....		<b>7</b>
<b>Quarter 4</b>		
CIT 163	Visual Basic 1 .....	4
CIT 200	Certification Review .....	1
<b>TOTAL CREDIT HOURS</b> .....		<b>5</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....		<b>26</b>

### Information Security Certificate

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
CIT 257	Network Security .....	3
CIT 258	Wireless Networking.....	3
<b>TOTAL CREDIT HOURS</b> .....		<b>6</b>
<b>Quarter 2</b>		
CIT 259	Advanced Network Security .....	3
CIT 260	Web Security .....	3
<b>TOTAL CREDIT HOURS</b> .....		<b>6</b>
<b>Quarter 3</b>		
CIT 276	Information Security Audit .....	3
<b>TOTAL CREDIT HOURS</b> .....		<b>3</b>
<b>Quarter 4</b>		
CIT 277	Computer Forensics .....	3
<b>TOTAL CREDIT HOURS</b> .....		<b>3</b>
<b>Quarter 5</b>		
CIT 278	Business Continuity and Disaster Recovery .....	3
<b>TOTAL CREDIT HOURS</b> .....		<b>3</b>
<b>Quarter 6</b>		
CIT 200	Certification Review .....	1
<b>TOTAL CREDIT HOURS</b> .....		<b>1</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....		<b>22</b>

<b>Management Information Systems (MIS) Certificate</b>		
<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
CIT 103	Computer Concepts and Logic .....	3
CIT 130	MIS II: Project Management Fundamentals .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>6</b>
<b>Quarter 2</b>		
CIT 110	Unified Modeling Language .....	3
CIT 175	Systems Analysis 1 .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>7</b>
<b>Quarter 3</b>		
CIT 230	MIS III: Project Management Case Studies .....	3
CIT 275	Systems Analysis II.....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>7</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....</b>	<b>20</b>

<b>Network Administrator Certificate</b>		
<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
CIT 250	Network Communication Systems .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>3</b>
<b>Quarter 2</b>		
CIT 251	Networking 2 .....	3
CIT 253	TCP/IP.....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>6</b>
<b>Quarter 3</b>		
CIT 252	Networking 3 .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>
<b>Quarter 4</b>		
CIT 255	Networking 4 .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>
<b>Quarter 5</b>		
CIT 257	Network Security .....	3
CIT 258	Wireless Networking.....	3
CIT 200	Certification Test Review.....	1
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>7</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....</b>	<b>24</b>

<b>Software Developer Certificate</b>		
<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
CIT 145	HTML .....	3
CIT 179	C# Programming 1 .....	4
CIT 163	Visual Basic 1 .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>11</b>
<b>Quarter 2</b>		
CIT 169	JAVA Programming 1.....	3
CIT 279	C# Programming 2 .....	4
CIT 263	Visual Basic 2 .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>11</b>
<b>Quarter 3</b>		
CIT 269	Java Programming 2 .....	3
CIT 264	Visual Basic 3 .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>7</b>
<b>Quarter 4</b>		
CIT 173	Database Programming.....	3
CIT 270	Advanced Web Programming .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>7</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....</b>	<b>36</b>

<b>System Z Certificate</b>		
<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
CIT 241	Introduction to the Mainframe – z/OS Basics.....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>
<b>Quarter 2</b>		
CIT 242	Introduction to the Mainframe – Large Scale .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>
<b>Quarter 3</b>		
CIT 243	Introduction to the Mainframe – Networking .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>
<b>Quarter 4</b>		
CIT 244	Introduction to the Mainframe – Security.....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....</b>	<b>16</b>

# Construction Management

- Associate of Applied Science Degree
- Building Information Modeling Certificate
- Construction Project Management Assistant Certificate
- Estimating/Bidding Certificate
- Facility Conservation and Energy Management Certificate
- Field Supervision Certificate
- Residential Construction Management Certificate

There are 2+2 and formal articulation agreements in place for many Ohio and U.S. colleges and universities. Contact the program advisor for details. The Construction Management program has been continuously accredited by the American Council for Construction Education (ACCE) since 2000.

The Construction Management program prepares graduates for entry-level employment with all types of construction companies. Inside positions include work assignments in marketing, sales, estimating, and purchasing; field assignments include those in scheduling, cost control, quality assurance, assisting field superintendents, and monitoring safety programs. The local job market for graduates is expected to continue to grow as the Columbus construction industry steadily expands.

In addition to technical and management courses taught at the college, associate degree students have the opportunity to work directly with employers through a summer quarter cooperative job program that fulfills part of the degree program requirements. Students in the program share a course core curriculum with other programs in the Construction Sciences Department. This core provides students with a strong foundation of technical skills as well as a sense of the teamwork needed in the construction field. Students also complete courses in communication skills, technical math, and computer literacy.

Upon completion of the associate degree in Construction Management, the graduate will be able to:

- Analyze and interpret all types of construction drawings and documents.
- Develop conceptual programs and detail in order to calculate quantities of material, labor, and equipment needed for a project.
- Analyze financial data relative to cost budget data of construction work in the field and office.
- Apply data analysis to identify construction problems, specify goals, and execute projects including understanding risk management and safety loss prevention.
- Utilize the critical path and Gantt bar chart methods to organize, track and update construction projects as necessary.
- Identify, understand and apply the elements in construction employee relations and contract law.
- Utilize industry standard software for estimating, planning, scheduling and cost control.
- Understand the processes of construction disputes, claims and project documentation.

- Obtain working knowledge of safety, health and environmental issues.

## Construction Management Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101 Beginning Composition .....	3
CMGT 105 Building Construction Documents .....	3
CMGT 115 Building Construction Methods .....	3
CMGT 121 Building Construction Drawings .....	3
CIVL 120 Basic Construction Materials.....	3
MECH 112 Computer Applications in Manufacturing .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 2</b>	
ARCH 110 Construction Drafting: Manual I.....	2
CMGT 106 Supervision of Field Operations .....	3
CIVL 123 Heavy Construction Drawings .....	3
CMGT 131 Construction Quantity Survey .....	3
ENGL 102 Essay and Research .....	3
ENVR 101 Introduction to Environmental Science, Safety and Health....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 3</b>	
CIVL 125 Heavy Construction Methods .....	3
CMGT 221 Managing a Construction Company.....	3
CMGT 135 Safety and Loss Prevention .....	3
CMGT 141 Building Estimating .....	3
MATH 147* Trigonometry Module.....	1
ENVR 265 OSHA 30-Hr. Construction Safety and Health .....	4
ARCH 112 Construction Drafting: CAD I .....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>19</b>

<b>Quarter 4</b>	
CMGT 241 Planning and Scheduling .....	3
CIVL 243 Heavy Construction Estimating .....	3
MATH 135 Elementary Statistics .....	5
SURV 141 Basic Surveying .....	4
XXXX XXX Technical Elective.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 5</b>	
COMM 105 Speech ( <i>or</i> )	
COMM 110 Conference and Group Discussion.....	3
CMGT 251 Construction Cost Controls .....	3
CMGT 252 Construction Law .....	3
HUM XXX Humanities 111, 112, 113, 151, 152 or 224 .....	5
ECON 200 Principles of Microeconomics ( <i>or</i> )	
BMGT 111 Management.....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>19</b>

<b>Quarter 6</b>	
CMGT 261 Project Management .....	3
CMGT XXX CMGT 231 or 281.....	3
COMM 200 Business Communications ( <i>or</i> )	
COMM 204 Technical Communications.....	3
SSCI XXX Social Science 100, 101, or 105 ( <i>or</i> )	
GEOG 240 World Economic Geography ( <i>or</i> )	
SOC 101 Introduction to Sociology ( <i>or</i> )	
PSY 100 Introduction to Psychology .....	5
XXX XXX Technical Elective.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>109</b>

### Technical Electives must be selected from the following list of courses:

CIVL 121 Heavy Construction Materials .....	3
CMGT 231 Computer Estimating .....	3
CMGT 153 Residential Construction .....	3
CMGT 291 Field Experience .....	4
SURV 241 Route Surveying.....	4
SURV 245 Survey Law .....	3
CMGT 281 Computer Estimating Residential .....	3
CMGT 282 Sustainable Construction .....	3
ENVR 282 Sustainable Building Strategies .....	3

ARCH 282	Sustainable Design Strategies	3
ARCH 283	Sustainable Energy Performance	3
ACCT 106	Financial Accounting	5
BMGT 102	Managing Interpersonal Skills	3
CMGT 299	Special Topics	1-5
GIS 101	GIS in Construction & Engineering	3
ENVR 160	OSHA 10-hour Construction Safety & Health	1
CMGT 170	Introduction to Sustainability	3
CMGT 172	Weatherization and Energy Conservation	3
CMGT 174	Energy Auditing and Commissioning	3
CMGT 176	Alternative Energy Technology	3
CMGT 215	Intro to Building Information Modeling (BIM)	3
CMGT 216	Implementing BIM on Construction Projects	3
ARCH274	Revit Architecture I	

\*Students planning to transfer to a related baccalaureate program at a four-year institution must take MATH 148.

### Building Information Modeling (BIM) Certificate

ARCH 274	REVIT® Architecture I	3
CMGT 215	Intro to Building Information Modeling (BIM)	3
CMGT 216	Implementing BIM on Construction Projects	3
SURV 242	Computer Applications in Surveying	3
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>12</b>

### Construction Project Management Assistant Certificate

This certificate program is designed for office and administrative assistants and office managers in the construction and related industries. The program is available in traditional or distance learning (DL) formats.

#### Quarter 1

CMGT 121	Building Construction Drawings	3
BOA 111	Bookkeeping Basics	4
<b>TOTAL CREDIT HOURS</b>		<b>7</b>

#### Quarter 2

CMGT 105	Building Construction Documents	3
ACCT 107	Managerial Accounting	5
<b>TOTAL CREDIT HOURS</b>		<b>8</b>

#### Quarter 3

BMGT 111	Management	5
CMGT 115	Building Construction Methods	3
<b>TOTAL CREDIT HOURS</b>		<b>8</b>

#### Quarter 4

BMGT 201	Creative Problem Solving Applications in the Workplace	3
BMGT 257	Project Management Principles	3
<b>TOTAL CREDIT HOURS</b>		<b>6</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>29</b>

### Estimating/Bidding Certificate

#### Quarter 1

CMGT 105	Building Construction Documents	3
CMGT 115	Building Construction Methods	3
CMGT 121	Building Construction Drawings	3
MATH 135	Elementary Statistics*	5
MECH 112	Computer Applications in Manufacturing	3
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

#### Quarter 2

CIVL 123	Heavy Construction Drawings	3
CIVL 125	Heavy Construction Methods	3
CMGT 131	Construction Quantity Survey	3
CMGT 153	Residential Construction	3
ENGL 101	Beginning Composition	3
ENVR 265	OSHA 30-Hr Construction Safety and Health	4
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

#### Quarter 3

CMGT 141	Building Estimating	3
CMGT 231	Computer Estimating Buildings	3

CMGT 281	Computer Estimating Residential	3
CIVL 243	Heavy Construction Estimating	3
COMM 105	Speech (or)	
COMM 110	Conference and Group Discussion	3
<b>TOTAL CREDIT HOURS</b>		<b>15</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>51</b>
* Prerequisite for MATH 135 is MATH 103		

### Facility Conservation and Energy Management Certificate

#### Certificate

CMGT 170	Introduction to Sustainability	3
CMGT 172	Weatherization and Energy Conservation	3
CMGT 174	Energy Auditing and Commissioning	3
CMGT 176	Alternative Energy Technology	3
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>12</b>

### Field Supervision Certificate

#### Quarter 1

CMGT 105	Building Construction Documents	3
CMGT 115	Building Construction Methods	3
CMGT 121	Building Construction Drawings	3
MATH 135	Elementary Statistics*	5
MECH 112	Computer Applications in Manufacturing	3
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

#### Quarter 2

CMGT 106	Supervision of Field Operations	3
CIVL 123	Heavy Construction Drawings	3
CIVL 125	Heavy Construction Methods	3
CMGT 131	Construction Quantity Survey	3
ENGL 101	Beginning Composition	3
ENVR 265	OSHA 30-Hr Construction Safety and Health	4
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

#### Quarter 3

CMGT 135	Safety and Loss Prevention	3
CMGT 241	Planning and Scheduling	3
CMGT 252	Construction Law	3
COMM 105	Speech (or)	
COMM 110	Conference & Group Discussion	3
SURV 141	Basic Surveying	4
<b>TOTAL CREDIT HOURS</b>		<b>16</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>52</b>
* Prerequisite for MATH 135 is MATH 103		

### Residential Construction Management Certificate

#### Quarter 1

CMGT 105	Building Construction Documents	3
CMGT 121	Building Construction Drawings	3
CMGT 153	Residential Construction	3
MATH 135	Elementary Statistics*	5
MECH 112	Computer Applications in Manufacturing	3
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

#### Quarter 2

CMGT 106	Supervision of Field Operations	3
CMGT 131	Construction Quantity Survey	3
CMGT 281	Computer Estimating Residential	3
ENGL 101	Beginning Composition	3
ENVR 265	OSHA 30-Hr Construction Safety and Health	4
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

#### Quarter 3

CMGT 135	Safety and Loss Prevention	3
CMGT 241	Planning and Scheduling	3
CMGT 252	Construction Law	3
COMM 105	Speech (or)	
COMM 110	Conference & Group Discussion	3
SURV 141	Basic Surveying	4
<b>TOTAL CREDIT HOURS</b>		<b>16</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>49</b>
* Prerequisite for MATH 135 is MATH 103		

## Transfer Options

The Construction Management Program at Columbus State has articulation agreements with many four-year institutions, including the Technical Education and Training Program of the Ohio State University College of Education. This agreement allows Construction Management students to complete their associate degree at Columbus State, transfer their credits to Ohio State, and complete a baccalaureate degree in Technical Education and Training. Students completing the Ohio State program may be eligible for certification by the Ohio Department of Education to teach in related high school career and technical education programs throughout the State of Ohio.

2 + 2 Program: A.A.S. in Construction Management to a B.S. in Agriculture in Construction Systems Management from The Ohio State University.

2 + 2 Program: A.A.S. in Construction Management to a B.S. in Applied Management from Franklin University.

2 + 2 program: A.A.S. in Construction Management to a B.S. in Construction Management from Northern Kentucky University.

Additional formal transfer agreement options:

Baccalaureate degree in Business Administration from Capital University, Otterbein University, Mount Union College, Mount Vernon Nazarene, Franklin University, and Ohio Wesleyan University.

Baccalaureate degree in Construction Management from Bowling Green State University and more than 96 other colleges and universities around North America.

Baccalaureate degree in Construction Engineering and Construction Management from the University of Cincinnati and 96 other colleges and universities around North America.

Interested students should contact the Construction Management Program coordinators for curriculum requirements and additional details. Please note that course requirements for this option may differ from the standard plan of study published in the catalog.

# Dental Hygiene

## Dental Hygiene Associate Degree

The Dental Hygiene program at Columbus State Community College is designed to prepare graduates for successful entry into the oral health profession. The dental hygienist is a member of the dental health team and provides a variety of quality oral hygiene services including health education, prevention, and treatment of oral disease to a wide variety of patients. The Columbus State dental hygiene program emphasizes the didactic and clinical skills required to meet ever-changing oral health care needs. Admission to the program is both limited and selective. Graduates of the program will be eligible to sit for the state, regional, and national examinations for licensure. The Ohio State Dental Board requires a full FBI background check for initial application for licensure.

This program is fully accredited by the American Dental Association's Commission on Dental Accreditation. The commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at (312) 440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611.

Upon completion of the associate of applied science degree in Dental Hygiene, the graduate will:

- Possess the skills and knowledge to manage the ethical and professional issues of dental hygiene practice.
- Be able to acquire and analyze information in a scientific and effective manner using critical thinking skills.
- Be able to demonstrate written comprehension, critical thinking, and skills for the application of assessment, planning, implementation, and evaluation related to the provision of optimal preventive, therapeutic, and educational dental hygiene services to individuals of diverse populations.
- Be able to demonstrate knowledge of safe and effective patient care by adherence to proper infection control, HIPAA requirements, and emergency protocol during the provision of client care.
- Be able to initiate and assume responsibility for general health promotion and oral disease prevention through participation in community activities using appropriate interpersonal communication and educational strategies.
- Be able to apply self-assessment skills in preparation for life-long learning.

**Degree Completion Requirements:** All general education courses must be complete with a grade of "C" or higher.

### Specific Program Admissions Information

Listed below are additional requirements for admission to the Dental Hygiene program. The annual application deadline is March 30. The last mandatory information session is held by the end of February each year. Students are advised to attend an information session before the end of February. **Applications to the Dental Hygiene program are provided only at the information session.**

*Acceptance is conditional on submission and clearance of student background history by the Columbus State Community College*



Public Safety Department, and drug screening clearance by the Columbus State Community College Health Records Office.

Students may obtain additional information by visiting the Dental Hygiene website at [www.csc.edu/dentalhygiene](http://www.csc.edu/dentalhygiene) or by contacting Leslie Washington at (614) 287-3655 or at [lwashi01@csc.edu](mailto:lwashi01@csc.edu).

### Admissions Requirements

- Attend one mandatory Dental Hygiene Information Session within 12 months before applying to the program to obtain current admission information and application.
- Achievement of a minimum overall GPA of 2.95 on a 4-point scale based upon the completion of the last 12 credit hours of courses at the college most recently attended or Columbus State Community College.
- Placement into MATH 148 or completion of MATH 104
- Completion of the Health Occupation Basic Entrance Test (HOBET)
- Placement into ENGL 101 or ENGL 111 or completion of ENGL 100 or ESL 100
- Placement into “No Reading Required” or completion of DEV 044. BIO 261 Human Anatomy with grade “C” or better
- BIO 262 Human Physiology with grade “C” or better
- Mandatory observation (20 hours) of a dental hygienist working in a dental office. Detailed specific information is given during the information sessions.
- Students applying to the Dental Hygiene program must submit official high school and college transcripts to Columbus State Community College, Records and Registration Office, by March 1<sup>st</sup> of the year of application so that transcripts may be evaluated and posted.
- International students or students who have international transcripts must submit official transcripts to an official transcript evaluation agency by November 30. Records and Registration may have other requirements for international students, thus international students should contact them before November 30.
- ALL admission criteria MUST be turned in by March 30 of the application year.

### Statement Regarding Infectious Diseases

Students in any of the Allied Health Professions Programs, including Dental Hygiene, perform their clinical work on real people. Columbus State does not discriminate against students, faculty, or patients in any way, or based on color, creed, national origin, gender, disability or sexual preference. The patient populations with whom we work come from all walks of life, and students may therefore be exposed to many types of communicable diseases. These are not limited to but may include Hepatitis (A, B, C or D), HIV/AIDS, herpes, tuberculosis, measles, mumps, rubella, etc.

All students are required to have appropriate immunizations after being admitted to the program (information is given to all admitted students). Additionally, although all precautions are taken to minimize exposure and risk, there is always a slight possibility that precautions may fail or that a student may accidentally expose him/herself. All students entering the Dental Hygiene program must be aware of this slight, but real, potential. Students are required to maintain personal health insurance while enrolled in the seven-quarter program.

## Dental Hygiene Program

COURSE	CR
<b>Quarter 1</b>	
PSY 135	Psychology of Adjustment .....3
CHEM 113	Elements of Organic and Biochemistry .....5
DHY 101	Preventive Concepts I .....1
DHY 110	Introduction to Dental Hygiene .....4
DHY 140	Head and Neck Anatomy and Tooth Morphology .....3
DHY 145	Head and Neck Anatomy and Tooth Morphology Lab .....1
DHY 250	Oral Histology.....1
<b>TOTAL CREDIT HOURS</b>	<b>18</b>
<b>Quarter 2</b>	
BIO 263	Human Pathophysiology. ....5
DHY 102	Preventive Concepts II.....1
DHY 120	Pre-Clinic .....4
DHY 130	Dental Radiography .....3
DHY 135	Dental Radiography Lab .....1
DHY 260	Periodontology.....3
<b>TOTAL CREDIT HOURS</b>	<b>17</b>
<b>Quarter 3</b>	
ENGL 101	Beginning Composition .....3
BIO 215	Microbiology.....5
DHY 103	Techniques I ..... 1.5
DHY 121	Clinic I .....4
DHY 214	Treatment Planning .....0.5
DHY 282	Biostatistics and Research for Dental Hygiene ..... 1
DHY 283	Community Dental Health I.....1
<b>TOTAL CREDIT HOURS</b>	<b>16</b>
<b>Quarter 4</b>	
ENGL 102	Essay and Research.....3
HOSP 153	Nutrition For a Healthy Lifestyle.....5
DHY 204	Techniques II .....1.5
DHY 220	Clinic II .....4
DHY 240	Dental Materials.....1
DHY 245	Dental Materials Lab .....1
DHY 251	Oral Pathology .....3
<b>TOTAL CREDIT HOURS</b>	<b>18.5</b>
<b>Quarter 5</b>	
HUM XXX	Humanities 111,112,113, 151,152, or 224 .....5
DHY 205	Techniques III .....2
DHY 221	Clinic III .....4
DHY 270	Pharmacology .....2
DHY 290	Pain Control Management .....1.5
DHY 295	Pain Control Management Lab .....1
<b>TOTAL CREDIT HOURS</b>	<b>15.5</b>
<b>Quarter 6</b>	
COMM 105	Speech .....3
COMM 200	Business Communications .....3
DHY 206	Techniques IV .....1
DHY 222	Clinic IV .....4
DHY 275	Dental Hygiene in Review Lab.....0.5
DHY 284	Community Dental Health II .....2
<b>TOTAL CREDIT HOURS</b>	<b>13.5</b>
<b>Quarter 7</b>	
SSCI XXX	Social Science 100, 101, 102, 105 or GEOG 240.....5
DHY 207	Techniques V .....1
DHY 215	Case Studies.....0.5
DHY 223	Clinic V .....4
DHY 285	Community Dental Health III.....1
<b>TOTAL CREDIT HOURS</b>	<b>11.5</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>110</b>

# Dental Laboratory Technology/ Small Business Management

## Dental Laboratory Technology/Small Business Management (Associate of Technical Studies Degree)

### Dental Laboratory Technology Certificate

Dental laboratory technicians are skilled artisans and small business managers. They create the appliances that restore or replace oral tissues or structures. They fabricate complete dentures, removable partial dentures, crowns, and bridges and may become owners and/or managers of a dental laboratory facility.

The Dental Laboratory Technology four-quarter (one year) Certificate program provides students with experience in fabricating a wide variety of dental appliances using state-of-the-art materials and equipment. The program develops skill, not only in proper construction, but also in attractive appearance and accuracy of fit for patient comfort. Because workers in the dental lab area may be exposed to infectious materials and communicable diseases, the program emphasizes safety and infection control. The Dental Laboratory Technology/Small Business Management seven quarter Associate of Technical Studies Degree program provides knowledge and skills of small business management that will enable a graduate to own and/or manage a dental laboratory, as well as providing all the competencies of the certificate program.

Prospective students are encouraged to attend one of the Dental Laboratory Information Sessions, which are held on a quarterly basis. Please visit [www.csc.edu/dentlab](http://www.csc.edu/dentlab) for more information about the sessions.

Upon completion of the Certificate in Dental Laboratory Technology, the graduate will be able to:

- Design and fabricate complete dentures, removable partial dentures, crowns and bridges to a clinically acceptable degree.
- Apply learned theories to problem cases involving all dental laboratory procedures.
- Identify acceptable dental impressions submitted from clients.
- Read and accurately interpret dental laboratory prescriptions.
- Select and safely use the proper materials and equipment for a given case.
- Recognize specific landmarks of the oral cavity associated with a given case.
- Install, adjust, and store equipment and supplies.
- Demonstrate the attitude, abilities, and professionalism essential for the welfare of the patient.
- Practice safety and health regulations as established by the state and federal government.

In addition to the Certificate program competencies, the graduate of the Dental Laboratory Technology/Small Business Management

A.T.S. program will be able to:

- Identify the fundamentals in planning and executing the start up of a new small business.
- Describe the necessary competence in managing a small business enterprise, including effective operation of an established business, strategic planning, market analysis, pricing, inventory control, and credit collection.
- Demonstrate knowledge of basic accounting principles used to operate a small business.
- Describe marketing principles as they apply to small business.

### Specific Program Admissions Information

Listed below are additional requirements for admission to the Dental Laboratory Technology Certificate and A.T.S. programs:

- High school graduate or GED equivalency
- Contact the Dental Laboratory Technology personnel for an information packet or to schedule an interview. Call Cathi Brownfield at (614) 287-2547 ([cbrownfi@csc.edu](mailto:cbrownfi@csc.edu)) or Leslie Washington at (614) 287-3655 ([lwashi01@csc.edu](mailto:lwashi01@csc.edu)).

## Dental Laboratory Technology/Small Business Management (Associate of Technical Studies)

### (\*\*Plan A\*\*)

COURSE	CR
<b>Quarter 1</b>	
DENT 101    Materials I .....	3
DENT 111    Anatomy .....	3
DENT 121    Complete Dentures I .....	3
DENT 132    Occlusion .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>12</b>

<b>Quarter 2</b>	
ENGL 101    Beginning Composition .....	3
DENT 142    Removable Partial Dentures I .....	3
DENT 153    Fixed Partial Dentures I .....	3
DENT 275    Ceramics I .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>13</b>

<b>Quarter 3</b>	
ENGL 102    Essay and Research .....	3
DENT 285    Orthodontics .....	2
DENT 296    Applied Laboratory I .....	3
DENT 123    Complete Dentures III <i>(or)</i>	
DENT 244    Removable Partial Dentures III <i>(or)</i>	
DENT 256    Fixed Partial Dentures IV <i>(or)</i>	
DENT 276    Ceramics II .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>11</b>

<b>Quarter 4</b>	
DENT 297    Applied Laboratory II .....	7
COMM 200    Business Communication .....	3
SSCI XXX    Social Sciences 101, 102, GEOG 240 or SOC 202 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>

<b>Quarter 5</b>	
COMM 105    Speech .....	3
HUM XXX    Humanities, 111, 112, 113, 151, 152, or 224 .....	5
MATH 102    Beginning Algebra I .....	4
CIT 101    PC Applications I .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>

<b>Quarter 6</b>	
BMGT 101    Principles of Business .....	5
BMGT 231    Entrepreneurship I .....	4
ACCT 106    Financial Accounting .....	5
CIT 102    PC Applications II .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 7</b>		
BMGT 232	Entrepreneurship II .....	4
BMGT 102	Managing Interpersonal Skills I.....	3
ECON 200	Microeconomics.....	5
MKTG 111	Marketing Principles.....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>17</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....</b>	<b>100</b>

**Dental Laboratory Technology/Small Business Management (Associate of Technical Studies) (\*\*Plan B\*\*)**

<b>COURSE</b>			<b>CR</b>
<b>Quarter 1</b>			
DENT 111	Anatomy .....	3	
ENGL 101	Beginning Composition.....	3	
MATH 102	Beginning Algebra 1 .....	4	
CIT 101	PC Applications I.....	3	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>13</b>	

<b>Quarter 2</b>			
DENT 153	Fixed Partial Dentures I .....	3	
ENGL 102	Essay and Research.....	3	
SSCI XXX	Social Science 101, 102, GEOG 240 or SOC 202 .....	5	
CIT 102	PC Applications II.....	3	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>14</b>	

<b>Quarter 3</b>			
DENT 285	Orthodontics .....	2	
COMM 200	Business Communication.....	3	
COMM 105	Speech.....	3	
HUM XXX	Humanities, 111, 112, 113, 151, 152, or 224 .....	5	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>13</b>	

<b>Quarter 4</b>			
BMGT 101	Principles of Business.....	5	
BMGT 231	Entrepreneurship I.....	4	
ACCT 106	Financial Accounting.....	5	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>14</b>	

<b>Quarter 5</b>			
DENT 101	Materials I .....	3	
DENT 121	Complete Dentures I .....	3	
DENT 132	Occlusion .....	3	
BMGT 232	Entrepreneurship II .....	4	
ECON 200	Principles of Microeconomics .....	5	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>	

<b>Quarter 6</b>			
DENT 142	Removable Partial Dentures I .....	3	
DENT 275	Ceramics I .....	4	
MKTG 111	Marketing Principles.....	5	
BMGT 102	Managing Interpersonal Skills I.....	3	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>15</b>	

<b>Quarter 7</b>			
DENT 296	Applied Laboratory I .....	3	
DENT 123	Complete Dentures III ( <i>or</i> ) .....		
DENT 244	Removable Partial Dentures III ( <i>or</i> ) .....		
DENT 256	Fixed Partial Dentures IV ( <i>or</i> ) .....		
DENT 276	Ceramics II .....	3	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>6</b>	

<b>Quarter 8</b>			
DENT 297	Applied Laboratory II .....	7	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>7</b>	
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....</b>	<b>100</b>	

**Dental Laboratory Technology Certificate**

<b>COURSE</b>			<b>CR</b>
<b>Quarter 1</b>			
DENT 101	Materials I .....	3	
DENT 111	Anatomy .....	3	
DENT 121	Complete Dentures I .....	3	
DENT 132	Occlusion .....	3	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>12</b>	

<b>Quarter 2</b>			
ENGL 101	Beginning Composition .....	3	
DENT 142	Removable Partial Dentures I .....	3	
DENT 153	Fixed Partial Dentures I .....	3	
DENT 275	Ceramics I .....	4	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>13</b>	

<b>Quarter 3</b>			
ENGL 102	Essay and Research.....	3	
DENT 285	Orthodontics .....	2	
DENT 296	Applied Laboratory I .....	3	
DENT 123	Complete Dentures III ( <i>or</i> ) .....		
DENT 244	Removable Partial Dentures III ( <i>or</i> ) .....		
DENT 256	Fixed Partial Dentures IV ( <i>or</i> ) .....		
DENT 276	Ceramics II .....	3	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>11</b>	

<b>Quarter 4</b>			
DENT 297	Applied Laboratory II .....	7	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>7</b>	
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....</b>	<b>43</b>	

All Dental Lab classes are held in the mornings from 8:00 a.m. until 1:00 p.m. New classes start each autumn quarter.

# Digital Design and Graphics

## Digital Design and Graphics Associate Degree

### Desktop Publishing Certificate

### Digital Design Certificate

### Digital Media Certificate

### Photoshop for Illustration and Design Certificate

Digital Design and Graphics incorporates all of the processes and industries that create, develop, produce or disseminate ideas, concepts, and information utilizing words or images. Digital Design and Graphics is the interaction of advertising, graphic design, publishing, package design, marketing, interactive media and photography.

This program will prepare the student for various positions in the expanding field of visual communications or for transfer to a four-year institution. Students will prepare a portfolio that will show the work they created in this program, develop a strong visual and verbal resume, and practice the skills needed to effectively present their portfolio to prospective employers.

Upon completion of the associate degree in Digital Design and Graphics, the graduate will be able to:

- Understand the Digital Design and Graphics business and be able to interact with clients, marketing, copy writers, Web designers, photographers and printing companies.
- Utilize the most widely used industry software programs: Adobe Photoshop, Adobe Illustrator, Adobe InDesign, Corel Painter X and be introduced to Fireworks, Dreamweaver and Flash.
- Understand the management of color for print media, photography, and interactive media.
- Understand digital photography and how it works with other creative areas.
- Understand how an advertising agency works on projects for clients.
- Work in a creative environment as an individual and as a team member.
- Effectively prepare and present a creative portfolio.
- Understand the importance of good verbal and written communications.

Certificates in Desktop Publishing and Digital Design combine design and typography basics with focused instruction on industry-standard page layout, image manipulation, and computer illustration software. These certificates are designed for working professionals with significant experience in digital design and graphics.

The Digital Media Certificate is a multi-disciplinary certificate combining the fields of branding, design and graphics, digital audio/video production, e-Commerce, interactive media, photography, and marketing communications. This certificate prepares students for employment in the advertising industry.

## Software/Hardware Requirements

Students taking courses in this curriculum may need to own or have access to hardware or software to pursue this degree. This is particularly important for students who are enrolled in distance learning-based sections of a particular course. Check with the program advisor to discuss specific course needs and options.

## Digital Design and Graphics Associate Degree

### COURSE CR

Quarter 1	
GRPH 110	Survey of Digital Design .....5
GRPH 112	Introduction to Computer Design .....4
GRPH 113	Fundamentals of Storyboarding .....4
ENGL 101	Beginning Composition .....3
<b>TOTAL CREDIT HOURS .....16</b>	

Quarter 2	
FOTO 114	Digital Photography .....4
GRPH 123	Electronic Publishing with InDesign II.....4
GRPH 251	Photoshop and Design I .....5
ENGL 102	Essay and Research .....3
MATH 104	Intermediate Algebra.....5
<b>TOTAL CREDIT HOURS... ..21</b>	

Quarter 3	
GRPH 131	Advertising Design I .....5
GRPH 115	Fundamentals of Illustration .....4
COMM 105	Speech .....3
MKTG 102	Branding .....3
GRPH 255	Digital Painting .....4
<b>TOTAL CREDIT HOURS .....19</b>	

Quarter 4	
FOTO XXX	Digital Photography Technical Elective .....4
GRPH 292	Business of Design.....4
GRPH 150	Packaging Design I .....5
IMMT 112	Fundamentals of Interactive Design .....3
<b>TOTAL CREDIT HOURS... ..16</b>	

Quarter 5	
IMMT 262	Web Publishing: Site Design.....4
BMGT 257	Project Management .....3
COMM 200	Business Communications .....3
SSCI 100	Globalization and the Social Sciences .....5
<b>TOTAL CREDIT HOURS .....15</b>	

Quarter 6	
GRPH 291	Portfolio Development.....4
GRPH 260	Digital Design and Graphics Practicum <i>and</i> .....4
GRPH 261	Digital Design and Graphics Seminar ( <i>or</i> ) .....1
GRPH XXX	Technical Elective .....4-5
HUM XXX	Humanities 111,112,113,151,152 or 224 .....5
GRPH 284	Ad Agency I.....4
<b>TOTAL CREDIT HOURS .....17-18</b>	
<b>TOTAL DEGREE CREDIT HOURS .....104-105</b>	

Technical Electives must be selected from the following list of courses:

FOTO 111	Black and White Photography .....4
FOTO 150	Advanced Black and White Photography .....4
FOTO 160	Color Photography .....4
FOTO 178	Photo Lab .....1
FOTO 214	Advanced Digital Photography .....3
FOTO 220	Studio Lighting .....4
FOTO 265	Photojournalism .....3
GRPH 242	Media Color Management .....5
GRPH 243	Vector Illustration.....5
GRPH 252	Digital Imaging II .....3
GRPH 273	Advertising Design II .....5
GRPH 297/298/299	Special Topics in Digital Design and Graphics.....1-3
IMMT 123	Video Basics.....3
IMMT 216	Media Graphics and Optimization .....4

IMMT 250	File Transfer Using Adobe .....	2
MKTG 223	Sales Principles & Practices.....	4
MKTG 226	Customer Service Principles & Practices .....	4

Students should request a program plan of study from their faculty advisor.

## Desktop Publishing Certificate

COURSE	CR	
<b>Quarter 1</b>		
GRPH 123	Electronic Publishing with InDesign II.....	4
GRPH 112	Introduction to Computer Design .....	4
<b>TOTAL CREDIT HOURS</b>	.....	<b>8</b>

<b>Quarter 2</b>		
GRPH 131	Advertising Design I .....	5
GRPH 251	Photoshop and Design I .....	5
<b>TOTAL CREDIT HOURS</b>	.....	<b>10</b>

<b>Quarter 3</b>		
GRPH 282	Digital Publishing II.....	5
GRPH 291	Portfolio Development.....	4
<b>TOTAL CREDIT HOURS</b>	.....	<b>9</b>
<b>CERTIFICATE TOTAL</b> .....		<b>27</b>

## Digital Design Certificate

COURSE	CR	
<b>Quarter 1</b>		
GRPH 112	Introduction to Computer Design .....	4
GRPH 123	Electronic Publishing with InDesign II.....	4
<b>TOTAL CREDIT HOURS</b>	.....	<b>8</b>

<b>Quarter 2</b>		
GRPH 131	Advertising Design I .....	5
GRPH 251	Photoshop and Design I .....	5
<b>TOTAL CREDIT HOURS</b>	.....	<b>10</b>

<b>Quarter 3</b>		
GRPH 284	Ad Agency I.....	4
GRPH 291	Portfolio Development.....	4
<b>TOTAL CREDIT HOURS</b>	.....	<b>8</b>
<b>CERTIFICATE TOTAL</b> .....		<b>26</b>

## Digital Media Certificate

COURSE	CR	
<b>Quarter 1</b>		
GRPH 112	Introduction to Computer Design .....	4
IMMT 112	Fundamentals of Interactive Design .....	3
IMMT 150	Videography and Editing .....	4
<b>TOTAL CREDIT HOURS</b>	.....	<b>11</b>

<b>Quarter 2</b>		
IMMT 216	Media Graphics and Optimization .....	4
FOTO 114	Digital Photography .....	4
<b>TOTAL CREDIT HOURS</b>	.....	<b>8</b>

<b>Quarter 3</b>		
GRPH 251	Photoshop and Design I .....	5
IMMT 262	Web Publishing Site Design.....	4
IMMT 280	Rich Media Communications .....	4
<b>TOTAL CREDIT HOURS</b>	.....	<b>13</b>
<b>CERTIFICATE TOTAL</b> .....		<b>32</b>

## Photoshop for Illustration and Design Certificate

COURSE	CR	
<b>Quarter 1</b>		
GRPH 112	Introduction to Computer Design .....	4
GRPH 115	Fundamentals of Illustration .....	4
<b>TOTAL CREDIT HOURS</b>	.....	<b>8</b>

<b>Quarter 2</b>		
GRPH 243	Vector Illustration.....	5
GRPH 251	Photoshop and Design I .....	5
<b>TOTAL CREDIT HOURS</b>	.....	<b>10</b>

<b>Quarter 3</b>		
GRPH 252	Digital Imaging II .....	3
GRPH 255	Digital Painting .....	4
<b>TOTAL CREDIT HOURS</b>	.....	<b>7</b>

<b>Quarter 4</b>		
GRPH 254	Advanced Illustrator.....	4
GRPH 262	Photoshop WOW!.....	4
<b>TOTAL CREDIT HOURS</b>	.....	<b>8</b>
<b>CERTIFICATE TOTAL</b> .....		<b>33</b>

# Digital Photography (FOTO)

## Digital Photography Associate Degree Photography Certificate Photoshop for Photographers Certificate

The Digital Photography Program has been created to satisfy the growing need for qualified digital photographers by providing graduates the benefits of a comprehensive college education while building a strong foundation in digital design, marketing, communications and web design. This multi-disciplinary approach reflects the needs of the professional digital photography industry. This digital evolution has lowered the barriers to professional entry, forcing existing film photographers to switch to digital while allowing many new people in related fields to pursue the craft of digital photography.

Graduates of this program will be prepared for careers in a variety of digital photography, digital services and imaging-related fields, be able to pursue self-employment options, or be prepared to continue their education at a four-year institution. The majority of the digital photography curriculum will revolve around digital capture, digital workflow, and digital image management. Students will develop a balance of technical and aesthetic skills that relate to digital photography, equipment, and related software that is complemented by coursework in digital design, Web site design, interactive video/audio, and marketing/branding on the Web.

Upon completion of the associate degree in Digital Photography the graduate will be able to:

- Demonstrate an understanding of the principles associated with the craft, scholarly theory, and profession of digital photography.
- Recognize, evaluate, combine and utilize all appropriate skills and techniques of digital photography in relation to digital capture, digital equipment imaging needs, and digital

- workflow management.
- Learn to balance complex technical and aesthetic concerns when fulfilling digital photography assignments from conception to completion.
- Develop strategic, business and implementation plans for digital photography projects including budgeting, software and hardware procurement and use, staffing, training, and legal issues.
- Describe how digital photography is utilized in local and regional career applications and processes.
- Demonstrate appropriate digital image-editing software and computer skills that directly support digital photography editing/enhancement and post-production workflow techniques.
- Demonstrate aesthetic and technical problem-solving skills to determine the best visual solutions for different assignments and situations.
- Think critically.
- Communicate effectively.
- Model professional and ethical behavior.
- Recognize the value of human diversity.
- Demonstrate self-management, life-management and interpersonal skills.

Students will need to own class-specific equipment to pursue this degree. For example, FOTO 111 and 150 require a student-provided, film-based SLR camera. A Digital SLR (DSLR) with a minimum of 8 meg. capture will be needed to enter any 200 level course that is focused on digital capture. Medium and large format film cameras will be provided for in-class projects and use. Check with the photography advisor to discuss specific course needs and options.

The Photography Certificate is designed to prepare students for employment as photography assistants in the photography industry. This program focuses on the development of skills and competencies in the use of traditional and digital cameras, advanced black and white and color photography, and studio photography. A course on how to develop and manage a successful photography business is also included.

### Software/Hardware Requirements

Students taking courses in this curriculum may need to own or have access to hardware or software to pursue this degree. This is particularly important for students who are enrolled in distance learning-based sections of a particular course. Check with the program advisor to discuss specific course needs and options.

## Digital Photography Associate Degree

(F)=Film-based course

COURSE	CR
<b>Quarter 1</b>	
FOTO 111 Black and White Photography (F)	4
FOTO 114 Digital Photography	4
GRPH 112 Introduction to Computer Design	4
ENGL 101 Beginning Composition	3
MATH 104 Intermediate Algebra	5
<b>TOTAL CREDIT HOURS</b>	<b>20</b>

<b>Quarter 2</b>	
FOTO 112 Photoshop for Photographers I	4
FOTO 115 Digital Photography and Design	3
FOTO 150 Advanced Black and White Photography (F)	4

ENGL 102 Essay and Research	3
GRPH XXX Elective	4
<b>TOTAL CREDIT HOURS</b>	<b>18</b>

### Quarter 3

FOTO 160 Color Photography	3
FOTO 214 Advanced Digital Photography	5
IMMT 112 Fundamentals of Interactive Design	3
MKTG 102 Branding	3
FOTO XXX Technical Elective	3
<b>TOTAL CREDIT HOURS</b>	<b>17</b>

### Quarter 4

FOTO 220 Studio Lighting	4
FOTO 250 View Camera Photography (F)	4
IMMT 262 Web Publishing Site Design	4
COMM 200 Business Communications	3
COMM 105 Speech	3
<b>TOTAL CREDIT HOURS</b>	<b>18</b>

### Quarter 5

FOTO 260 Studio Portraiture	4
FOTO 261 Environmental Portraiture	4
FOTO 297 FOTO Field Studies	1
SSCI 100 Globalization and the Social Sciences	5
FOTO XXX Technical Elective	3
<b>TOTAL CREDIT HOURS</b>	<b>17</b>

### Quarter 6

FOTO 290 Business of Photography	4
FOTO 292 Portfolio Development	3
FOTO 294/295 Digital Photography Practicum/Seminar (or)	
FOTO XXX Technical Elective	3-5
HUM XXX Humanities 111,112,113,151,152 or 224	5
BMGT 257 Project Management	3
<b>TOTAL CREDIT HOURS</b>	<b>18-20</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>108-110</b>

Technical Electives must be selected from the following list of courses:

GRPH 131 Advertising and Design I	5
GRPH 242 Media Color Management	5
GRPH 243 Vector Illustration	5
GRPH 251 Photoshop and Design I	5
GRPH 255 Digital Painting	4
FOTO 113 Photoshop for Photographers II	5
FOTO 116 Artistic Photography	3
FOTO 117 Digital Panoramic Photography	3
FOTO 118 Real Estate Photography	3
FOTO 119 Digital Infrared Photography	3
FOTO 120 PainterX for Photographers	4
FOTO 121 Lightroom for Photography	3
FOTO 122 Landscape Photography	3
FOTO 123 Aperture for Photography	3
FOTO 125 Night Photography	3
FOTO 130 Macro and Close-Up Photography	3
FOTO 178 Photo Lab	1
FOTO 232 Industrial Photography	3
FOTO 265 Photojournalism	3
FOTO 266 Photojournalism II	3
FOTO 279 Photoshop for Retouching	4
FOTO 280 Photoshop Layers	4
FOTO 294 Digital Photography Practicum	4
FOTO 295 Digital Photography Seminar	1
FOTO 299 Special Topics in Photography	1-5

Students should request a program plan of study from their faculty advisor.

## Photography Certificate

COURSE	CR
<b>Quarter 1</b>	
FOTO 111 Black and White Photography	4
FOTO 112 Photoshop for Photographers	4
FOTO 114 Digital Photography	4
<b>TOTAL CREDIT HOURS</b>	<b>12</b>

### Quarter 2

FOTO 160	Color Photography ( <i>or</i> )	
FOTO 115	Digital Photography and Design	3
FOTO 214	Advanced Digital Photography	5
FOTO XXX	FOTO Technical Elective	3-4
<b>TOTAL CREDIT HOURS</b>		<b>11-12</b>

### Quarter 3

FOTO 220	Studio Lighting ( <i>or</i> )	
FOTO 260	Studio Portraiture ( <i>or</i> )	
FOTO 261	Environmental Portraiture	4
FOTO 290	Business of Photography	4
FOTO XXX	FOTO Technical Elective	3-4
<b>TOTAL CREDIT HOURS</b>		<b>11-12</b>
<b>CERTIFICATE TOTAL</b>		<b>34-36</b>

#### Technical Electives must be selected from the following list of courses:

FOTO 117	Digital Panoramic Photography	3
FOTO 119	Digital Infrared Photography	3
FOTO 125	Night Photography	3
FOTO 130	Macro and Close-Up Photography	3
FOTO 265	Photojournalism	3
FOTO 297	FOTO Field Studies	1-5

## Photoshop for Photographers Certificate

COURSE CR

### Quarter 1

FOTO 112	Photoshop for Photographers	4
<b>TOTAL CREDIT HOURS</b>		<b>4</b>

### Quarter 2

FOTO 113	Photoshop for Photographers II	5
<b>TOTAL CREDIT HOURS</b>		<b>5</b>

### Quarter 3

FOTO 279	Photoshop for Retouching	4
FOTO 280	Photoshop Layers	4
<b>TOTAL CREDIT HOURS</b>		<b>8</b>
<b>CERTIFICATE TOTAL</b>		<b>17</b>

# Early Childhood Development

## Early Childhood Development Associate Degree Child Development Associate (CDA) Credential Preparation

### Preschool Education Certificate

Family needs and increased focus on appropriate early education for all young children continues to drive the demand for qualified professionals in early childhood education. Early childhood educators are responsible for planning daily routines and curriculum, utilizing community resources to enrich programs and support the needs of children and their families. The ECD graduate is employed as a pre-kindergarten teacher, Head Start teacher, preschool/childcare administrator, nanny, infant/toddler caregiver, or family childcare provider.

The Early Childhood Development (ECD) program is approved by the Ohio Department of Education to offer the Pre-Kindergarten Associate Teaching license. This license qualifies holders for pre-kindergarten positions in a variety of early childhood settings, including Head Start, public school preschool, inclusive settings for children with special needs, as well as part-day and full-day child care programs. The Early Childhood course of study exceeds the requirements for staff as outlined in the revised Ohio Child Day Care Licensing Rules.

Upon completion of the associate degree in Early Childhood Development, the graduate will be able to:

- Demonstrate knowledge of theories of human growth, development, and learning related to children, birth to age eight.
- Plan appropriate learning experiences for individuals, as well as groups of young children, in inclusive settings.
- Demonstrate a competent, respectful, nurturing teaching style to meet children's needs.
- Develop appropriate educational practices for young children that foster the growth of skills in problem solving, decision-making, critical thinking, communication, and emerging literacy.
- Use appropriate teaching strategies to address individual differences in developmental levels, culture, and learning styles.
- Recognize and respect unique characteristics of families and demonstrate appropriate strategies to support and address family needs.
- Demonstrate a variety of strategies to evaluate children's growth and development in cooperation with parents and related professionals.
- Design a physically safe environment to facilitate children's independence and competence through constructive experiences.
- Demonstrate knowledge of content areas and familiarity with Ohio Department of Education pre-kindergarten standards.
- Reflect and evaluate one's professional, interdisciplinary role as teacher, team member, lifelong learner, and advocate for children and families.

#### Specific Program Admissions Information

Listed below are additional requirements for formal admission to Early Childhood Development. Pre-ECD student requirements:

- High school graduate or GED equivalency
- Placement out of or completion of DEV 044
- Placement into ENGL 101 Beginning Composition
- Completion of the following six courses with a grade of "C" or above:
  - ECD 101 Introduction to Early Childhood Development
  - ECD 105 Self Concept
  - ECD 106 Observing and Recording
  - ECD 107 Curriculum Planning
  - ECD 108 Creative Curriculum
  - PSY 261 Introduction to Child Development

## Early Childhood Development Associate Degree

COURSE		CR
<b>Quarter 1</b>		
ENGL 101	Beginning Composition .....	3
PSY 100	Introduction to Psychology .....	5
ECD 101	Introduction to ECD.....	1
ECD 105	Emotional Development .....	3
ECD 106	Observing and Recording .....	1
ECD 107	Curriculum Planning .....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>16</b>

<b>Quarter 2</b>		
ENGL 102	Essay and Research.....	3
PSY 261	Child Development .....	5
ECD 108	Creative Curriculum.....	3
ECD 109	Language Experiences in Early Childhood Programs .....	3
ECD 201	Health and Safety ( <i>or all of the following</i> ) .....	3
ECD 200	First Aid and .....	1
ECD 202	Communicable Disease and.....	1
ECD 204	Child Abuse and Neglect .....	1
<b>TOTAL CREDIT HOURS .....</b>		<b>17</b>

<b>Quarter 3</b>		
MATH 101	Business Mathematics .....	5
COMM 200	Business Communication or	
COMM 202	Writing for Health and Human Services .....	3
ECD 110	Infant and Toddler Curriculum .....	3
ECD 112	Physical Development Curriculum .....	3
ECD 181*	Infant and Toddler Seminar .....	1
ECD 191*	Infant and Toddler Practicum .....	1
<b>* Must be taken concurrently</b>		
<b>TOTAL CREDIT HOURS .....</b>		<b>16</b>

<b>Quarter 4</b>		
COMM 105	Speech.....	3
ECD 114	Cognitive Curriculum .....	3
ECD 182*	Preschoolers Seminar.....	1
ECD 192 *	Preschoolers Practicum.....	1
ECD 120	Interpersonal Communications in Human Services .....	3
SSCI101	Cultural Diversity.....	5
<b>* Must be taken concurrently</b>		
<b>TOTAL CREDIT HOURS .....</b>		<b>16</b>

<b>Quarter 5</b>		
SOC 101	Introduction to Sociology .....	5
ECD 205	Family Dynamics .....	3
ECD 206	Social Development Curriculum .....	3
ECD 210	Administration and Staff Dynamics .....	3
ECD 183	Three to Five Seminar.....	1
ECD 193	Three to Five Practicum.....	1
<b>TOTAL CREDIT HOURS .....</b>		<b>16</b>

<b>Quarter 6</b>		
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224 .....	5
ECD 207	Guidance and Discipline .....	3
ECD 208	Young Children with Special Needs .....	3
ECD 212	Family Ecology.....	3
ECD 284	Special Needs Seminar .....	1
ECD 294	Special Needs Practicum .....	1
<b>TOTAL CREDIT HOURS .....</b>		<b>16</b>

<b>Quarter 7</b>		
NSCI 101	Natural Science .....	5
ECD 285	Pre-Kindergarten Seminar and .....	1
ECD 295	Pre-Kindergarten Practicum ( <i>or</i> ) .....	1
ECD 286	Administration Seminar and .....	1
ECD 296	Administration Practicum ( <i>or</i> ).....	1
ECD 287*	Student Teaching Seminar and .....	2
ECD 297*	Student Teaching Practicum.....	3
<b>*The Student Teaching option is required for transfer to Otterbein College or Capital University.</b>		
<b>TOTAL CREDIT HOURS .....</b>		<b>7-10</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>		<b>104-07</b>

\*\*Optional Technical Electives

ECD 102**	Introduction to Child Development Associate.....	1
ECD 115**	School Age Child Care.....	3
ECD 151**	ECD Media Resource I .....	1
ECD 152 **	ECD Media Resource II .....	1
ECD 190 **	Activity Plan Seminar .....	1
ECD 221-230**	Contemporary Issues in Early Childhood .....	1-3
ECD 231***	Phonics and the Structure of Language .....	5
<b>** Not required for graduation</b>		
<b>***ECD 231 is for ECD majors who plan to attend Otterbein College.</b>		

## Child Development Associate (CDA) Credentialing Preparation

COURSE		CR
<b>Quarter 1</b>		
ECD 101	Introduction to Early Childhood Development.....	1
ECD 102	Introduction to CDA .....	1
ECD 104	CDA Competencies.....	1
ECD 105	Emotional Development .....	3
ECD 106	Observing and Recording .....	1
ECD 107	Curriculum Planning .....	3
ECD 108	Creative Curriculum.....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>13</b>
<b>TOTAL CERTIFICATE CREDIT HOURS .....</b>		<b>13</b>

## Preschool Education Certificate

COURSE		CR
<b>Quarter 1</b>		
ECD 101	Introduction to Early Childhood Development.....	1
ECD 105	Emotional Development .....	3
ECD 106	Observing and Recording .....	1
ECD 107	Curriculum Planning .....	3
ECD 108	Creative Curriculum.....	3
PSY 261	Child Development .....	5

Based on personal interests and goals, student adds one of the following:

ECD 109	Language Experiences in Early Childhood Programs ( <i>or</i> ).....	3
ECD 114	Cognitive Curriculum .....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>19</b>
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>19</b>

**NOTE : With completion of 18 credit hours in ECD, minimum qualifications to be a child care administrator by Ohio Child Day Care Licensing Standards will have been met, provided the candidate has two years' work experience in group care of young children.**

# Electro-Mechanical Engineering Technology

## Electro-Mechanical Engineering Technology Associate Degree

The Electro-Mechanical program is a marriage of Columbus State's Mechanical Engineering Technology and Electronics Engineering Technology programs. The skills electro-mechanical technicians possess are used in virtually every industry—from manufacturing, to environmental control, to food and pharmaceutical production, to power plants. Electro-mechanical technicians are immediately able to contribute to the companies that hire them.



Electro-mechanical technicians are in great demand. Any industry that uses electrical components and/or has any level of automation and process control needs and will always need EMEC technicians. Electro-mechanical engineering technicians perform both preventive and corrective maintenance on electro-mechanical systems as well as aiding in the design of such systems. The most rewarding part of this field is the variety and creativity it affords. EMEC technicians use their knowledge and skills to solve problems and come up with creative solutions daily.

Electro-Mechanical Engineering Technology also shares related courses with the Electronic Engineering Technology, Mechanical Engineering Technology and Quality Assurance Technology. For additional information refer to those sections of the College Catalog.

Upon completion of the Associate Degree in Electro-Mechanical Engineering Technology the graduate will be able to:

- Read and interpret engineering drawings.
- Select an appropriate electric motor and control based on known functional requirements.
- Identify and troubleshoot components in hydraulic and pneumatic systems.
- Troubleshoot electric motors.
- Identify and select electro-mechanical components for typical industrial requirements.
- Select and use appropriate power control devices, timers, and sensors.
- Identify closed-loop and open loop systems and select the type of control required to achieve a given system response.
- Demonstrate skill in applying programmable logic controllers to control simple processes.
- Perform preventive and corrective maintenance on electro-mechanical systems.

## Electro-Mechanical Engineering Technology Associate Degree

COURSE	CR
<b>Quarter 1</b>	
MATH 111 Technical Mathematics I .....	4
EET 105 Basic Electronic Systems .....	5
MECH 112 Computer Applications in Manufacturing .....	3
ENGT 100 Introduction to Engineering Technology .....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>
<b>Quarter 2</b>	
ENGL 101 Beginning Composition .....	3
MATH 112 Technical Math II .....	4
EET 115 Basic Digital Systems .....	5
MECH 115 Engineering Graphics .....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>
<b>Quarter 3</b>	
ENGL 102 Essay and Research .....	3
MECH 145 2D CAD .....	4
EET 125 Electronic Switching Systems .....	5
PHYS 117 College Physics (Mechanics and Heat) .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>17</b>
<b>Quarter 4</b>	
EET 255 Instrumentation and Process Controls .....	4
MECH 243 Robotics .....	4
EMEC 250 Motors and Controls .....	4

COMM 105	Speech ( <i>or</i> )	
COMM 110	Conference and Group Discussion .....	3
HUM XXX	Humanities 111,112,113,151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS</b> .....		<b>20</b>

<b>Quarter 5</b>		
ENGT 131	Hydraulics and Pneumatics .....	4
COMM 204	Technical Writing .....	3
EMEC 251	Controls and Control Logic .....	4
MECH 270	Engineering Statistics .....	4
MECH 260	Basic Mechanisms .....	4
<b>TOTAL CREDIT HOURS</b> .....		<b>19</b>

<b>Quarter 6</b>		
SSCI XXX	Social Sciences 100, 101, 102, 105 or GEOG 240 .....	5
MECH 240	Machine Tools .....	4
EMEC 260	PLC Programming .....	4
QUAL 240	Total Quality Management .....	3
<b>TOTAL CREDIT HOURS</b> .....		<b>16</b>
<b>TOTAL DEGREE CREDIT HOURS</b> .....		<b>104</b>

# Electronic Engineering Technology

## Electronic Engineering Technology Associate Degree Computer Electronics Major -- Technology Systems Technician Track

Columbus State's six-quarter associate degree program in Electronic Engineering Technology prepares students to assemble, troubleshoot, and repair electronic systems; to read and interpret complex instructions, technical literature, and engineering and schematic drawings; and to solve a variety of problems. Students will learn to use the language of electronics to communicate clearly with engineers, scientists, and other technicians. Coursework includes basic electronic and digital systems, advanced programmable digital systems, electronic switching systems, data acquisition systems, instrumentation and control systems, human/machine interface systems, distributed control systems and embedded microcontroller systems. Each topic is enhanced with corresponding hands-on labs. Students may qualify for work-study cooperative experiences with local industry, when available.

Electronic engineering technologists are in demand in a variety of fields ranging from biomedicine to automated manufacturing. They also are involved in an impressive array of activities—from computer repair to telecommunications, and from fiber optics to robotics. Graduates become eligible for a well-paying, satisfying job which provides products and/or services that improve others' quality of life.

Columbus State's Electronic Engineering Technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC of

ABET). For further information regarding accreditation, contact: Accreditation Director for Engineering Technology, Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202.

Graduates who wish to continue their education may transfer associate degree credits to a number of four-year institutions which offer baccalaureate degrees in Engineering Technology. These include Miami University's bachelor's degree completion program offered via distance learning entirely on Columbus State's campus.

Electronic Engineering Technology shares related coursework with the Electro-Mechanical Engineering Technology degree. For additional information, refer to that section of the catalog.

Graduates of Columbus State Community College's Electronic Engineering Technology program support the design, installation, testing, operation, troubleshooting, maintenance and repair of analog and digital electrical/electronic and microprocessor-based systems and will be able to:

- Conduct and analyze experiments; interpret and apply experimental results.
- Analyze, interpret, prepare, and present electrical/electronic information including reports, engineering specifications, schematics, drawings/diagrams, charts and graphs.
- Apply the principles of physics, chemistry, algebra, and trigonometry to analyze and solve technical problems related to electrical/electronic engineering technology.
- Apply creativity in support of the design of electrical/electronic circuits, equipment, components and systems.
- Select and use a variety of troubleshooting techniques and test equipment to assess electrical/electronic circuits, equipment and systems.
- Build, troubleshoot, and test electrical/electronic circuits, equipment and systems to meet job requirements, functional specifications, and relevant standards.
- Maintain and repair electrical/electronic equipment and systems, adhering to established procedures, to ensure that they function properly.
- Use computers, software and computer programming to support the electrical/electronic engineering environment.
- Adhere to appropriate safety procedures and standard electrical/electronic engineering practices.
- Perform tasks in accordance with relevant policies, procedures, standards, regulations, and ethical principles.
- Recognize and adapt to emerging applications in engineering technology.

### Computer Electronics Major

Students interested in a computer technology systems career path should consider the Computer Electronics major. This program prepares the student to enter career fields related to computer technology systems and support.

Career fields associated with this program major are:

- Information Technology Technician
- Field PC Technician
- Enterprise Technician

- IT Support
- PC Support Specialist
- Computer Technician
- Information Technology Administrator
- Help Desk Technician
- Remote Support Technician
- Service Desk Technician
- Call Center Technician
- Depot Technician
- Bench Technician

The program major's focus includes:

- Preparing the student for the CompTIA A+ Certification Exam, as well as CompTIA Network + and Linux + operations/testing
- Preparing the student for the CISCO CCNA Certification Exam
- Demonstrating and applying effective tools and strategies for supporting and troubleshooting hardware and software
- Analyzing strategies for troubleshooting and debugging networks and network devices
- Developing expertise in supporting both proprietary and Open Source software and operating systems
- Applying effective interpersonal skills and communication.

## Electronic Engineering Technology Associate Degree

COURSE	CR
<b>Quarter 1</b>	
EET 105 Basic Electronic Systems.....	5
EET 110 Electronic Engineering Technology Graphics .....	3
ENGL 101 Beginning Composition .....	3
ENGT 100 Introduction to Engineering Technology .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>
<b>Quarter 2</b>	
EET 115 Basic Digital Systems .....	5
EET 123 PC Tech Essentials I.....	4
MECH 112 Computer Applications in Manufacturing .....	3
MATH 111 Tech Math I ( <i>or</i> ).....	4
MATH 148* College Algebra .....	5
ENGL 102 Essay and Research .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>19-20</b>
<b>Quarter 3</b>	
EET 125 Electronic Switching Systems.....	5
EET 146 Computer Network Communications .....	3
EET 215 Advanced Digital Systems (FPGA) Programming .....	5
MATH 112 Tech Math II ( <i>or</i> ).....	4
MATH 150* Pre-Calculus.....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>17-18</b>
<b>Quarter 4</b>	
EET 154 Electronic Fabrication.....	3
EET 225 Data Acquisition Systems .....	5
PHYS 117 College Physics (Mechanics and Heat).....	5
COMM 105 Speech ( <i>or</i> ).....	3
COMM 110 Conference and Group Discussion.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>
<b>Quarter 5</b>	
EET 235 Embedded Microcontroller Systems.....	5
EET 255 Instrumentation and Process Control.....	4
COMM 204 Technical Writing .....	3
PHYS 118 College Physics (Electricity, Magnetism and Light) .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 6</b>		
HUM XXX	Humanities 111,112,113,151, 152 or 224 .....	5
EET 260	Capstone Experience EET .....	4
SSCI XXX	Social Science 100, 101, 102,,105 or GEOG 240.....	5
<b>TOTAL CREDIT HOURS .....</b>		<b>14</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>		<b>98-100</b>

\*Students interested in pursuing the Miami University Bachelor of Science Degree Completion Program should opt for MATH 148 and MATH 150.

## Computer Electronics Major

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
MATH 103	Beginning Algebra II .....	4
PHYS 100	Introduction to Physics .....	4
ENGL 101	Beginning Composition .....	3
COMM 105	Speech ( <i>or</i> ) .....	
COMM 110	Conference and Group Discussion.....	3
MECH 112	Computer Applications in Manufacturing .....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>17</b>
<b>Quarter 2</b>		
EET 105	Basic Electronic Systems.....	5
CIT 150	Networking for Home and Small Business.....	4
ENGL 102	Essay and Research .....	3
EET 123	PC Tech Essentials 1 .....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>16</b>
<b>Quarter 3</b>		
EET 115	Basic Digital Systems .....	5
CIT 152	Working at a Small-to-Medium Business .....	4
EET 136	Introduction to Open Source.....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>13</b>
<b>Quarter 4</b>		
EET 125	Electronic Switching Systems.....	5
EET 143	PC Tech Essentials II, .....	4
CIT 154	Introducing Routing and Switching in the Enterprise.....	4
EET 246	Open Source II .....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>17</b>
<b>Quarter 5</b>		
CIT 156	Designing and Supporting Communications Technology .....	4
EET 146	Computer Network Communications Systems.....	3
MECH 252	Computer Programming for Technicians.....	3
COMM 204	Technical Writing.....	3
EET 256	Technical Support Fundamentals.....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>17</b>
<b>Quarter 6</b>		
EET 266	Capstone Experience in CET .....	4
HUM XXX	Humanities 111,112,113,151, or 224 .....	5
SSCI XXX	Social Science 100, 101, 102, 105 or GEOG 240.....	5
EET 137	E-Mail for Tech Support .....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>18</b>
<b>TOTAL DEGREE CREDIT HOURS.....</b>		<b>98</b>

# Emergency Medical Services Technology

## Emergency Medical Services Associate Degree EMT–Basic Certificate EMT–Paramedic Certificate

Emergency Medical Technicians work under the direction of a physician to act as the primary pre-hospital care provider in the health care system. They must first make a comprehensive evaluation of the patient’s condition and the overall situation. They may then need to provide immediate life-saving care. Technicians must demonstrate a high degree of technical skill, calmness, and professionalism, even under the most adverse conditions.

Columbus State’s associate degree program in Emergency Medical Services exposes students to a wide variety of victim care situations, including direct patient care in local hospitals and on emergency vehicles. Instructors are highly experienced and active in the field of emergency medicine.

In addition to the associate degree, the Emergency Medical Services program offers the EMT–Basic Certificate and the EMT–Paramedic Certificate accredited by the Ohio Department of Public Safety, Division of EMS (certificate # 311). The EMT-Paramedic Certificate program is also nationally accredited through the Committee on Accreditation of Educational Programs for the EMS Professions (CoAEMSP # 600009). For information on additional certificates, see the Emergency Medical Services Technology Coordinator.

Students in the EMT–Basic Certificate program must first complete the EMT–Basic course, and then pass the State/National EMT-B Certification written and practical exams. By state law, a student must be a certified EMT–Basic before enrolling in the EMT–Paramedic Certificate program. In addition to the above, to be eligible for admission into the Paramedic Certificate program students must also complete a prerequisite course EMS 201 (Paramedic Preparation Course) and a pre-testing process, which includes the Health Occupations Basic Entrance Test (HOBET).

Good mental and physical health is critical in emergency medical services. Students must have a physical examination and must meet program health requirements before they may participate in clinical laboratory experiences. Because students and workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention. In addition, all students must be covered by EMT-student liability insurance while enrolled in the certificate courses. To meet clinical affiliation agreement requirements, students in the Paramedic Certificate program must successfully complete a BCI&I background check and a SAM-5 drug screen.

Upon completion of the associate degree requirements in Emergency Medical Services Technology, the graduate will be able to:

- Perform all of the duties included in EMT–Basic and EMT–Paramedic training, after successfully completing State of Ohio/National certification exams in these two areas.

- Demonstrate knowledge of the legal aspects of emergency medical service.
- Prepare for and deal with disasters, including those involving hazardous materials.
- Explain the complexity of emergency medical service.

### EMT–Basic Certificate

Students completing the EMT–Basic Certificate will be able to:

- Meet State of Ohio/National requirements to take the EMT–Basic certification examination.
- Evaluate the nature and seriousness of a patient’s condition or the state of the patient’s injuries and assess requirements for emergency care.
- Administer appropriate emergency care to stabilize the patient’s condition, including tracheal intubation and automated external defibrillation.
- Lift, move, position, and otherwise handle the patient in such a way as to minimize discomfort and further injury.

### EMT–Paramedic Certificate

Students completing the EMT–Paramedic Certificate will be able to:

- Meet State of Ohio/National requirements to take the EMT–Paramedic certification examination.
- Perform all duties of the EMT–Basic.
- Initiate appropriate intravenous procedures as specifically authorized by medical authority.
- Initiate and continue emergency medical care under medical control, including recognizing presenting conditions and initiating appropriate invasive and noninvasive therapies (e.g., surgical and medical emergencies, airway and respiratory problems, cardiac dysrhythmias, cardio pulmonary arrest, and psychological crisis), and assessing the response of the patient to that therapy.

For information on additional certificates, see the Emergency Medical Services Technology Coordinator.

### Specific Program Admissions Information

Listed below are additional requirements for admission to the Emergency Medical Services Technology.

- High school graduate or GED equivalency
- 18 years of age or older (contact EMS Coordinator)
- Completed health record required PRIOR TO registration
- COMPASS™ placement into ENG 100 OR completion of equivalent course as verified on CSCC transcript.
- E-mail [ems@cscce.edu](mailto:ems@cscce.edu) for Information Session dates or to make an appointment with department advisors.

### Emergency Medical Services Technology Associate

#### Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101 Beginning Composition .....	3
XXXX XXX Basic Science Elective .....	3
MATH 102 Beginning Algebra I .....	4
EMS 110 EMT–Basic .....	9.5
<b>TOTAL CREDIT HOURS .....</b>	<b>19.5</b>

#### Quarter 2

BIO 215	General Microbiology .....	5
ENGL 102	Essay and Research .....	3
COMM 105	Speech .....	3
EMS 123	Emergency Psych. Intervention .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>14</b>	

#### Quarter 3

COMM 200	Business Communications .....	3
EMS 125	Disaster Aid .....	3
BIO 261	Human Anatomy .....	5
SSCI 10X	Social Science 100, 101, 102, 105 or GEOG 240.....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>	

#### Quarter 4

EMS 211	EMT-Paramedic I .....	7
EMS 281	Hospital Clinical I .....	2
EMS 291	Field Clinical I .....	1
EMS 128	Intro to Rescue for the EMS Provider.....	3
EMS 137	WMD for Emergency Responders.....	2
EMS XXX	Technical Elective .....	1
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>	

#### Quarter 5

EMS 212	EMT-Paramedic II .....	7
EMS 282	Hospital Clinical II .....	2
EMS 292	Field Clinical II .....	1
EMS 121	EMS Systems .....	3
FIRE 160	Legal Issues for Public Safety Personnel .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>	

#### Quarter 6

EMS 213	EMT-Paramedic III .....	6
EMS 283	Hospital Clinical III .....	2
EMS 293	Field Clinical III .....	2
BIO 262	Human Physiology .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>	

#### Quarter 7

EMS 214	EMT-Paramedic IV .....	4
EMS 284	Hospital Clinical IV .....	2
EMS 294	Field Clinical IV .....	2
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>13</b>	
<b>TOTAL DEGREE CREDIT HOURS.....</b>	<b>109.5</b>	

#### Technical Elective must be selected from the following list of courses:

EMS 130	River Rescue .....	3
EMS 131	Special Topics for EMT .....	3
EMS 133	Ice and Cold Water Rescue .....	2
EMS 142	Vertical Rescue .....	2
EMS 143	Search and Rescue .....	2
EMS 144	Confined Space Rescue .....	2
EMS 201	Paramedic Prep Course.....	4
EMS 265	12-lead EKG Interpretation & Adv. Cardiac Treatment .....	3
EMS 275	Critical Care Transport.....	7
EMS 295	Public Safety Services Instructor.....	6

### EMT–Basic Certificate

COURSE	CR
EMS 110 EMT–Basic .....	9.5
<b>TOTAL CERTIFICATE CREDIT HOURS .....</b>	<b>9.5</b>

### EMT–Paramedic Certificate

COURSE	CR	
<b>Quarter 1</b>		
EMS 211	EMT-PI .....	7
EMS 281	Hospital Clinical I .....	2
EMS 291	Field Clinical I .....	1
<b>TOTAL CREDIT HOURS .....</b>	<b>10</b>	

<b>Quarter 2</b>	
EMS 212	EMT-P II .....7
EMS 282	Hospital Clinical II .....2
EMS 292	Field Clinical II .....1
<b>TOTAL CREDIT HOURS</b>	<b>.....10</b>

<b>Quarter 3</b>	
EMS 213	EMT-P III .....6
EMS 283	Hospital Clinical III .....2
EMS 293	Field Clinical III .....2
<b>TOTAL CREDIT HOURS</b>	<b>.....10</b>

<b>Quarter 4</b>	
EMS 214	EMT-P IV .....4
EMS 284	Hospital Clinical IV .....2
EMS 294	Field Clinical IV .....2
<b>TOTAL CREDIT HOURS</b>	<b>.....8</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....38</b>

## Emergency Medical Service/Fire Science

### Associate of Technical Studies Degree

In many areas, emergency medical services are provided through the fire service agencies. This unique Associate of Technical Studies degree provides the student with the opportunity to combine these two programs into a degree with specific preparation for entering or advancing in such agencies.

The Associate of Technical Studies degree offers the EMT–Basic Certificate and the EMT–Paramedic Certificate accredited by the Ohio Department of Public Safety, Division of EMS (certificate # 311). The EMT–Paramedic Certificate is also nationally accredited through the Committee on Accreditation of Educational Programs for the EMS Professions. (CoAEMSP # 600009)

Students must first complete the EMT–Basic course and then pass the State/National EMT–B Certificate written and practical exams. By state law a student must be certified as an Ohio EMT–Basic before enrolling in the EMT–Paramedic Certificate program. In addition to EMT–Basic certification as above, students must also complete EMS 201 (Paramedic Preparation Course) as a prerequisite, and a pretesting process, which includes the Health Occupations Basic Entrance Test (HOBET).

Good mental and physical health is critical in emergency services; therefore students must have a physical examination, meet the program health requirements and be covered by the EMT-student

liability insurance. To meet clinical affiliation agreement requirements, students in the Paramedic courses must successfully complete a Bureau of Criminal Investigation & Identification background check and SAM-5 drug screen.

Upon completion of the Associate of Technical Studies in Emergency Medical/Fire Science, the graduate will be able to:

- Demonstrate effective communication and interpersonal skills with supervisors, peers and the public.
- Perform all duties and responsibilities of the EMT–Basic and EMT–Paramedic, after successfully achieving certification in these areas.
- Explain the history and basic principles of the fire service.
- Recognize and respond to changing fire conditions and potential for collapse in structures.
- Demonstrate the duties and responsibilities of Incident Command.
- Demonstrate knowledge of the legal aspects of the fire service and emergency medical service.
- Demonstrate necessary proficiencies with extinguishment hydraulics and fire protection systems.
- Demonstrate a working knowledge of fire investigation principles.

For student outcomes for EMT–Basic Certificate and EMT–Paramedic Certificate, see Emergency Medical Services.

**NOTE: If you currently have EMT–Basic, Paramedic, Firefighter I and II and/or Apprenticeship certification, you may qualify for nontraditional credit which may apply toward the degree. Contact EMS or Fire Science Technology faculty (e-mail: [ems@cscc.edu](mailto:ems@cscc.edu)) to determine your individual status.**

### Emergency Medical Service/Fire Science Associate of Technical Studies Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101	Beginning Composition .....3
MATH 102	Beginning Algebra I.....4
EMS 110	EMT–Basic .....9.5
<b>TOTAL CREDIT HOURS</b>	<b>.....16.5</b>
<b>Quarter 2</b>	
ENGL 102	Essay and Research .....3
CHEM 100	Introduction to Chemistry .....4
FIRE XXX	Fire Elective .....3
COMM 105	Speech .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....13</b>
<b>Quarter 3</b>	
COMM 200	Business Communications .....3
LAW 268	Hazardous Materials .....3
CIT 101	PC Applications 1 .....3
FIRE XXX	Fire Elective .....3
FIRE XXX	Fire Elective .....3
LAW 266	High Rise Safety .....2
<b>TOTAL CREDIT HOURS</b>	<b>.....17</b>
<b>Quarter 4</b>	
PSY 100	Intro to Psychology .....5
EMS 211	EMT–Paramedic I .....7
EMS 281	Hospital Clinical .....2
EMS 291	Field Clinical .....1
<b>TOTAL CREDIT HOURS</b>	<b>.....15</b>

<b>Quarter 5</b>		
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224.....	5
EMS 212	EMT-Paramedic II .....	7
EMS 282	Hospital Clinical II .....	2
EMS 292	Field Clinical II .....	1
<b>TOTAL CREDIT HOURS .....</b>		<b>15</b>

<b>Quarter 6</b>		
FIRE XXX	Fire Technical Elective .....	3
FIRE XXX	Fire Technical Elective .....	4
EMS 213	EMT-Paramedic III .....	6
EMS 283	Hospital Clinical III .....	2
EMS 293	Field Clinical III .....	2
<b>TOTAL CREDIT HOURS .....</b>		<b>17</b>

<b>Quarter 7</b>		
SSCI 1XX	Social Science 101, 102, 105 or GEOG 240.....	5
FIRE XXX	Fire Elective .....	3
EMS 214	EMT-Paramedic IV .....	4
EMS 284	Hospital Clinical IV .....	2
EMS 294	Field Clinical IV .....	2
<b>TOTAL CREDIT HOURS .....</b>		<b>16</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>		<b>109.5</b>

**Technical Electives (FIRE) must be selected from the following:**

FIRE 100	Introduction to Firefighting .....	3
	3	
FIRE 102	Fire Inspector I: Prevention Practices.....	3
FIRE 104	Fire Investigation Methods .....	4
FIRE 106	Protection Systems .....	3
FIRE 108	Command I: Basic Concepts.....	4
FIRE 109	Fire Fighting Command II .....	3
FIRE 117	Firefighter I and II .....	12
FIRE 151	Fire Inspector II: Fire Prevention Codes.....	4
FIRE 153	Fire Hydraulics.....	4
FIRE 156	Building Construction/Collapse: Basic Concepts .....	4
FIRE 160	Legal Issues for Public Safety Personnel.....	3
FIRE 200	Building Construction/Collapse for Experienced FF .....	4
FIRE 202	Hazardous Materials II .....	4
FIRE 204	Fire Service Rating System: Fire Insurance .....	2
FIRE 205	Fire Service Company Officer .....	3
FIRE 206	Administration of a Fire Department .....	3
FIRE 207	Customer Services for the Fire Services .....	3
FIRE 209	Firefighting Problems.....	3
FIRE 211	Incident Command for Experienced Firefighters .....	4
CMGT 121	Building Construction Drawings.....	3
EMS 201	Paramedic Preparation .....	4
EMS 295	Public Safety Services Instructor.....	6

**NOTE: PRIOR TO ENROLLING in any Fire Science courses, you must have completed ONE of the following: FIRE 100 or FIRE 117 or have documented Firefighter I and II certification.**

# Engineering Technologies Certificates

See specific program sections for Applied Science degrees in AMT, EET, EMEC, MECH and QA.

## Computer Aided Drafting Technician Engineering Assembly Technician Engineering Technician Manufacturing Maintenance Technician

Engineering Technologies offers four focused certificates (see above) that lead to employment opportunities in technology areas. The certificate coursework and preparation means that the student can be gainfully employed earlier, and, in many instances, with companies that offer tuition reimbursement. These certificates can be combined and count toward an associate degree.

### Computer Aided Drafting Technician Certificate

Drafters prepare technical drawings and plans used by production workers to build manufactured products. Drafters' drawings provide visual guidelines, show the technical details of the products, and specify dimensions, materials, and procedures. Drafters fill in technical details using drawings, rough sketches, specifications, codes, and calculations previously made by engineers or scientists. Some use their knowledge of engineering and manufacturing theory and standards to draw the parts of a machine to determine design elements, such as the numbers and kinds of fasteners needed to assemble the machine. Drafters use technical handbooks, tables, calculators, and computers to complete their work.

Traditionally, drafters sat at drawing boards and used pencils, pens, compasses, protractors, triangles, and other drafting devices to prepare a drawing manually. Most drafters now use Computer Aided Drafting and Design (CADD) systems to prepare drawings. Consequently, some drafters may be referred to as CADD operators. CADD systems employ computers to create and store drawings electronically that can then be viewed, printed, or programmed directly into automated manufacturing systems. These systems also permit drafters to prepare variations of a design quickly. Although drafters use CADD extensively, it is only a tool. Persons who produce technical drawings with CADD still function as drafters and need the knowledge of traditional drafters, in addition to CADD skills. Despite the nearly universal use of CADD systems, manual drafting and sketching still are used in certain applications.

### Computer Aided Drafting Technician Certificate

<b>COURSE</b>	<b>CR</b>
<b>Quarter 1</b>	
ENGT 100	Introduction to Engineering Technology .....
MECH 112	Computer Applications in Manufacturing .....
MECH 115	Engineering Graphics.....
<b>TOTAL CREDIT HOURS .....</b>	
<b>11</b>	

<b>Quarter 2</b>	
EET 110	Electronic Engineering Technology Graphics .....
MECH 145	2D CAD .....
<b>TOTAL CREDIT HOURS .....</b>	
<b>6</b>	

MECH 145	2D CAD	4
<b>TOTAL CREDIT HOURS</b>		<b>7</b>

**Quarter 3**

MECH 175	3D CAD	4
<b>TOTAL CREDIT HOURS</b>		<b>4</b>
<b>TOTAL CREDIT HOURS</b>		<b>4</b>

**Quarter 4**

MECH 215	Parametric CAD	4
<b>TOTAL CREDIT HOURS</b>		<b>4</b>

<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>26</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>25</b>

## Engineering Assembly Technician Certificate

Assemblers and fabricators play an important role in the manufacturing process. They are responsible for putting together finished and semi-finished goods, assembling the pieces of components of a product and then joining the components into a whole product.

Assemblers begin by reading detailed schematics or blueprints that show how to assemble complex machines. After determining how parts should connect, they often need to use hand or power tools to trim, shim, cut, and make other adjustments to make components fit together and align properly. Once the parts are properly aligned, they connect parts with bolts and screws or by welding or soldering pieces together. Careful quality control is important throughout the assembly process, so assemblers look for both mistakes in the assembly process and faulty components. They try to help fix problems before more defective products are produced.

Changes in technology have transformed the manufacturing and assembly process. Automated manufacturing systems now use robots, computers, programmable motion control devices, and various sensing technologies. These systems change the way in which goods are made and affect the jobs of those who make them. The more advanced assemblers must be able to work with these new technologies and be comfortable using them to produce goods.

## Engineering Assembly Technician Certificate

COURSE		CR
<b>Quarter 1</b>		
ENGT 100	Introduction to Engineering Technology	4
MECH 240	Machine Tools	4
EET 110	Electronic Engineering Technology Graphics	3
MECH 112	Computer Applications in Manufacturing	3
<b>TOTAL CREDIT HOURS</b>		<b>14</b>
<b>Quarter 2</b>		
EET 105	Basic Electronic Systems	5
QUAL 150	Quality Transformation	4
EET 154	Electronic Fabrication	3
MECH 115	Engineering Graphics	4
<b>TOTAL CREDIT HOURS</b>		<b>16</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>30</b>

## Engineering Technician Certificate

Engineering technicians use application-oriented principles of science, engineering, and mathematics to solve technical problems in research, development, and manufacturing. Their work is more limited in scope than that of scientists and engineers. Many engi-

neering technicians assist engineers and scientists, especially in research and development. Others work in quality control, inspecting products and processes, conducting tests, or collecting data. In manufacturing, they may assist in product design, development, or production. Although many workers who repair or maintain various types of electrical, electronic, or mechanical equipment are called technicians, those interested in repair and maintenance should pursue the Manufacturing Maintenance Technician Certificate.

## Engineering Technician Certificate

COURSE		CR
<b>Quarter 1</b>		
ENGT 100	Introduction to Engineering Technology	4
MECH 112	Computer Applications in Manufacturing	3
MECH 240	Machine Tools	4
EET 110	Electronic Engineering Technology Graphics	3
<b>TOTAL CREDIT HOURS</b>		<b>14</b>
<b>Quarter 2</b>		
MECH 150	Manufacturing Materials and Processes	4
MECH 115	Engineering Graphics	4
EET 105	Basic Electronic Systems	5
MATH 111	Technical Mathematics I	4
<b>TOTAL CREDIT HOURS</b>		<b>17</b>
<b>Quarter 3</b>		
EET 154	Electronic Fabrication	3
EET 115	Basic Digital Systems	5
MATH 112	Technical Mathematics II	4
<b>TOTAL CREDIT HOURS</b>		<b>12</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>43</b>

## Manufacturing Maintenance Technician Certificate

Electrical equipment and electronic equipment are two distinct types of industrial equipment, although much equipment contains both electrical and electronic components. In general, electrical portions provide the power for the equipment, while electronic components control the device, although many types of equipment still are controlled with electrical devices. Electronic sensors monitor the equipment and the manufacturing process, providing feedback to the programmable logic controller (PLC), which controls the equipment. The PLC processes the information provided by the sensors and makes adjustments to optimize output. To adjust the output, the PLC sends signals to the electrical, hydraulic, and pneumatic devices that power the machine—changing feed rates, pressures, and other variables in the manufacturing process. Many installers and repairers, known as field technicians, travel to factories (or other locations) to repair equipment or to perform preventive maintenance on a regular basis. Bench technicians work in repair shops located in factories and service centers, fixing components that cannot be repaired on the factory floor.

## Manufacturing Maintenance Technician Certificate

COURSE		CR
<b>Quarter 1</b>		
ENGT 100	Introduction to Engineering Technology	4
MECH 112	Computer Applications in Manufacturing	3
EET 105	Basic Electronics Systems	5
EMEC 250	Motors and Controls	4
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

<b>Quarter 2</b>	
EET 115	Basic Digital Systems ..... 5
MECH 243	Robotics ..... 4
EMEC 251	Controls and Control Logic ..... 4
MATH 111	Technical Mathematics I ..... 4
<b>TOTAL CREDIT HOURS .....17</b>	

<b>Quarter 3</b>	
EET 125	Electronic Switching Systems..... 5
EET 255	Instrumentation and Controls..... 4
EMEC 260	PLC Programming ..... 4
MATH 112	Technical Mathematics II..... 4
<b>TOTAL CREDIT HOURS .....17</b>	
<b>TOTAL CERTIFICATE CREDIT HOURS .....50</b>	

# Environmental Science, Safety and Health

- Environmental Science, Safety and Health Associate Degree**
- Health and Safety for Hazardous Waste Operations Certificate**
- Occupational Health and Safety Certificate**
- Sustainable Building Certificate**
- Water/Wastewater Technology Certificate**

Environmental, Science, Safety and Health technicians work in a wide variety of positions for environmental engineering consulting firms, environmental laboratories, wastewater and water treatment facilities, lead and asbestos abatement contractors, manufacturing facilities, governmental agencies, and other organizations requiring individuals to work in environmental or safety related positions. The demand for technicians capable of performing tasks such as sample collection, monitoring, data management, and instrumentation calibration, operation, and maintenance continues to increase. According to recent surveys and job placement rates, the job market for environmental and safety technicians in central Ohio is very strong.

Columbus State’s associate degree program in Environmental Science, Safety and Health has a diverse curriculum, which includes many basic science courses, as well as courses offered by other technologies. This curriculum provides students with a strong foundation of technical skills necessary for careers in the environmental industry, or occupational safety and health. An optional field experience program also offers students hands-on experience in a real work setting.

In addition to providing environmental technicians with entry-level training, the degree provides opportunities for individuals seeking career changes, continuing education, and skills enhancement.

The Water/Wastewater Technology Certificate is designed to serve the educational needs of employees that work in water and/or wastewater treatment, such as those who work for municipalities or industry. This certificate will also provide a strong educational foundation for those students who have an interest in entering an occupation in water or wastewater treatment. Individuals who complete the coursework in this program will be much better prepared to take the state water or wastewater treatment operator exams. Most courses in this certificate will also apply towards the Associate of Applied Science degree in Environmental Science, Safety and Health or Civil Engineering Technology.

The Occupational Health and Safety Certificate is designed to provide basic supervisory and regulatory skills to those who have, or may wish to have, a job responsible for the health and safety of the employees in the workplace. This certificate is set up primarily for those who already have a college degree, but are seeking additional training in this area.

The Sustainable Building Certificate is designed to provide information on sustainable design and construction to students of the Construction Sciences Department, and to provide a training opportunity for current professionals such as architects, building managers, construction managers, and others.

For additional information on the Health and Safety Training for Hazardous Waste Operations Certificate, or other OSHA training opportunities, see the Environmental Science, Safety and Health Advisor.

Upon completion of the associate degree in Environmental Science, Safety and Health, the graduate will be able to:

- Collect air, water, waste, and soil samples for routine monitoring as required by regulatory agencies and for operational control of remediation or treatment systems.
- Conduct field investigations using environmental instrumentation.
- Assist in the operation and maintenance of systems used to control pollution, remediate contaminated materials, or treat water as required by environmental laws.
- Perform duties related to the management, treatment, storage, disposal, and emergency response to spills of hazardous materials and toxic substances in accordance with the EPA, OSHA and DOT.
- Collect and compile data necessary for an environmental site assessment.
- Utilize basic concepts of geology, hydrology, chemistry, and biology in the investigation of the occurrence, transport, and remediation of environmental contaminants.
- Demonstrate a knowledge of solid and hazardous waste management practices, including being able to evaluate hazardous waste data to provide information for compliance with environmental standards.
- Describe components of risk assessment and toxic substances exposure analysis.



- Identify duties requiring knowledge of safety regulations in the workplace and at construction sites.
- Demonstrate a working knowledge of the regulatory aspects of industrial hygiene.

## Environmental Science, Safety and Health

### Associate Degree

COURSE		CR
<b>Quarter 1</b>		
ENGL 101	Beginning Composition .....	3
ENVR 101	Intro to Environmental Science, Safety and Health .....	4
ENVR 158	Environmental Site Assessment .....	3
MATH 148	College Algebra .....	5
BIO 111	Introductory Biology I .....	5
<b>TOTAL CREDIT HOURS</b>		<b>20</b>

<b>Quarter 2</b>		
ENGL 102	Essay and Research .....	3
ENVR 110	Industrial/Municipal Pollution Control .....	3
CIT 101	PC Applications I .....	3
ENVR 130	Environmental Laws and Regulations .....	5
GEOL 101	Earth Systems I ( <i>or</i> ) .....	
GEOL 121	Physical Geology .....	5
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

<b>Quarter 3</b>		
CHEM 111	Elementary Chemistry I .....	5
ENVR 111	Hazardous Materials Management .....	3
ENVR 120	Environmental Aspects of Soils .....	5
ENVR 224	Environmental Hydrology .....	3
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

### Summer Quarter (between 1<sup>st</sup> and 2<sup>nd</sup> year)

ENVR 252	Health and Safety Training for Hazardous Waste Operations. ....	3
<b>TOTAL CREDIT HOURS</b>		<b>3</b>

<b>Quarter 4</b>		
ENVR 170	General Industry Safety and Health .....	4
MATH 135	Elementary Statistics .....	5
ENVR 250	Environmental Sampling .....	5
COMM 204	Technical Writing .....	3
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

<b>Quarter 5</b>		
ENVR 240	Environmental Analytical Methods .....	2
COMM 110	Conference and Group Discussion .....	3
GEOG240	World Economic Geography .....	5
ENVR 222	Water Treatment Techniques ( <i>or</i> ) .....	
ENVR 223	Wastewater Treatment Techniques .....	3
ENVR 255	Air Pollution and Monitoring .....	3
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

<b>Quarter 6</b>		
ENVR 253	Environmental Systems Analysis .....	3
ENVR 254	Subsurface Restoration Techniques .....	5
HUM 152	American Civilization II (recommended) ( <i>or</i> ) .....	
HUM XXX	Humanities 111, 112, 113, 151, or 224 .....	5
XXX XXX	Technical Elective .....	3
XXX XXX	Technical Elective .....	3
<b>TOTAL CREDIT HOURS</b>		<b>19</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>110</b>

Technical electives must be selected from the following list of courses:

### SPECIALIZATION TRACKS

#### ENVR Specialization

ENVR 220	Environmental Chemistry .....	5
ENVR 256	Hazardous Materials Refresher Training .....	1

ENVR 282	Sustainable Building Strategies .....	3
ENVR 283	Ecological Residential Construction .....	3
ENVR 291	Field Experience .....	3
ENVR 299	Special Topics Environmental Science, Safety and Health ....	1-5

#### Safety and Health Specialization

ENVR 275	Industrial Hygiene .....	4
ENVR 160	OSHA 10-Hr Construction Safety and Health .....	1
ENVR 265	OSHA 30-Hr Construction Safety and Health .....	4
CMGT 135	Safety & Loss Prevention .....	3

#### Water and Wastewater Specialization

CIVL 221	Elementary Hydraulics .....	3
CIVL 223	Public Utility Systems .....	3

#### Field/Support Services Specialization

SURV 141	Basic Surveying ( <i>or</i> ) .....	
SURV 140	Surveying and GPS .....	4
ARCH 110	Construction Drafting: Manual I .....	2
ARCH 112	Construction Drafting: CAD I .....	2
GEOG 207	Introduction to Geographic Information Systems .....	5

#### Health and Safety for Hazardous Waste Operations Certificate

COURSE		CR
<b>Quarter 1</b>		
ENVR 252	Health and Safety Training for Hazardous Waste Operations .....	3
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>3</b>

#### Occupational Health and Safety Certificate

COURSE		CR
<b>Quarter 1</b>		
ENVR 101	Introduction to Environmental Science, Safety and Health .....	4
ENVR 111	Hazardous Materials Management .....	3
<b>TOTAL CREDIT HOURS</b>		<b>7</b>

<b>Quarter 2</b>		
ENVR 265	OSHA 30 Hr Construction Safety & Health .....	4
ENVR 170	General Industry Safety and Health .....	4
<b>TOTAL CREDIT HOURS</b>		<b>8</b>

<b>Quarter 3</b>		
ENVR 252	Health and Safety Training for Hazardous Waste Operations .....	3
ENVR 275	Industrial Hygiene .....	4
<b>TOTAL CREDIT HOURS</b>		<b>7</b>

<b>Quarter 4</b>		
CMGT 135	Safety & Loss Prevention .....	3
<b>TOTAL CREDIT HOURS</b>		<b>3</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>25</b>

#### Sustainable Building Certificate

COURSE		CR
<b>Autumn Quarter</b>		
ENVR 282	Sustainable Building Strategies .....	3
<b>TOTAL CREDIT HOURS</b>		<b>3</b>

<b>Winter Quarter</b>		
CMGT 282	Sustainable Construction .....	3
<b>TOTAL CREDIT HOURS</b>		<b>3</b>

<b>Spring Quarter</b>		
ARCH 282	Sustainable Design Strategies .....	3
<b>TOTAL CREDIT HOURS</b>		<b>3</b>

### Summer Quarter

ARCH 283	Sustainable Energy Performance .....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>3</b>
<b>TOTAL CERTIFICATE CREDIT HOURS .....</b>		<b>12</b>

## Water/Wastewater Technology Certificate

COURSE CR

### Quarter 1

CHEM 100	Introduction to Chemistry .....	4
ENGL 101	Beginning Composition .....	3
ENVR 101	Introduction to Environmental Science, Safety and Health .....	4
MATH 102	Beginning Algebra I .....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>15</b>

### Quarter 2

CIVL 221	Elementary Hydraulics .....	3
ENVR 110	Industrial/Municipal Pollution Control .....	3
CIT 101	P.C. Applications I .....	3
ENVR 252	Health and Safety Training for Hazardous Waste Operations (or) .....	3
ENVR 170	General Industry Safety and Health .....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>12 - 13</b>

### Quarter 3

CIVL 223	Public Utility Systems .....	3
ENVR 222	Water Treatment Techniques .....	3
ENVR 223	Wastewater Treatment Techniques .....	3
ENVR 224	Environmental Hydrology .....	3
ENVR 253	Environmental Systems Analysis .....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>15</b>
<b>TOTAL CERTIFICATE CREDIT HOURS .....</b>		<b>42 - 43</b>

## Finance

### Associate of Applied Science Degree

Today's banking, investment, corporate finance, consumer credit, and commercial credit industries offer outstanding career opportunities for community college graduates. The associate degree program in Finance gives students the knowledge and skills they need to succeed in entry-level and management training positions. These may be in finance departments of corporations, government agencies, and departments of banks, savings and loans, mortgage and insurance companies. Examples of these positions include loan processor, financial planner, loan officer, financial analyst, mortgage banking trainee, foreign currency trader, credit analyst, insurance analyst, stockbroker trainee and collections manager.

Upon completion of the associate degree in Finance, the graduate will be able to:

- Explain the key concepts of financial transactions in the macro-economy.
- Explain operational methods of various financial institutions.
- Demonstrate an understanding of both commercial and consumer credit; plan credit investigations, analyze credit reports, make credit granting decisions, implement a general collection system, demonstrate an understanding of credit laws, and measure the efficiency of a credit department.

- Understand stocks, bonds, mutual funds, real estate, insurance, and annuities and the interrelationship between them and their appropriate application.
- Analyze stocks, bonds, and mutual funds and the interrelationship between them. Explain the use of mutual funds to achieve diversification.
- Use spreadsheet software, financial calculators and the Internet to research and analyze financial topics.
- Apply capital budgeting techniques for valuing business investments.
- Write financial plans for business entities and individuals.
- Demonstrate the ability to use business periodicals, the Internet, value line, mutual fund prospectuses, and stockholders' reports to produce analytical and descriptive research relevant to current financial markets.

### Traditional Classes and Distance Learning Choices at Columbus State

The Finance Program is proud to offer traditional and distance learning (DL) options for our students. The traditional class room experience continues to provide students with high quality instruction in a small classroom setting at the downtown campus and off-campus locations. Finance also offers distance learning courses that provide the same high quality learning as traditional instruction, yet with the flexibility of being able to complete your course work online or through video-based instruction.

### Finance Associate Degree

COURSE CR

#### Quarter 1

ENGL 101	Beginning Composition .....	3
CIT 101	PC Applications I .....	3
FMGT 101	Personal Finance .....	4
ACCT 106	Financial Accounting .....	5
MATH 103	Beginning Algebra II .....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>19</b>

#### Quarter 2

ENGL 102	Essay and Research .....	3
ACCT 107	Managerial Accounting .....	5
BMGT 111	Management .....	5
FMGT 211	Investments .....	4
COMM 105	Speech .....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>20</b>

#### Quarter 3

COMM 200	Business Communications .....	3
HUM XXX	Humanities 111,112,113,151, 152 or 224 .....	5
FMGT 201	Corporate Finance .....	5
ECON 200	Principles of Microeconomics .....	5
<b>TOTAL CREDIT HOURS .....</b>		<b>18</b>

#### Quarter 4

LEGL 264	Legal Environment of Business .....	4
FMGT 202	Money and Banking .....	5
MATH 135	Elementary Statistics .....	5
XXX XXX	Approved Elective .....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>18</b>

#### Quarter 5

FMGT 242	International Finance .....	4
XXX XXX	Approved Elective .....	4
ECON 240	Principles of Macroeconomics .....	5
MKTG 111	Marketing Principles .....	5
<b>TOTAL CREDIT HOURS .....</b>		<b>18</b>

### Quarter 6

FMGT 251	Finance Research	4
NSCI 101	Natural Science I	5
FMGT 271	Finance Practicum	3
FMGT 272	Finance Seminar	2
<b>TOTAL CREDIT HOURS</b>		<b>14</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>107</b>

Approved Electives must be selected from the following list of courses:

MATH 104	Intermediate Algebra	5
MATH 130	Mathematical Analysis for Business I	5
MATH 131	Business Calculus I	5
MATH 132	Business Calculus II	5
MATH 148	College Algebra	5
CIT 102	PC Applications II	3
BOA 106	Internet Research	1
BOA 172/173	Excel Modules	1 each
ACCT 108	Intermediate Preparedness	4
ACCT 121	Data Processing for Accountants	4
ACCT 126	Accounting Systems	4
ACCT 231	State and Local Taxation	4
ACCT 232	Federal Taxation	4
ACCT 250	Intermediate Accounting I	4
BMGT 102	Managing Interpersonal Skills	3
BMGT 211	Organizational Behavior	4
BMGT 216	Ethics and Leadership	4
BMGT 245	Introduction to Nonprofit Management	5
BMGT 280	Business Professional Development	4
FMGT 221	Financial Institutions and Markets	4
HRM 121	Human Resources Management	4
LOGI 219	International Business	3
MKTG 150	Introduction to e-Commerce	3

## Fire Science

### Fire Science Associate Degree

Technological advancements and increasing sophistication in fire fighting and prevention have made the role of the professional in this field more complex, requiring advanced preparation. This program is designed for firefighters and persons in related fields such as construction engineering, insurance investigation, and corporate safety.

The program emphasizes fire-fighting techniques, fire prevention, fire protection systems, and customer service. Combining these subjects with advanced hazardous material response, building construction, and hydraulics gives the student a firm foundation in fire protection and prevention.

Upon completion of the associate degree in Fire Science, the graduate will be able to:

- Demonstrate effective communication and interpersonal skills with supervisors, peers, and the public.
- Explain the history and basic principles of the fire service.
- Recognize and respond to changing fire conditions and the potential for collapse in structures.
- Demonstrate knowledge of the legal aspects of the fire service.
- Demonstrate the duties and responsibilities of Incident Command.
- Demonstrate necessary proficiencies with extinguishment hydraulics and fire protection systems.
- Demonstrate a working knowledge of fire investigation principles.

## Fire Science Associate Degree

COURSE	CR	
<b>Quarter 1</b>		
ENGL 101	Beginning Composition	3
MATH 102	Beginning Algebra I	4
FIRE 117	Firefighter I and II	12
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

<b>Quarter 2</b>		
ENGL 102	Essay and Research	3
CHEM 100	Intro to Chemistry	4
EMS 110	EMT-Basic	9.5
FIRE 156	Building Construction/Collapse: Basic Concepts (or)	
FIRE 200	Construction/Collapse for Experienced FF (See Note 3)	4
<b>TOTAL CREDIT HOURS</b>		<b>20.5</b>

<b>Quarter 3</b>		
COMM 200	Business Communications	3
LAWE 268	Hazardous Materials	3
SSCI XXX	Social Science 101, 102, 105 or GEOG 240	5
FIRE 207	Customer Service for the Fire Service	3
<b>TOTAL CREDIT HOURS</b>		<b>14</b>

<b>Quarter 4</b>		
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224	5
FIRE 102	Fire Inspector	3
CIT 101	PC Applications I	3
FIRE XXX	Technical Elective	3
<b>TOTAL CREDIT HOURS</b>		<b>14</b>

<b>Quarter 5</b>		
COMM 105	Speech	3
FIRE 106	Fire Protection Systems	3
FIRE 204	Fire Service Rating System	2
FIRE 209	Fire Fighting Problems	3
<b>TOTAL CREDIT HOURS</b>		<b>11</b>

<b>Quarter 6</b>		
FIRE 104	Fire Investigation Methods	4
FIRE 108	Fire Command I (or)	
FIRE 211	Incident Command for Experienced FF (See Note 3)	4
FIRE XXX	Technical Elective	3
FIRE 205	Fire Service Company Officer	3
FIRE 202	Hazardous Materials: Technician Level	4
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

<b>Quarter 7</b>		
FIRE 109	Fire Command II	3
FIRE 153	Fire Hydraulics	4
FIRE 160	Legal Issues for Public Safety Personnel	3
FIRE 206	Administration of a Fire Department	3
<b>TOTAL CREDIT HOURS</b>		<b>13</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>109.5</b>

#### Technical Electives:

FIRE 151	Fire Prevention Codes	4
EMS 295	Public Safety Services Instructor	6
CMGT 121	Building Construction Drawings	3

**NOTE 1:** Prior to enrolling in any Fire Science courses, student must complete one of the following: FIRE 100 or FIRE 117, or have documented Firefighter I and II certification.

**NOTE 2:** Students with EMT-Basic, Firefighter I and II, and/or Apprenticeship certification may qualify for other nontraditional credit which may apply toward the degree. Contact the Fire Science Technology Coordinator at [fire@csc.edu](mailto:fire@csc.edu) for an appointment for Fire Science advising.

**NOTE 3:** FIRE 200 Construction/Collapse for Experienced Firefighters is not open to students with credit for FIRE 156. FIRE 211 Incident Command for Experienced Firefighters is not open to students with credit for FIRE 108.

# Geographic Information Systems

## Geographic Information Systems Associate Degree GIS Certificate

The Geographic Information Systems associate degree program provides the community with skilled professionals who use, edit, and make decisions using GIS systems. Graduates are able to work in diverse industries that use geographic information systems including government agencies, construction, banking, health care, land use planning, transportation mapping and analysis, and emergency response.

With the growth of decision-making using spatial data and geographic locations, many businesses are looking for individuals who have skills and knowledge in GIS. GIS professionals can analyze and match spatial data with geographic location, create maps and make decisions relevant to their industries. They use, edit and manipulate the GIS software in their day-to-day operations. GIS is expected to be a growth occupation in Ohio and the nation in the years to come.

The GIS Certificate program is designed for professionals seeking to enhance their knowledge and skills in Geographic Information Systems. It is most beneficial to entry and intermediate level GIS users who lack formal training and education in GIS. There are no prerequisites and no previous work experience in geographic information technologies is required. The program is an evening and/or weekend program. Courses are taught as instructor-led or as Web-based instruction. Projects and assignments can be submitted using your own computer or lab facilities on campus.

The GIS program provides students with a solid educational background in communication skills, math, computer literacy and operations, and the humanities and behavioral sciences.

Upon completion of the associate degree in GIS, the graduate will be able to:

- Recognize, evaluate, combine and use the different forms of data acquisitions which are used in GIS mapping including GPS, surveying, photogrammetry, scanning, digitizing and remote sensing.
- Create and formulate techniques for implementing a geographic information system by having the knowledge and skills in creating, editing, using and georeferencing spatial data and GIS software.
- Develop strategic, business, and implementation plans for GIS projects, budgeting, software and hardware procurement, staffing, training and legal issues.

### GIS Associate Degree

COURSE	CR
<b>Quarter 1</b>	
GEOG 207 Introduction to GIS .....	5
GIS 100 Acquiring GIS Data .....	3
MATH 148 College Algebra .....	5
CIT 103 Computer Concepts and Logic.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>

<b>Quarter 2</b>	
ENGL 101 Beginning Composition .....	3
GEOG 280 Elements of Cartography .....	5
GIS 105 Elements of Photogrammetry (First Term) .....	2
GIS 110 Georeferencing and Editing GIS Data (Second Term) .....	2
GIS 251 GIS Software I .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>

<b>Quarter 3</b>	
ENGL 102 Essay and Research.....	3
MATH 135 Elementary Statistics.....	5
ARCH 112 Construction Drafting: CAD I .....	2
GIS 253 GIS Software II .....	3
HUM XXX Humanities 111, 112, 113, 151,152 or 224 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 4</b>	
COMM 110 Conference and Group Discussion ( <i>or</i> ) .....	3
COMM 105 Speech.....	3
COMM 204 Technical Writing.....	3
CIT 233 Expert Access.....	3
SURV 140 Surveying and GPS ( <i>or</i> ) .....	4
SURV 141 Basic Surveying .....	4
XXX XXX Technical Elective.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>

<b>Quarter 5</b>	
GIS 203 Remote Sensing of Environment.....	4
GIS 280 Advanced GIS Applications .....	4
GEOG240 World Economic Geography .....	5
XXX XXX Technical Elective .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>

<b>Quarter 6</b>	
GIS 260 Introduction to Spatial Analysis.....	4
GIS 279 Introduction to GIS Databases .....	3
GIS 291 GIS Practicum.....	4
GIS 290 Seminar for GIS .....	1
XXX XXX Technical Elective.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>96</b>

Technical Electives must be selected from the following list of courses:

## SPECIALIZATION TRACKS

### GIS Specialization

Must take at least two technical electives from:

GIS 275 Planning and Implementing GIS.....	3
GIS 277 Introduction to ArcIMS.....	3
GIS 278 Introduction to Programming in GIS .....	3
GIS 281 Introduction to ArcGIS Server .....	3
GIS 299 Special Topics in GIS.....	1-5

Must take at least one technical elective from:

GIS 283 GIS in Emergency Management.....	3
GIS 284 GIS in Health .....	3
GIS 285 GIS in Business.....	3
GIS 286 GIS in Utilities .....	3
CMGT 221 Building Information Modeling.....	3

### Environmental Specialization

ENVR 101 Intro. to Environmental Science, Safety and Health.....	4
ENVR 110 Industrial/Municipal Pollution Control.....	3
ENVR 158 Environmental Site Assessment.....	3

### Landscape Specialization

LAND 152 Site Planning .....	4
LAND 110 Landscape Computer Application.....	4
SURV 247 Townsite/Urban Development .....	3

## LIS Specialization

LAND 152	Site Planning .....	4
SURV 245	Survey Law .....	3
SURV 249	Land Subdivision Systems .....	3

## GIS Certificate

COURSE		CR
<b>Quarter 1</b>		
GEOG 207	Introduction to GIS .....	5
GIS 100*	Acquiring GIS Data .....	3
<b>TOTAL CREDIT HOURS</b>		<b>8</b>

### Quarter 2

GIS 251	GIS Software I .....	3
XXX XXX	Technical Elective <sup>2</sup> .....	3
XXX XXX	Technical Elective <sup>2</sup> .....	3
<b>TOTAL CREDIT HOURS</b>		<b>9</b>

### Quarter 3

GIS 253	GIS Software II .....	3
GIS 280	Advanced GIS Applications ( <i>or</i> ) .....	4
GIS 290/291	Seminar for GIS/GIS Practicum <sup>1</sup> .....	5
<b>TOTAL CREDIT HOURS</b>		<b>7-8</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>24-25</b>

Technical Electives must be selected from the following list of courses.

Must take at least one technical elective from:

GIS 275	Planning and Implementing GIS .....	3
GIS 277	Introduction to ArcIMS .....	3
GIS 278	Introduction to Programming for GIS .....	3
GIS 279	Introduction to GIS Databases .....	3
GIS 281	Introduction to ArcGIS Server .....	3
GIS 299	Special Topics in GIS .....	1-5

Must take at least one technical elective from:

GIS 283	GIS in Emergency Management .....	3
GIS 284	GIS in Health .....	3
GIS 285	GIS in Business .....	3
GIS 286	GIS in Utilities .....	3

\* This course may be taken prior to starting the GIS Certificate.

1 This course maybe taken during summer quarter.

2 Two technical electives required for certificate (any quarter).

# Health Information Management Technology

## Health Information Management Technology

### Associate Degree

### Medical Coding Certificate

The Health Information Management Technology program prepares the student to become a professional responsible for maintaining components of health information systems consistent with the medical, administrative, ethical, legal, accreditation, and regulatory requirements of the health care delivery system. In all types of health care facilities, the health information management technician possesses the technical knowledge and skills necessary to process, maintain, compile, and report health information data for reimbursement, facility planning, marketing, risk management, utilization management, quality assessment and research; to abstract and code clinical data using appropriate classification systems; and to analyze health records according to standards. The health information management technician also may be responsible for functional supervision of the various components of the health information system.

The Medical Coding Certificate program prepares students with entry-level skills needed to code, classify, and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and statistical analysis. Principles in ICD-9-CM coding, CPT coding, and third-party reimbursement will be emphasized.

The Health Information Management Technology degree program and the Medical Coding Certificate program are Web-based programs. All technical coursework is offered online except for HIMT 292, HIMT 294, and HIMT 296.

Proctored testing is required for most HIMT courses.

## Health Information Management Technology

Upon completion of the associate degree in the Health Information Management Technology, the graduate will be able to:

- Demonstrate knowledge of human anatomy, physiology, and pathophysiology, medical terminology, pharmacology and clinical data as it relates to the collection and use of health information.
- Review health records for completeness and accuracy to determine appropriateness and adequacy of health care documentation.
- Maintain and compile health information using electronic applications and work processes.
- Apply legal principles, policies, regulations and standards for the control, use, and dissemination of health information.
- Collect, compute, analyze, interpret and present statistical data related to health care services.
- Code, classify, and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and statistical analysis.
- Review, abstract, retrieve, and compile health data for

reimbursement, quality assessment, patient care research, clinical registries and other informational needs.

- Apply principles of supervision and leadership and the tools used to effectively manage human resources.
- Demonstrate ethical practices as outlined in the American Health Information Management Association (AHIMA) Code of Ethics.

The HIMT degree program at Columbus State is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM).

Completion of the associate degree in Health Information Management Technology will permit graduates to sit for the Registered Health Information Technician (RHIT) certification examination and the Certified Coding Associate (CCA) examination. Graduates of the HIMT degree program may transfer to The Ohio State University, the University of Cincinnati, or the University of Toledo for a Bachelor of Science degree, majoring in Health Information Management and Systems.

### Medical Coding Certificate

Upon completion of the Medical Coding Certificate, the student will be able to:

- Demonstrate knowledge of human anatomy, physiology, and pathophysiology, medical terminology, pharmacology and clinical data as it relates to the collection and use of health information.
- Review health records for completeness and accuracy to determine appropriateness and adequacy of health care documentation.
- Identify components of appropriate and adequate documentation of health care.
- Code, classify and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and statistical analysis.
- Abstract data from patient records for reimbursement, quality assessment, patient care research, clinical registries and other identified informational needs.
- Demonstrate ethical practices as outlined in the American Health Information Management Association (AHIMA) Code of Ethics.

### Specific Program Admissions Information

Listed below are requirements for admission to the Health Information Management Technology and the Medical Coding Certificate program. These requirements must be completed prior to acceptance into the HIMT degree program or the Medical Coding Certificate program.

- High school graduate or GED equivalency
- High school biology (or equivalent) with a grade of “C” or higher and completed within the past 5 years OR equivalent college credit for BIO 100 (completed within the past 5 years).
- High school chemistry with a grade of “C” or higher and completed within the past 3 years, OR equivalent college credit for CHEM 100 (completed within the past 3 years)
- Placement into ENGL 101 Beginning Composition

- Placement into No Reading Required
- Placement into MATH 102 Beginning Algebra I
- Completion of CIT 094 Web Learning Tools with a grade of “C” or higher
- Completion of HIMT 121 Advanced Medical Terminology with a grade of “C” or higher
- Completion of HIMT 111 Introduction to HIMT with a grade of “C” or higher.
- Students must pass a drug screen and background check before they can be accepted into either the HIMT degree program or the Medical Coding Certificate program.

After earning a “C” or higher in HIMT 111 (which requires completion of the courses noted above), the student will be accepted into the HIMT degree program or the Medical Coding Certificate program. Once the student has been accepted into either the HIMT degree program or the Medical Coding Certificate program, the student may begin completing the appropriate plan of study.

Both the HIMT degree program and the Medical Coding Certificate program plans of study begin with autumn quarter as published. A student may also begin the program during winter, spring, or summer quarters; however, if a student begins a program in a quarter other than autumn quarter, it may take longer to complete the HIMT degree program or the Medical Coding Certificate program. An alternate plan of study must be followed in order to assure the prerequisites are met and that courses are planned to be taken during quarters in which they are offered. An alternate plan of study may extend program completion time.

Students must earn a “C” or higher in all HIMT technical and basic related courses to earn an Associate of Applied Science degree in HIMT or to complete the Medical Coding Certificate program.

Students are expected to follow the established plans of study. If a student deviates from the established plan of study, it may take longer to complete a certificate and/or two-year degree.

### Health Information Management Technology Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101 Beginning Composition .....	3
BIO 121 Anatomy and Physiology I .....	5
CIT 101 PC Applications I .....	3
HIMT 135 Health Data Management .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>
<b>Quarter 2</b>	
ENGL 102 Essay and Research.....	3
BIO 122 Anatomy and Physiology II .....	5
CIT 102 PC Applications II .....	3
HIMT 141 Pharmacology and Health Information Management .....	3
HIMT 256 Clinical Data Analysis.....	3
HIMT 267 Principles of Management .....	3
<b>TOTAL CREDITS HOURS .....</b>	<b>20</b>
<b>Quarter 3</b>	
MATH 102 Beginning Algebra I.....	4
HIMT 133 Legal Aspects of Health Information.....	3
HIMT 243 Comparative Health Settings in HIMT .....	3
HIMT 245 ICD-9-CM Coding .....	5
HIMT 257 Introduction to Health Statistics.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

# Heating, Ventilating and Air Conditioning Technology

## Heating, Ventilating and Air Conditioning Technology Associate Degree High Pressure Boiler License Training Program Large Commercial Certificate Residential/Light Commercial Certificate

The Heating, Ventilating and Air Conditioning Technology program prepares graduates for a wide variety of occupations in the \$150 billion mechanical environment science field. Graduates find employment with large commercial heating and air conditioning contractors, residential mechanical contractors, parts and equipment distributors, large commercial and industrial facility maintenance departments, hospital facilities maintenance departments, custom design or new construction markets.

The increase in new high-rise buildings and real estate development within all major cities is a clear indication of the ongoing job opportunities available. Many graduates also find employment with equipment manufacturers in research and development. Today's society is demanding more emphasis on the ethical, legal, and regulatory requirements relating to environmental concerns facing the HVAC industry today and in the future.

The degree program offers the training needed to develop a high degree of technical skill, as well as the ability to work with minimal supervision and a strong sense of personal responsibility. Graduates with field experience and further experience in business management can look to ownership of their own HVAC companies.

The four-course High Pressure Boiler License Training program prepares students to take the State of Ohio High Pressure Boiler Operators License examination. To be licensed, individuals are also required to document directly-related work experience with high pressure boilers in accordance with State of Ohio requirements. This boiler license program gives technicians the opportunity to progress from licensed boiler operator through many more responsible jobs in industry and commercial applications.

Upon completion of the associate degree in Heating, Ventilating and Air Conditioning Technology, the graduate will be able to:

- Create manual and computer graphic representations of HVAC projects.
- Select piping materials and design piping systems.
- Perform designs for commercial and industrial piping systems, including water, steam and refrigeration piping.
- Calculate heat loss and heat gain loads for residential and commercial structures, using National ACCA manuals and computer software.
- Use testing and analyzing instruments and calculate combustion process for various fuels (e.g., natural gas, coal, and fuel oil) to ensure proper operation for the most efficient operation of boilers and furnaces.
- Assist in the selection and application of a variety of residential and commercial HVAC equipment to solve environ-

<b>Quarter 4</b>		
COMM 105	Speech ( <i>or</i> )	
COMM 110	Conference and Group Discussion.....	3
COMM 200	Business Communications .....	3
HIMT 255	CPT-4 Coding .....	5
HIMT 292	Practical Applications in HIMT I.....	4
HIMT 112	Electronic Health Concepts.....	2
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

<b>Quarter 5</b>		
CIT 233	Expert Access.....	3
HIMT 113	Managed Care Trends .....	2
HIMT 259	Quality and Resource Management.....	3
HIMT 265	Medical Reimbursement .....	3
HIMT 275	Intermediate Coding .....	5
HIMT 294	Practical Applications in HIMT II .....	4
<b>TOTAL CREDIT HOURS</b>		<b>20</b>

<b>Quarter 6</b>		
SSCI XXX	Social Science 100, 101, 102, 105 or GEOG 240 .....	5
HUM XXX	HUM 111, 112, 113, 151, 152 or 224 .....	5
HIMT 270	Case Management in Health Care.....	2
HIMT 290	HIMT Capstone.....	2
HIMT 296	Practical Medical Coding Applications in HIMT .....	4
<b>TOTAL CREDIT HOURS</b>		<b>18</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>109</b>

**Note:** BIO 261 Human Anatomy, BIO 262 Human Physiology, and BIO 263 Human Pathophysiology can be taken in place of BIO 121 and BIO 122.

## Medical Coding Certificate

COURSE		CR
<b>Quarter 1</b>		
BIO 121	Anatomy and Physiology I.....	5
CIT 101	PC Applications .1 .....	3
HIMT 135	Health Data Management .....	5
<b>TOTAL CREDIT HOURS</b>		<b>13</b>
<b>Quarter 2</b>		
BIO 122	Anatomy and Physiology II.....	5
HIMT 141	Pharmacology and Health Information Management.....	3
HIMT 256	Clinical Data Analysis .....	3
<b>TOTAL CREDIT HOURS</b>		<b>11</b>
<b>Quarter 3</b>		
HIMT 245	ICD-9-CM Coding .....	5
ENGL 101	Beginning Composition.....	3
<b>TOTAL CREDIT HOURS</b>		<b>8</b>
<b>Quarter 4</b>		
HIMT 255	CPT-4 Coding.....	5
<b>TOTAL CREDIT HOURS</b>		<b>5</b>
<b>Quarter 5</b>		
HIMT 113	Managed Care Trends.....	2
HIMT 265	Medical Reimbursement.....	3
HIMT 275	Intermediate Coding .....	5
<b>TOTAL CREDIT HOURS</b>		<b>10</b>
<b>Quarter 6</b>		
HIMT 296	Practical Medical Coding Applications in HIMT.....	4
<b>TOTAL CREDIT HOURS</b>		<b>4</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>51</b>

**Note:** BIO 261 Human Anatomy, BIO 262 Human Physiology, and BIO 263 Human Pathophysiology can be taken in place of BIO 121 and BIO 122.

mental problems.

- Assist in the design of automatic control circuits using electro-mechanical and electronic control devices.
- Assist in designing preventative maintenance programs for various HVAC systems.
- Research and apply local, state, and national codes to various environmental systems.
- Assist in conducting energy audits of residential and commercial structures.
- Test and calculate airflow through system equipment.
- Read control schematics and test control circuits for malfunctions.
- Troubleshoot and repair gas/electric furnaces, fuel oil furnaces, split system air conditioners and heat pumps, humidifiers, and electronic air cleaners.

For more information, students can refer to the Web site (<http://www.csc.edu/HVAC>) and/or contact HVAC Program Coordinator, Bill Highley (614) 287-2657.

### Heating, Ventilating and Air Conditioning Technology Associate Degree

COURSE		CR
<b>Quarter 1</b>		
ARCH 110	Construction Drafting: Manual I (First Term)	2
ARCH 112	Construction Drafting: CAD I (Second Term)	2
CIT 101	PC Applications I	3
ENGL 101	Beginning Composition	3
HAC 152	Instrumentation/Combustion Process	4
HAC 161	Hand Tools Laboratory	4
<b>TOTAL CREDIT HOURS</b>		<b>18</b>
<b>Quarter 2</b>		
HAC 116	Piping Systems	3
HAC 141	Principles of Refrigeration	4
HAC 183	HAC Wiring Circuits I	4
HAC 222	Load Calculations I	4
MATH 104	Intermediate Algebra	5
<b>TOTAL CREDIT HOURS</b>		<b>20</b>
<b>Quarter 3</b>		
ENGL 102	Essay and Research	3
HAC 231	Load Calculations II	4
HAC 243	Air Conditioning Systems	4
HAC 284	HAC Wiring Circuits II	4
MATH 148	College Algebra	5
<b>TOTAL CREDIT HOURS</b>		<b>20</b>
<b>Quarter 4</b>		
BMGT 231	Entrepreneurship I	4
COMM 200	Business Communications	3
HAC 242	HAC Mechanical Standards/Safety	3
HAC 253	Automatic Controls I	3
HAC 254	Heating Systems	4
<b>TOTAL CREDIT HOURS</b>		<b>17</b>
<b>Quarter 5</b>		
BMGT 232	Entrepreneurship II	4
COMM 105	Speech	3
HAC 256	Automatic Controls II	3
HAC XXX	Technical Elective	4
<b>TOTAL CREDIT HOURS</b>		<b>14</b>
<b>Quarter 6</b>		
HAC 244	Heat Pump Systems	4
HAC 266	Advanced Problems	4
HUM XXX	Humanities 111,112,113,151,152 or 224	5

SSCI 10X	Social Science 100,101, 102, 105 or GEOG 240	5
<b>TOTAL CREDIT HOURS</b>		<b>18</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>107</b>

Technical Elective must be selected from the following list of courses:

HAC 291	Field Experience	4
HAC 258	Pneumatic Controls I	4
HAC 285	HAC Electronic Controls I	4
HAC 287	Boiler Systems	5
HAC 288	Commercial A/C Systems	4
HAC 299*	Special Topics in HAC	1-5

\* Please see advisor before scheduling this class.

### High Pressure Boiler License Training Program

COURSE		CR
<b>Quarter 1</b>		
HAC 116	Piping Systems	3
HAC 152	Instrumentation/Combustion	4
HAC 242	HAC Mechanical Standards/Safety	3
HAC 287	Boiler Systems	5
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>15</b>

### Large Commercial Certificate

COURSE		CR
<b>Quarter 1</b>		
HAC 141	Principles of Refrigeration	4
HAC 183	HAC Wiring Circuits I	4
<b>TOTAL CREDIT HOURS</b>		<b>8</b>
<b>Quarter 2</b>		
HAC 152	Instrumentation/Combustion	4
HAC 287	Boiler Systems	5
<b>TOTAL CREDIT HOURS</b>		<b>9</b>
<b>Quarter 3</b>		
HAC 288	Commercial A/C Systems	4
HAC 256	Automatic Controls II	3
<b>TOTAL CREDIT HOURS</b>		<b>7</b>
<b>Quarter 4</b>		
HAC 285	HAC Electronic Controls I	4
HAC 258	Pneumatic Controls	4
<b>TOTAL CREDIT HOURS</b>		<b>8</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>32</b>

### Residential/Light Commercial Certificate

COURSE		CR
<b>Quarter 1</b>		
HAC 141	Principles of Refrigeration	4
HAC 183	HAC Wiring Circuits I	4
<b>TOTAL CREDIT HOURS</b>		<b>8</b>
<b>Quarter 2</b>		
HAC 152	Instrumentation/Combustion	4
HAC 284	HAC Wiring Circuits II	4
<b>TOTAL CREDIT HOURS</b>		<b>8</b>
<b>Quarter 3</b>		
HAC 243	Air Conditioning Systems	4
HAC 161	Hand Tools Laboratory	4
<b>TOTAL CREDIT HOURS</b>		<b>8</b>
<b>Quarter 4</b>		
HAC 244	Heat Pump Systems	4
HAC 254	Heating Systems	4
<b>TOTAL CREDIT HOURS</b>		<b>8</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>32</b>



# Hospitality Management

## Technology

**Culinary Apprenticeship Major**

**Dietetic Technician Major**

**Hotel, Tourism, and Event Management Major**

**Restaurant and Foodservice Management Major**

**Restaurant and Foodservice Management Major–**

**Baking and Pastry Arts Track**

**Baking Certificate**

**Dietary Manager Certificate**

**Meeting and Event Management Certificate**

**School Foodservice Manager Certificate**

The Hospitality Management programs provide quality learning experiences to enhance initial employment opportunities and to improve technical and supervisory skills for career advancement in foodservice, lodging, and tourism. Several majors leading to associate degrees are available for Culinary Apprenticeship, Dietetic Technician, Restaurant and Foodservice Management (also Baking and Pastry Arts Track), and Hotel, Tourism, and Event Management. The programs are accredited by the Commission on Accreditation for Hospitality Management Programs (CAHM). In addition, Dietary Manager, Baking, Meeting and Event Management and School Foodservice Manager Certificate programs are available.

The **Culinary Apprenticeship** major is offered in cooperation with the American Culinary Federation Columbus Chapter. It includes the theory-related classroom instruction and on-the-job training required for the National Apprenticeship Training Program of the American Culinary Federation (ACF). A Supplementary Application is required. (See Specific Program Admissions Information.) Culinary apprentices are placed for employment for three years of on-the-job training under a professional chef in restaurants, clubs, hotels, or catering businesses. At the same time, the apprentices attend classes at Columbus State one full day each week to work toward the associate of applied science degree. The Columbus State program is accredited by the American Culinary Federation Foundation Accrediting Commission. Program graduates qualify as Certified Culinarians through the ACF and as Journeyman Chefs through the U.S. Department of Labor, Bureau of Apprenticeship and Training.

The **Dietetic Technician** major is accredited by the Commission on Accreditation for Dietetics Education (CADE) of the American Dietetic Association. The seven-quarter program provides practicums coordinated with classroom instruction. Graduates are eligible for membership in the American Dietetic Association and qualify to take the national examination given by the Commission for Dietetic Registration to be credentialed as a Dietetic Technician Registered (DTR).

The **Hotel, Tourism, and Event Management** major prepares students for a wide variety of positions in travel agencies, hotels, attractions, and related tourism organizations. Required cooperative work experiences and hands-on instruction in computer reservations systems are included in a course of study appropriate for

individual growth and advancement in hospitality and tourism.

The **Restaurant and Foodservice Management** major combines classroom instruction, laboratory experience, and hospitality industry work experiences. The associate degree program prepares graduates for supervisory positions in a variety of restaurant and foodservice operations. This major is accredited by the American Culinary Federation Foundation Accrediting Commission, and graduates can qualify as Certified Culinarians by the American Culinary Federation upon successful completion of national written and practical examinations.

The **Restaurant and Foodservice Management Major–Baking and Pastry Arts Track** is designed to prepare graduates to prepare and produce pies, cookies, cakes, breads, rolls, desserts and other baked goods in a variety of baking environments such as independent and in-store bakeries as well as large commercial bakeries, restaurants and hotels. The program includes classroom instruction, laboratory experience, and industry work experience.

The **Baking Certificate** program will prepare students to assist in the preparation and production of pies, cookies, cakes, breads, rolls, desserts, and other baked goods in a variety of baking environments including independent and in-store bakeries as well as large commercial bakeries, restaurants, and hotels. Duties may include stocking ingredients, preparing and cleaning equipment, measuring ingredients, mixing, scaling, forming, proofing, oven tending, product finishing, and presentation. Credit hours earned may be applied to an associate of applied science degree.

The 18-credit **Dietary Manager Certificate** is approved by the Dietary Managers Association. It is open to persons working in the foodservice operation of a health care facility that employs a Registered Dietitian, who serves as the preceptor to the student. Persons completing the program are eligible to take the national certification exam to become a Certified Dietary Manager (CDM). Credit hours earned may be applied to an associate of applied science degree in the Dietetic Technician major.

The **Meeting and Event Management Certificate** is designed to prepare students to assume positions in meeting and event planning in conference centers, hotels, or large corporations. The certificate includes seven required courses. Upon successful completion of these courses, student could apply them to the Hotel, Tourism, and Event Management major to complete a degree in Hospitality Management.

The **School Foodservice Manager Certificate** program includes four courses. The completion of these four courses will prepare the student to meet the education requirements for the third level of certification established by the School Nutrition Association.

In addition to CSCC General Education outcomes, upon completion of the associate degree in Hospitality Management, the graduate will be able to:

- Demonstrate appropriate standards of professionalism, including ethical behavior and adherence to dress and grooming codes required for the industry.
- Exceed the expectations of a diverse population of customers in providing the hospitality experience.

- Manage effectively the resources of our industry operations, including human resources and financial controls.
- Demonstrate the ability to comply with current laws, rules and regulations governing foodservice, lodging and tourism.
- Demonstrate the ability to market and sell products and services.
- Integrate learned or acquired skills, both personally and professionally, within the workplace.

### Culinary Apprenticeship Major

In addition to the general Hospitality Management competencies, a graduate majoring in the Culinary Apprenticeship program will be able to:

- Plan, organize, and supervise the production and service of appropriate high quality food and beverage to a variety of customers.

### Dietetic Technician Major

In addition to the general Hospitality Management competencies, a graduate majoring in the Dietetic Technician program will be able to:

- Apply nutrition principles to menu planning and food production for a variety of customers.
- Analyze and apply nutrition assessment data to plan menus and nutrition education sessions and to provide nutrition care for persons/groups on both regular and modified diets.

### Hotel, Tourism and Event Management Major

In addition to the general Hospitality Management competencies, a graduate majoring in Hotel, Tourism and Event Management will be able to:

- Apply destination geography knowledge as required for lodging and tourism industry.
- Plan, organize and supervise the delivery of services in both lodging and tourism operations.

### Restaurant and Foodservice Management Major

In addition to the general Hospitality Management competencies, a graduate majoring in Restaurant and Foodservice Management will be able to:

- Plan, organize, and supervise the production and service of appropriate high quality food and beverage to a variety of customers.

### Restaurant and Foodservice Management Major – Baking and Pastry Arts Track

In addition to the general Hospitality Management competencies, a graduate majoring in the Restaurant and Foodservice Management – Baking and Pastry Arts Track will be able to:

- Plan, organize and supervise the production and service of appropriate high quality food and beverage to a variety of customers.
- Plans, organizes, supervises and performs basic baking and pastry techniques in a competitive industry environment utilizing the required tasks of proper equipment usage, production, conversions and costing of formulas.

### Specific Program Admissions Information

Listed below are additional requirements for admission to the Culinary Apprenticeship major and the Dietetic Technician major.

### Culinary Apprenticeship Major

- High school graduate or GED equivalency
- Placement into ENGL 101 Beginning Composition
- Placement into MATH 101 Business Mathematics
- Supplemental application required by the department (May 15 and November 15 deadlines)

### Dietetic Technician Major

- High school graduate or GED equivalency
- Recommended high school or equivalent courses in Algebra, Chemistry and Biology
- Completed health statement (see program coordinator)
- Placement into DEV 031 or higher
- Placement into ENGL 100 or higher

### Culinary Apprenticeship Major

COURSE	CR
<b>Quarter 1</b>	
HOSP 101     Researching the Hospitality and Tourism Industry .....	3
HOSP 102     Foodservice Equipment .....	2
HOSP 122     Hospitality Sanitation and Safety.....	3
HOSP 293     Hospitality Co-Op Work Experience I .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>11</b>
<b>Quarter 2</b>	
HOSP 153     Nutrition for a Healthy Lifestyle.....	5
ENGL 101     Beginning Composition .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>8</b>
<b>Quarter 3</b>	
MATH 101     Business Math .....	5
HOSP 107     Food Principles .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>10</b>
<b>Quarter 4</b>	
HOSP 106     Food Laboratory I .....	3
CIT 101        PC Applications I.....	3
COMM 110    Conference and Group Discussion.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>9</b>
<b>Quarter 5</b>	
HOSP 123     Food Purchasing .....	3
HOSP 216     Food Laboratory II .....	3
HOSP 294     Hospitality Co-Op Work Experience II .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>9</b>
<b>Quarter 6</b>	
HOSP 217     Garde Manger .....	3
ENGL 102     Essay and Research.....	3
HOSP 225     Menu Development.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>9</b>
<b>Quarter 7</b>	
HOSP 272     Catering Services .....	2
SSCI 101     Cultural Diversity .....	5
COMM 200    Business Communication.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>10</b>
<b>Quarter 8</b>	
NSCI 101     Natural Science I .....	5
HOSP 227     Garde Manger II.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>8</b>
<b>Quarter 9</b>	
HOSP 295     Hospitality Co-Op Work Experience III .....	3
HOSP 218     Fundamentals of Baking .....	3
HUM XXX     Humanities 111,112,113,151,152 or 224 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>11</b>

<b>Quarter 10</b>		
ACCT 106	Financial Accounting .....	5
HOSP 214	International Cuisine .....	3
<b>TOTAL CREDIT HOURS</b>		<b>8</b>

<b>Quarter 11</b>		
HOSP 205	Records and Cost Control .....	4
BMGT 102	Managing Interpersonal Skills I .....	3
<b>TOTAL CREDIT HOURS</b>		<b>7</b>

<b>Quarter 12</b>		
HOSP 224	Hospitality Supervision and Quality Management .....	5
HOSP 286	Apprenticeship Final Project .....	2
HOSP 203	Beverage Management .....	3
<b>TOTAL CREDIT HOURS</b>		<b>10</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>110</b>

## Dietetic Technician Major

### COURSE CR

<b>Quarter 1</b>		
HOSP 102	Food Service Equipment .....	2
HOSP 122	Hospitality Sanitation and Safety .....	3
DIET 191	Dietetic Technician Practicum I .....	1.4
ENGL 101	Beginning Composition .....	3
MULT 101	Medical Terminology .....	2
MATH 102	Beginning Algebra I .....	4
<b>TOTAL CREDIT HOURS</b>		<b>15.4</b>

<b>Quarter 2</b>		
HOSP 153	Nutrition for a Healthy Lifestyle .....	5
BIO 261	Human Anatomy .....	5
DIET 192	Dietetic Technician Practicum II .....	2
MLT 100	Introduction to Healthcare .....	3
CIT 101	PC Applications I .....	3
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

<b>Quarter 3</b>		
HOSP 123	Food Purchasing .....	3
HOSP 107	Food Principles .....	5
DIET 193	Dietetic Technician Practicum III .....	2
BIO 262	Human Physiology .....	5
<b>TOTAL CREDIT HOURS</b>		<b>15</b>

<b>Quarter 4</b>		
BMGT 102	Managing Interpersonal Skills I .....	3
ENGL 102	Essay and Research .....	3
HOSP 225	Menu Development .....	3
COMM 105	Speech .....	3
<b>TOTAL CREDIT HOURS</b>		<b>12</b>

<b>Quarter 5</b>		
DIET 261	Community Nutrition: A Life Cycle Approach .....	2
DIET 297	Dietetic Technician Practicum IV .....	3
DIET 275	Medical Nutrition Therapy I .....	5
COMM 202	Writing for Health and Human Services .....	3
DIET 263	Nutrition Care Process .....	2
<b>TOTAL CREDIT HOURS</b>		<b>15</b>

<b>Quarter 6</b>		
DIET 298	Dietetic Technician Practicum V .....	2
DIET 276	Medical Nutrition Therapy II .....	5
SSCI 101	Cultural Diversity .....	5
HOSP 224	Hospitality Supervision and Quality Management .....	5
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

<b>Quarter 7</b>		
HOSP 219	Food Production Management .....	4
DIET 265	Dietetic Technician Seminar .....	1
DIET 299	Dietetic Technician Practicum VI .....	2.6
HOSP 223	Sports Nutrition .....	3
HUM XXX	Humanities 111,112,113,151, 152 or 224 .....	5
DIET 296	Dietetic Technician Registration Exam Review .....	1
<b>TOTAL CREDIT HOURS</b>		<b>16.6</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>109</b>

## Hotel, Tourism and Event Management Major

### COURSE CR

<b>Quarter 1</b>		
CIT 101	PC Applications I .....	3
ENGL 101	Beginning Composition .....	3
MATH 101	Business Math .....	5
HOSP 101	Researching the Hospitality and Tourism Industry .....	3
HOSP 154	Destination Geography .....	5
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

<b>Quarter 2</b>		
HOSP 145	Lodging Operations .....	5
MKTG 111	Marketing Principles .....	5
HOSP 157	Tourism Operations .....	5
ENGL 102	Essay and Research .....	3
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

<b>Quarter 3</b>		
PSY 100	Introduction to Psychology .....	5
MKTG 226	Customer Service Principles and Practices .....	4
HOSP 122	Hospitality Sanitation and Safety .....	3
HOSP 143	Hospitality and Travel Law .....	3
COMM 110	Conference and Group Discussion .....	3
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

<b>Quarter 4</b>		
BMGT 102	Managing Interpersonal Skills I .....	3
HOSP 206	Management Accounting for Hospitality .....	4
HOSP 226	Event Menu Planning .....	3
HOSP 270	Event Management .....	3
HOSP 291	Hospitality Co-Op Work Experience I .....	3
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

<b>Quarter 5</b>		
ACCT 106	Financial Accounting .....	5
COMM 200	Business Communications .....	3
HOSP 257	Global Distribution Systems .....	3

HOSP 246	Hospitality Sales and Marketing .....	3
HUM XXX	Humanities 111,112,113,151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

<b>Quarter 6</b>		
NSCI 101	Natural Science I .....	5
SSCI 101	Cultural Diversity .....	5
HOSP 224	Hospitality Supervision and Quality Management .....	5
HOSP 292	Hospitality Co-Op Work Experience II .....	3
<b>TOTAL CREDIT HOURS</b>		<b>18</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>108</b>

## Restaurant and Foodservice Management Major

### COURSE CR

<b>Quarter 1</b>		
HOSP 101	Researching the Hospitality and Tourism Industry .....	3
HOSP 102	Foodservice Equipment .....	2
HOSP 122	Hospitality Sanitation and Safety .....	3
HOSP 153	Nutrition for a Healthy Lifestyle .....	5
CIT 101	PC Applications I .....	3
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

<b>Quarter 2</b>		
HOSP 107	Food Principles .....	5
BMGT 102	Managing Interpersonal Skills .....	3
ENGL 101	Beginning Composition .....	3
MATH 101	Business Math .....	5
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

<b>Quarter 3</b>		
HOSP 109	Food Production .....	3
HOSP 123	Food Purchasing .....	3
NSCI 101	Natural Science I .....	5

ENGL 102	Essay and Research .....	3
ACCT 106	Financial Accounting I .....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>19</b>

**Quarter 4**

HOSP 225	Menu Development .....	3
HOSP 205	Records and Cost Controls.....	4
HOSP 143	Hospitality and Travel Law .....	3
HOSP 272	Catering Services .....	2
SSCI 101	Cultural Diversity .....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>17</b>

**Quarter 5**

HOSP 203	Beverage Management .....	3
HOSP 219	Food Production Management.....	4
HOSP 291	Hospitality Co-Op Work Experience I .....	3
HOSP 224	Hospitality Supervision and Quality Management .....	5
COMM 105	Speech (or).....	3
COMM 110	Conference and Group Discussion .....	
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>

**Quarter 6**

HOSP 246	Hospitality Sales and Marketing.....	3
XXX XXX	Technical Elective .....	3
HOSP 292	Hospitality Co-Op Work Experience II .....	3
HUM XXX	Humanities 111,112,113,151, 152 or 224 .....	5
COMM 200	Business Communications .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>17</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....</b>	<b>103</b>

**Technical Electives**

The following courses are approved for technical elective requirements:

HOSP 217	Garde Manger .....	3
HOSP 218	Fundamentals of Baking .....	3
BMGT 216	Ethics and Leadership .....	4
HOSP 214	International Cuisine.....	3
HOSP 223	Sports Nutrition.....	3
HOSP 270	Event Management .....	3
HOSP 273	Casino Management.....	3
BMGT 231	Entrepreneurship 1 .....	4

**Restaurant and Foodservice Management Major  
Baking and Pastry Arts Track**

<b>COURSE</b>	<b>CR</b>	
<b>Quarter 1</b>		
HOSP 101	Researching the Hospitality and Tourism Industry.....	3
HOSP 110	Baking Principles .....	3
HOSP 102	Foodservice Equipment .....	2
HOSP 122	Hospitality Sanitation and Safety .....	3
MATH 101	Business Math .....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>16</b>

**Quarter 2**

HOSP 107	Food Principles .....	5
HOSP 112	Basic Yeast and Quick Breads .....	4
ENGL 101	Beginning Composition .....	3
CIT 101	PC Applications I .....	3
BMGT 102	Managing Interpersonal Skills .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>

**Quarter 3**

HOSP 123	Food Purchasing.....	3
HOSP 109	Food Production .....	3
HOSP 113	Pies and Pastries .....	3
ENGL 102	Essay and Research .....	3
HUM XXX	Humanities 111,112,113,151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>17</b>

**Quarter 4**

HOSP 205	Records and Cost Controls.....	4
HOSP 153	Nutrition for a Healthy Lifestyle .....	5
HOSP 115	Cakes, Cookies and Other Desserts .....	3
HOSP 116	Baked Goods and Dessert Presentation .....	3
NSCI 101	Natural Science.....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>20</b>

**Quarter 5**

SSCI 101	Cultural Diversity.....	5
HOSP 114	Advanced Yeast and Quick Breads .....	4
HOSP 111	Baking Operations .....	3
HOSP 291	Hospitality Cooperative Work Experience I .....	3
COMM 110	Conference and Group Discussion.....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>

**Quarter 6**

HOSP 224	Hospitality Supervision and Quality Management.....	5
ACCT 106	Financial Accounting .....	5
COMM 200	Business Communications .....	3
HOSP 292	Hospitality Cooperative Work Experience II.....	3
HOSP 285	Baking and Pastry Final Project .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>19</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....</b>	<b>108</b>

**Baking Certificate**

<b>COURSE</b>	<b>CR</b>	
<b>Quarter 1</b>		
HOSP 122	Hospitality Sanitation and Safety.....	3
HOSP 110	Baking Principles.....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>6</b>

**Quarter 2**

HOSP 112	Basic Yeast and Quick Breads .....	4
HOSP 113	Pies and Pastries.....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>7</b>

**Quarter 3**

HOSP 111	Principles of Baking Operations .....	3
HOSP 114	Advanced Breads .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>7</b>

**Quarter 4**

HOSP 115	Cakes, Cookies and Other Desserts .....	3
HOSP 116	Baked Goods and Dessert Presentation .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>6</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....</b>	<b>26</b>

**Dietary Manager Certificate**

<b>COURSE</b>	<b>CR</b>	
<b>Quarter 1</b>		
DMGR 101	Dietary Manager Seminar I .....	4
DMGR 194	Dietary Manager Co-Op/Work Experience I .....	2
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>6</b>

**Quarter 2**

DMGR 102	Dietary Manager Seminar II .....	4
DMGR 195	Dietary Manager Co-Op/Work Experience II .....	2
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>6</b>

**Quarter 3**

DMGR 103	Dietary Manager Seminar III .....	4
DMGR 196	Dietary Manager Co-Op/Work Experience III .....	2
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>6</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....</b>	<b>18</b>

**Meeting and Event Planning Certificate**

<b>COURSE</b>	<b>CR</b>	
<b>Quarter 1</b>		
HOSP 122	Hospitality Sanitation .....	3
HOSP 226	Event Menu Planning .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>6</b>

**Quarter 2**

HOSP 206	Management Accounting for Hospitality.....	4
HOSP 224	Hospitality Supervision and Quality Management.....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>9</b>

<b>Quarter 3</b>	
HOSP 272	Catering Services .....2
HOSP 246	Hospitality Sales and Marketing.....3
HOSP 270	Event Management .....3
<b>TOTAL CREDIT HOURS</b>	<b>8</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>23</b>

## School Foodservice Manager Certificate

COURSE CR

<b>Quarter 1</b>	
HOSP 122	Hospitality Sanitation .....3
<b>TOTAL CREDIT HOURS</b>	<b>3</b>

<b>Quarter 2</b>	
SMGR 101	Introduction to School Foodservice.....3
<b>TOTAL CREDIT HOURS</b>	<b>3</b>

<b>Quarter 3</b>	
SMGR 102	School Nutrition and Menu Planning .....4
<b>TOTAL CREDIT HOURS</b>	<b>4</b>

<b>Quarter 4</b>	
SMGR 103	School Foodservice Management/Human Resources.....4
<b>TOTAL CREDIT HOURS</b>	<b>4</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>14</b>

# Human Resources Management Technology

## Associate of Applied Science Degree

Over the last several decades, the human resource function has evolved into an extremely complex profession requiring an understanding of how each facet of human resources management impacts another and the organization as a whole. The plethora of federal and state laws regulating all aspects of the employee/ employer relationship, compounded by conflicting judicial interpretations, require professionals skilled in understanding and applying these laws to day-to-day management decisions. Wrong decisions, by any representative of the organization, in hiring, discipline, termination, or the way employees are treated, may result in a multimillion dollar lawsuit, costing thousands of dollars in legal fees, even if the company prevails legally.

Senior management has begun to recognize that human resource management professionals, skilled in human resource and labor law, labor relations, policy development and administration, compensation and benefits, and employee relations, make a positive impact on a firm's bottom line.

Columbus State's Human Resources Management program teaches human resources management skills in a hands-on learning environment that bridges academic theory with "real world" applications. Students receive a foundational background in the many legal issues impacting human resources management, and they learn how to apply their comprehensive knowledge to a wide spectrum of human resources management functions.

Upon completion of the associate degree in Human Resources Management, the graduate will be able to:

- Research human resources laws, cases, and issues using the Internet and other resources.
- Apply human resources laws impacting private sector employers to day-to-day business operations.
- Write legal human resources policies, procedures, programs and employee handbook summaries for an organization.
- Develop protocol for and conduct the various types of interviews used in business.
- Develop a job analysis questionnaire and write job descriptions and job specifications.
- Develop/administer a monetary compensation system.
- Develop/administer employee benefit programs.
- Develop/administer a performance appraisal system.
- Develop/administer workplace safety programs.
- Develop and present employee training programs on a human resources issues using in-person and computer based presentation methods.
- Provide assistance in the union organizing, negotiating, grieving, and arbitrating processes.

## Traditional Classes and Distance Learning Choices at Columbus State

The Human Resources Management program is proud to offer traditional and distance learning (DL) options for our students. The traditional classroom experience continues to provide students with high quality instruction in a small classroom setting, primarily at the downtown campus. The basic human resources course, HRM 121, and the Labor Relations course, HRM 220, are offered at off-campus locations at least one per year. Human Resources Management also offers some courses in distance learning that provide the same high quality learning as traditional instruction, yet with the flexibility of being able to complete course work online or through video-based instruction.

## Human Resource Management Major

<b>Quarter 1</b>	
ENGL 101	Beginning Composition ..... 3
MATH 103	Beginning Algebra II..... 4
CIT 102	PC Applications 2 ..... 3
BMGT 111	Management ..... 5
BOA 101	Business Grammar.....3
<b>TOTAL CREDIT HOURS</b>	<b>18</b>

<b>Quarter 2</b>	
ENGL 102	Essay and Research ..... 3
MATH 135	Elementary Statistics ..... 5
HRM 121	Human Resources Management ..... 4
COMM 105	Speech.....3
LEGL 261	Business Law I..... 3
<b>TOTAL CREDIT HOURS</b>	<b>18</b>

<b>Quarter 3</b>		
BMGT 211	Organizational Behavior .....	4
ECON 200	Microeconomics.....	5
HRM 122	Human Resources Policy and Procedure Writing.....	4
HRM 124	Personnel Interviewing.....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>17</b>

<b>Quarter 4</b>		
COMM 200	Business Communications.....	3
HRM 220	Labor Relations.....	5
HRM 221	Staffing Under the Law.....	4
HRM 224	Human Resources Records Management.....	3
HRM 228	Employee Training.....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>19</b>

<b>Quarter 5</b>		
HRM 222	Monetary Compensation.....	4
HRM 226	Mandatory Benefits.....	4
HRM 227	Voluntary Benefits.....	4
HRM 225	Workplace Safety.....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>16</b>

<b>Quarter 6</b>		
NSCI 101	Natural Science I.....	5
HUM XXX	Humanities 111,112,113,151,152, or 224.....	5
HRM 240	Administration of HRM.....	5
HRM 242	HRM Practicum.....	2
HRM 243	HRM Practicum Seminar.....	2
<b>TOTAL CREDIT HOURS .....</b>		<b>19</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>		<b>107</b>

## Interactive Media

### Interactive Media Associate Degree Digital Video and Sound Major Video Game Art and Animation Track Rich Media Communication Certificate Visual Communication Certificate Web Communication Certificate

Companies today continued to invest in individuals with the skills and knowledge of Interactive Media as it has become an integral part of their future operations. The Interactive Media program provides the community and industry with professionals who can creatively develop and create media and services for integrated and interactive communications, advertising, and marketing purposes, with a growing emphasis in Web design development as well as social media and Web 2.0 trends

The **Interactive Media** Associate Degree program is designed to impart four critical skills to its graduates:

- Design and aesthetic sensibility
- Scripting (source code and application), including HTML, CSS, MySQL, PHP, XML and Actionscript
- Familiarity with various design-oriented application programs including: Adobe Photoshop, Fireworks, Protocols, Avid Xpress, Premiere, AfterEffects, Flash, Dreamweaver, Illustra-

tor, Maya, and ZBrush

- Experience in both the Macintosh and Windows platforms

By mastering these four areas, program graduates will be able to go beyond basic design and layout to complete the “big picture” regarding media structure and flowcharting. As a result, program graduates can cross cultural, aesthetic and technical boundaries.

The **Digital Video and Sound** major is designed to address the need for professionally trained graphic design and interactive media professionals who have the skill set to utilize audio and video assets (typically called “rich media”) in the production of new media whether in a CD-ROM, DVD, interactive Web sites or other delivery systems.

The **Video Game Art and Animation** track covers the core disciplines for video game art production. Students are provided the foundation in key areas that impact this field, including: time-based production, storytelling, a survey of the video game industry, traditional animation, etc. With this foundation, the remainder of the program focuses on 3D character and environment production, audio integration and game development skills, conducted through 2D and 3D software, as well as various scripting and programming languages. Students will ultimately work on team-based game projects that expose them to the video game production process.

The jobs available in interactive multimedia are varied. Typical job possibilities for program graduates include multimedia technician, multimedia specialist, multimedia developer, media specialist, instructional design technician, computer graphic artist, 3D computer animator, multimedia illustrator, desktop media publisher, interface designer, animator, script integrator, digital journalist, and presentation artist.

Upon completion of the associate degree program in Interactive Media, the graduate will be able to:

- Possess a working-level knowledge of the interactive multimedia field and how it affects society and industry.
- Comprehend the relationship between design, marketing, and interactive multimedia projects.
- Understand the purpose and interrelationship between design, scripting, and software.
- Be able to evaluate the strengths and weaknesses of project design including storyboarding, diagramming, flowcharting, and brand relevance.
- Know the core concepts of scripting as they apply to multimedia and Web development.
- Learn the basic principles of digital video editing using various original or provided video clips.
- Understand the basic principles of 2D design, the elements of design, and concepts of forms and structures.
- Comprehend the basic concepts of 3D modeling: model construction, rendering, lighting, and animation.
- Create a functional, interactive, animated Web presence from conceptual stages to finished product.
- Possess extensive knowledge of industry standard Web animation software (Flash with a 30-week course sequence).
- Gain working knowledge of Web design application software using Dreamweaver.
- Use storyboard, flowchart and drawing skills to represent fin-

ished versions of a Web site, an interactive CD or a video.

- Complete an interactive portfolio.
- Gain real-world experience working as an intern in a multimedia-related company.

In addition to the Interactive Media competencies, graduates completing a Digital Video and Sound major will be able to:

- Understand the role of audio/visual production in an integrated marketing communications plan.
- Use software tools to capture audio and video from various sources.
- Use sound and sound editing channels to enhance video productions.
- Understand copyright and fair use laws as they relate to audio/video production.
- Stream and import video for web productions.
- Identify ways to incorporate text and character animation into video productions.
- Demonstrate an ability to record voice, music, and effect for multimedia products.
- Demonstrate an understanding of the processes involved in planning, scripting, recording, and editing a digital audio/video production.

In addition to the Interactive Media competencies, graduates completing a Video Game Art and Animation track will be able to:

- Demonstrate an understanding of the history, current industry and occupations that constitute the digital gaming industry.
- Possess fundamental visual and audio design/aesthetic skills in digital design, illustration, audio/sound effects and video in support of game development and design.
- Understand narrative methods with particular emphasis on those unique to video games.
- Understand the roles and responsibilities of team members and their collaboration in all phases of design, development and implementation.
- Demonstrate appropriate image-editing software and computer skills that directly support Gaming Art and Animation editing/enhancement and post-production workflow techniques.
- Work as part of a larger technical/design team to complete tasks on time and on budget.
- Understand the fundamentals of game development for both Windows and specific game consoles.
- Develop a comprehensive professional portfolio to be used in pursuing jobs and/or internship opportunities.

**Certification Courses:**

**Rich Media Communication Certificate**

**Visual Communication Certificate**

**Web Communication Certificate**

A series of online certificate courses are available for students interested in being certified in several Adobe software products: Dreamweaver, Photoshop and Flash. Each course is designed to prepare students to take the associate Adobe Certified Associate test for *Web Communication*, *Rich Media Communication* or *Visual Communication*. These tests are sanctioned by Adobe and offered to qualified students through Columbus State Com-

munity College and the Certiport testing system (sanctioned by Adobe). Students taking these courses will be introduced to each objective and principle designed into the corresponding certification test. While completing these courses does not guarantee success for students taking the certification tests, the courses are a very focused preparatory tool for the certification test. These courses are offered exclusively in an online format.

**Software/Hardware Requirements**

Students taking courses in this curriculum may need to own or have access to hardware or software to pursue this degree. This is particularly important for students who are enrolled in distance-learning based sections of a particular course. Check with the program advisor to discuss specific course needs and options.

**Interactive Media Associate Degree**

COURSE	CR
<b>Quarter 1</b>	
ENGL 101 Beginning Composition .....	3
GRPH 112 Introduction to Computer Design .....	4
IMMT 101 Principles of Interactive Media .....	3
MATH 104 Intermediate Algebra .....	5
HUM XXX Humanities 111, 112,113,151, or 152 .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>20</b>
<b>Quarter 2</b>	
ENGL 102 Essay and Research .....	3
GRPH 113 Fundamentals of Layout and Storyboarding .....	4
MKTG 102 Branding .....	3
IMMT 111 Foundations of Digital Media .....	3
BMGT 257 Project Management .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>
<b>Quarter 3</b>	
GRPH 251 Photoshop and Design I .....	5
IMMT 241 Cascading Style Sheets .....	4
IMMT 150 Videography and Editing .....	4
GRPH 243 Vector Illustration .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>18</b>
<b>Quarter 4</b>	
COMM 207 Writing for the Web .....	3
IMMT 216 Media Graphics and Optimization .....	4
IMMT 217 Video Editing .....	3
IMMT 236 3D Modeling .....	4
IMMT 237 Beginning Flash [Design] .....	4
CIT 145 HTML .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>21</b>
<b>Quarter 5</b>	
COMM 105 Speech .....	3
SSCI 100 Globalization and the Social Sciences .....	5
CIT 212 Web Database Development .....	3
IMMT 238 Intermediate Flash [Development] .....	4
IMMT 262 Web Publishing Site Design .....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>19</b>
<b>Quarter 6</b>	
CIT 213 Designing an e-Commerce Website .....	3
IMMT 239 Advanced Flash [Advanced Scripting] .....	4
IMMT 271 Interactive Portfolio Development .....	4
IMMT 251 Multimedia Practicum .....	4
IMMT252 Multimedia Seminar .....	1
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>
<b>TOTAL DEGREE CREDIT HOURS</b> .....	<b>110</b>

## Digital Video and Sound Major

### COURSE CR

#### Quarter 1

ENGL 101	Beginning Composition .....	3
MATH 104	Intermediate Algebra .....	5
IMMT 101	Principles of Interactive Media .....	3
HUM XXX	Humanities 111, 112,113,151, or 152 .....	5
IMMT 102	Fundamentals of Video and Sound .....	2
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>

#### Quarter 2

ENGL 102	Essay and Research .....	3
BMGT 257	Project Management .....	3
IMMT 150	Videography and Editing .....	4
IMMT 151	Audio Editing/Voiceover .....	4
IMMT 111	Foundations of Digital Media .....	3
GRPH 113	Fundamentals of Layout and Storyboarding .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>21</b>

#### Quarter 3

COMM 105	Speech .....	3
IMMT 152	Narrative Storytelling and Production .....	4
MKTG 102	Branding .....	3
IMMT 153	Screenwriting for Digital Video and Sound .....	3
GRPH 243	Vector Illustration .....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>

#### Quarter 4

COMM 207	Writing for the Web .....	3
IMMT 158	Motion Graphics (After Effects) .....	3
IMMT 216	Media Graphics and Optimization .....	4
IMMT XXX	Technical Elective .....	1
FOTO 114	Introduction to Digital Photography .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>15</b>

#### Quarter 5

SSCI 100	Globalization and the Social Sciences .....	5
IMMT 155	Foley Art and Sound Design .....	4
IMMT 237	Beginning Flash [Design] .....	4
IMMT 240	Documentary Storytelling and Production .....	4
IMMT 262	Web Publishing Site Design .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>21</b>

#### Quarter 6

IMMT 238	Intermediate Flash [Development] .....	4
IMMT 249	Corporate/Instructional Video .....	4
IMMT 260	DVD Development .....	4
IMMT 251	Multimedia Practicum .....	4
IMMT 252	Multimedia Seminar .....	1
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>17</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....</b>	<b>110</b>

#### ELECTIVES

IMMT 157	Sports Broadcasting .....	4
IMMT 159	Music Video Production .....	4
IMMT 250	Document Transfer Using Acrobat .....	2
IMMT 239	Advanced Flash .....	4
IMMT 297	Special Topics .....	1-6

## Video Game Art and Animation Track

### COURSE CR

#### Quarter 1

ENGL 101	Beginning Composition .....	3
GRPH 113	Fundamentals of Layout and Storyboarding .....	4
MATH 104	Intermediate Algebra .....	5
COMM 105	Speech .....	3
IMMT 115	Survey of the Digital Gaming Industry .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>18</b>

#### Quarter 2

ENGL 102	Essay and Research .....	3
GRPH 116	Introduction to Traditional Animation .....	4

IMMT 236	3D Modeling .....	4
IMMT 237	Beginning Flash (Design) .....	4
GRPH 115	Fundamentals of Illustration .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>19</b>

#### Quarter 3

GRPH 216	Advanced Traditional Animation .....	4
GRPH 255	Digital Drawing .....	4
IMMT 188	Introduction to 3D Game Production .....	4
IMMT 116	Storytelling for Games .....	3
IMMT 242	Advanced 3D Computer Modeling .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>19</b>

#### Quarter 4

IMMT 233	3D Environment Design and Development .....	4
IMMT 245	3D Animation .....	4
IMMT 238	Intermediate Flash .....	4
IMMT 215	Introduction to Video Game Development .....	4
COMM 207	Writing for the Web .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>19</b>

#### Quarter 5

HUM XXX	Humanities 111, 112,113,151, or 152 .....	5
SSCI 100	Globalization and the Social Sciences .....	5
IMMT 263	Video Game Development I .....	3
IMMT 155	Foley Art and Sound Design .....	3
IMMT 243	3D Character Design and Development .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>20</b>

#### Quarter 6

IMMT 264	Video Game Development II .....	3
IMMT 288	Post Production .....	4
IMMT 295	Portfolio Development .....	4
IMMT 239	Advanced Flash .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>15</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....</b>	<b>110</b>

## Rich Media Communication Certificate

### COURSE CR

#### Quarter 1

IMMT 112	Fundamentals of Interactive Design .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>3</b>

#### Quarter 2

IMMT 280	Rich Media Communications .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>
<b>CERTIFICATE TOTAL</b>	<b>.....</b>	<b>7</b>

## Visual Communication Certificate

### COURSE CR

#### Quarter 1

IMMT 112	Fundamentals of Interactive Design .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>3</b>

#### Quarter 2

IMMT 290	Visual Communications .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>
<b>CERTIFICATE TOTAL</b>	<b>.....</b>	<b>7</b>

## Web Communication Certificate

### COURSE CR

#### Quarter 1

IMMT 112	Fundamentals of Interactive Design .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>3</b>

#### Quarter 2

IMMT 283	Web Media Communications .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>
<b>CERTIFICATE TOTAL</b>	<b>.....</b>	<b>7</b>



# Interpreting/American Sign Language Education

## Interpreting/American Sign Language Education Associate Degree

### American Sign Language/Deaf Studies Certificate

The Interpreting/ASL Education Associate Degree program prepares graduates for entry-level interpreting/ASL positions where persons who are deaf or hard of hearing and hearing persons must communicate with each other. The associate degree program offers extensive course work in American Sign Language. A language lab helps students develop ASL and interpreting skills. A three-quarter practicum gives students opportunities to gain first-hand experience applying their interpreting skills and knowledge of professional ethics under the supervision of an agency interpreter.

To qualify for admission to the associate degree program, students must (1) have an entry-level knowledge of American Sign Language and deaf culture (equivalent to CSCC's ITT 141, 142, 130 and 111); (2) have a good command of spoken English; (3) agree to adhere to the Code of Professional Conduct established by the Registry of Interpreters for the Deaf, Inc.; (4) attend a Mandatory Information Session conducted by the coordinator to complete an application form for the program; (5) agree to complete a minimum number of ITT courses each quarter; and (6) agree to daytime availability for one of their Practicum placements. Prior to acceptance into the Interpreting program, students may take any general education courses listed in the Plan of Study, and any courses listed in the ASL/Deaf Studies Certificate without permission of the ITT program coordinator. Second year interpreting students are required to take the EEP (Entrance Exam for Practicum) one quarter prior to scheduling ITT 293. A minimum skill level must be met in order to register for ITT 293.

The seven-quarter program is sequential, carefully integrating theory and skills with problem solving and critical thinking. Students must adhere to the Code of Professional Conduct of the Registry of Interpreters for the Deaf (RID) or risk dismissal from the program. In order to ensure successful language learning, students are REQUIRED to participate each quarter in activities and events outside of class time. ***Students must complete one quarter of their Practicum experience in a K-12 educational setting. This requires that students be available during normal, day school hours for a minimum of 15 hours per week during that Practicum experience.***

Upon completion of the associate degree in Interpreting/ASL Education, the graduate will be able to:

- Demonstrate unique skills required for interpreting in specialized settings (e.g., oral, medical, mental health, deaf-blind, etc.).
- Demonstrate an understanding of the interpreting/transliterating RID Code of Professional Conduct.
- Demonstrate basic competency with American Sign Language (ASL) as well as a basic understanding of signed English.
- Demonstrate ability to interpret spoken English messages

into ASL, and ASL messages into spoken English.

- Demonstrate ability to transliterate spoken English messages into Manually Coded English, and Manually Coded English into spoken English.
- Explain the role of the interpreter to both deaf and hearing consumers.
- Demonstrate knowledge of the deaf community and sensitivity toward the cultural traditions of the community.
- Assess a deaf consumer's preferred mode of communication.
- Analyze and adapt the physical aspects of the interpreting setting or be able to adapt to physical aspects that cannot be changed.
- Demonstrate knowledge of various agencies/organizations serving the deaf community.

The CSCC Interpreting/American Sign Language Education Program is approved by the State of Ohio Department of Education. Students who successfully complete the Interpreting/American Sign Language Education Associate Degree are eligible to apply for their Educational Interpreting License from the State of Ohio Department of Education.

### Specific Program Admissions Information

Listed below are additional requirements for admission to Interpreting/ASL Education Program.

- High school graduate or GED equivalency.
- Entry-level American Sign Language skills equivalent to CSCC's Beginning ASL I (ITT 141), Beginning ASL II (ITT 142), Fingerspelling (ITT 130), and Introduction to the Deaf Community (ITT 111)—all with a "C" or better. Beginning ASL I and Introduction to the Deaf Community are offered autumn and spring quarters. Beginning ASL II and Fingerspelling are offered winter and summer quarters. Individuals with ASL experience may meet this requirement by taking an ASL placement exam. Contact Alan Atwood at [aatwood@csc.edu](mailto:aatwood@csc.edu).
- COMPASS™ test placement into ENGL 101 Beginning Composition or above, "No Reading Required," and MATH 102.
- Complete the form "Application to Become an Interpreting/ASL Education Major." This form can be obtained ONLY from the coordinator during a Mandatory Information Session. Mandatory Information Sessions tend to be scheduled in early January and July. Contact the coordinator of the Interpreting/ASL Education program, Chris Evenson, (614) 287-5616, for dates/times of the next Mandatory Information Session.
- Submit all previous college and university transcripts to the Registrar's Office.
- Admitted with, and maintain, a minimum 2.0 GPA.

Students who go out-of-sequence may re-enter the Interpreting program providing space is available. Those students will be required to meet with an advisor, take applicable skills assessment exams, and must follow the current year's Plan of Study for graduation, including any and all course work that has been added to the curriculum since their original start of the program.

Note: American Sign Language/Deaf Studies Certificate candidates do not need to attend a Mandatory Information Session.

## Interpreting /ASL Education Associate Degree

Please check course descriptions for prerequisites to all courses in this curriculum.

COURSE	CR
<b>Quarter 1 (A)</b>	
ENGL 101 Beginning Composition .....	3
ITT 110 Introduction to Interpreting .....	5
ITT 150 Linguistics of ASL/English .....	3
ITT 143 Intermediate ASL I .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>

<b>Quarter 2 (W)</b>	
ENGL 102 Essay and Research .....	3
ITT 129 Current Research and Theory of Interpreting .....	3
ITT 144 Intermediate ASL II .....	5
ITT 205 Consecutive Interpreting I .....	4
ITT 125 Ethics and Decision Making for Interpreters .....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 3 (SP)</b>	
ITT 145 Advanced ASL I .....	5
ITT 206 Consecutive Interpreting II .....	4
ITT 234 Health Care Interpreting .....	2
MULT 101 Medical Terminology .....	2
ECD 120 Interpersonal Communications .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>

<b>Quarter 4 (SU)</b>	
PSY 100 Introduction to Psychology ( <i>or</i> ) .....	
SOC 101 Introduction to Sociology .....	5
ITT 207 Consecutive Interpreting III .....	2
ITT 215 Simultaneous Interpreting I .....	2
ITT 221 Sign to Voice Interpreting I .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>12</b>

<b>Quarter 5 (A)</b>	
COMM 115 Oral Interpretation .....	3
CIT 101 PC Applications I .....	3
ITT 292 Interpreting Practicum I .....	2
ITT 216 Simultaneous Interpreting II .....	3
ITT 222 Sign to Voice Interpreting II .....	3
ITT 235 Educational Interpreting .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 6 (W)</b>	
ENGL 200 Business Communications .....	3
NSCI 101 Natural Science .....	5
ITT 217 Simultaneous Interpreting III .....	3
ITT 293 Interpreting Practicum II .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>

<b>Quarter 7 (SP)</b>	
HUM XXX Humanities 111, 112, 113, 151, 152 or 224 .....	5
ITT 123 Specialized Interpreting .....	3
ITT 294 Interpreting Practicum III .....	4
ITT XXX Technical Elective .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>108</b>

Technical Electives (ITT) must be selected from the following:

ITT 170 Conversational ASL .....	2
ITT 171 Gesturing and Visual Readiness .....	1
ITT 172 History of the Deaf Community .....	2
ITT 173 Script Analysis and Translation .....	2
ITT 174 Religious Interpreting .....	3
ITT 175 Text Preparation and Analysis .....	3
ITT 265 Special Topics in Interpreting, ASL, Deaf Studies .....	1-5

## American Sign Language/Deaf Studies Certificate

For those individuals wanting to learn about people who are deaf, their unique culture and community, and to be able to converse with them via American Sign Language (ASL), Columbus State offers a certificate program. This program does not prepare individuals to become interpreters; it is strictly a program to enhance/establish communication skills and to learn about deafness. Attending a Mandatory Information Session with the coordinator is not required; students simply register for the courses. Once all courses have been successfully completed, students apply for the certificate by contacting the Interpreting/ASL education coordinator. Individuals successfully completing the following eight courses (35 credit hours) must apply for their certificate within four quarters of completing Advanced ASL I (ITT 145).

For additional information about the American Sign Language/Deaf Studies Certificate, please see the Interpreting/ASL education program coordinator. Individuals who have ASL experience may take an ASL placement test. Contact Alan Atwood at [aatwood@cscc.edu](mailto:aatwood@cscc.edu) for more information.

\*Registration for the following eight courses may be restricted to Interpreting/ASL Education majors for the first two weeks of registration. Seats not taken by majors will be released to any non-major students meeting the prerequisites 14 days after the first day of registration. Contact the coordinator for registration dates for non-majors.

For more information about the Interpreting Associate Degree, Deaf Studies Certificate, and ASL classes, please see: <http://www.cscc.edu/Programs/descriptions/itt.htm>

COURSE	CR
<b>Quarter 1</b>	
ITT 111 Introduction to the Deaf Community .....	5
ITT 141 Beginning ASL I .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>10</b>

<b>Quarter 2</b>	
ITT 130 Fingerspelling .....	2
ITT 142 Beginning ASL II .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>7</b>

<b>Quarter 3</b>	
ITT 150 Linguistics of ASL .....	3
ITT 143 Intermediate ASL I .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>8</b>

<b>Quarter 4</b>	
ITT 144 Intermediate ASL II .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>5</b>

<b>Quarter 5</b>	
ITT 145 Advanced ASL I .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>5</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>35</b>

# Landscape Design/Build

## Landscape Design/Build Associate Degree

The Landscape Design/Build program prepares graduates for a wide range of careers with landscape design firms, landscape maintenance firms, materials wholesalers and retailers, commercial and private landscape facilities, and landscape contractors. Landscape Design/Build students learn plant selection, materials specification, landscape design, landscape construction estimating, and landscape maintenance procedures. Students in the program share common courses in surveying, soils, and drafting with other construction sciences students, giving the students a strong sense of the construction industry.

The Landscape Design/Build program provides students with a solid educational background in communication skills, math, computer literacy, operations, humanities, and behavioral sciences.

Upon completion of the associate degree in Landscape Design/Build, the graduate will be able to:

- Assist with the preparation of contract/design documents and construction specifications.
- Assist landscape professionals with the management and implementation of construction processes.
- Select suitable herbaceous and woody plants and properly install them.
- Estimate residential landscape project costs by utilizing take-off and costing methods.
- Be able to read and interpret plans and drawings.
- Assist in the survey and stake out of the job site.
- Create manual and/or computer generated designs of landscape projects.
- Create presentation materials using a variety of graphic techniques.
- Assist in the maintenance of both commercial and residential landscapes.
- Assist in the construction of landscapes and outdoor environments.
- Assist in the design and installation of irrigation systems.
- Identify common pests, diseases and problems as they relate to the landscape.

## Landscape Design/Build Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ARCH 110 Construction Drafting: Manual I (First Term) .....	2
ARCH 112 Construction Drafting: CAD I (Second Term).....	2
ENGL 101 Beginning Composition .....	3
LAND 101 Landscape Principles .....	3
LAND 111 Survey of Landscape Industry .....	2
MATH 104 Intermediate Algebra .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 2</b>	
BIO 125 General Botany .....	5
ENGL 102 Essay and Research .....	3
LAND 102 Residential Landscape Design .....	4
LAND 107 Landscape Maintenance .....	3
SPAN 100 Spanish for the Professions.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 3</b>	
LAND 152 Site Planning .....	4
HUM XXX Humanities 111,112,113,151,152 or 224 .....	5
LAND 105 Spring Landscape Plants .....	4
SURV 141 Basic Surveying .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Summer Quarter between 1st and 2nd year</b>	
LAND 291 Field Experience .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>4</b>

<b>Quarter 4</b>	
LAND 205 Autumn Landscape Plants .....	4
LAND 206 Landscape Graphics .....	4
LAND 207 Landscape Construction .....	4
LAND 201 Landscape Pest Control.....	3
ENVR 120 Environmental Aspects of Soils.....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>20</b>

<b>Quarter 5</b>	
BMGT 111 Management.....	5
COMM 105 Speech ( <i>or</i> ) .....	3
COMM 110 Conference and Group Discussion .....	3
LAND 202 Planting Design .....	4
LAND 204 Turf Grass Management.....	3
LAND 203 Landscape Irrigation .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 6</b>	
COMM 204 Technical Writing .....	3
LAND 108 Herbaceous Plants .....	3
LAND 222 Landscape Operations .....	4
SSCI XXX Social Science 100, 101, 102, 105 or GEOG 240.....	5
XXX XXX Technical Elective .....	1-5
<b>TOTAL CREDIT HOURS .....</b>	<b>16-20</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>110</b>

Technical Elective must be selected from the following list of courses:

ENVR 160 OSHA 10-Hour Construction Safety and Health .....	1
CIT 101 PC Applications 1 .....	3
ARCH 113 Architectural Drafting: CAD II .....	2
LAND 100* Introduction to Landscape Profession.....	2
LAND 104 Specialty Gardens .....	3
LAND 106 Landscaping for the Home Gardner.....	3
LAND 109 Landscape Arboriculture .....	3
LAND 110 Landscape Computer Applications .....	3
LAND 117 Landscape Maintenance Laboratory.....	2
LAND 208 Interior Plants .....	3
LAND 209 Herbaceous Plants II.....	3
LAND 210 Evergreen Landscape Plants .....	4
LAND 217 Landscape Construction Laboratory.....	2
LAND 281 Sustainable Landscape Practices & Design.....	3
LAND 295/296/297 Special Topics.....	1-5

\* Does not count for a Technical Elective

# Law Enforcement

## Law Enforcement Associate Degree

### Corrections Major

### Law Enforcement Major

### Law Enforcement Major–Academy Track

Persons trained for the law enforcement field are in high demand in many public and private organizations. Columbus State’s Law Enforcement program teaches students the technical skills they need to enter or advance in a wide variety of positions in criminal justice. Three associate degree majors give students a range of options to meet their personal career goals.

The Law Enforcement major prepares students for a variety of careers in federal, state, or local law enforcement agencies. The Corrections major trains students for careers in probation, parole, correctional institutions, community-based correctional programs, and social service agencies. The Law Enforcement–Academy Track major offers additional training required by the Ohio Peace Officers Training Council (OPOTC) for certified peace officers. Graduates of the Academy Track are eligible to take the OPOTC certification exam.

#### Specific Program Admissions Information

Listed below are additional requirements for admission to the Academy Track Program. Applicants must:

- Have a high school diploma or GED equivalency.
- Pass a physical.
- Take a personality factor inventory.
- Submit to a criminal history check (students with prior felony convictions may be excluded from the program; contact the department chairperson for more information).
- Possess a valid Ohio driver’s license.
- Complete a supplemental application required by the department.

Upon completion of the associate degree in Law Enforcement, the graduate will be able to:

- Locate and apply criminal law correctly.
- Prepare required reports accurately and in a concise, readable style.
- Prepare cases for trial and professionally testify in a court of law.

### Corrections Major

In addition to the general Law Enforcement competencies, a graduate majoring in Corrections will be able to:

- Prepare pre-sentence reports and other required reports accurately.
- Demonstrate knowledge of effective correctional institution security measures.

### Law Enforcement Major

In addition to the general Law Enforcement competencies, a graduate majoring in Law Enforcement will be able to:

- Demonstrate proper arrest procedures.
- Locate applicable case law.
- Process information at an accident scene and correctly complete required reports.
- Identify hazardous materials and initiate proper response.

## Law Enforcement Major – Academy Track

In addition to the general Law Enforcement competencies, and the Law Enforcement major competencies, a graduate majoring in Law Enforcement – Academy Track will be able to:

- Understand and handle safely the double-action revolver, the semi-automatic pistol, and the shotgun.
- Demonstrate proficiency with the handgun and shotgun to current Ohio Peace Officer Training Council (OPOTC) standards for qualification.
- Perform safe and effective driving maneuvers to current OPOTC standards.
- Demonstrate basic crowd control techniques and riot formations.
- Demonstrate recommended self-defense techniques.

### Corrections Major

COURSE	CR
<b>Quarter 1</b>	
ENGL 101	Beginning Composition .....3
LAW 101	Introduction to Criminal Justice .....3
LAW 104	Government and the Law .....3
LAW 120	Criminology .....3
CIT 101	PC Applications 1 .....3
<b>TOTAL CREDIT HOURS .....15</b>	

<b>Quarter 2</b>	
ENGL 102	Essay and Research .....3
LAW 208	Community Based Corrections .....3
MATH 102	Beginning Algebra I .....4
ANTH 240	Forensic Anthropology .....5
LAW 204	Juvenile Procedures .....3
<b>TOTAL CREDIT HOURS .....18</b>	

<b>Quarter 3</b>	
COMM 105	Speech .....3
LAW 121	Juvenile Delinquency .....3
LAW 124	Penology .....3
SSCI 101	Cultural Diversity .....5
LAW XXX	Law Enforcement Elective .....3
<b>TOTAL CREDIT HOURS .....17</b>	

<b>Quarter 4</b>	
LAW 268	Hazardous Materials .....3
LAW 212	Ohio Criminal Code .....4
LAW 110	Criminal Investigation I .....4
LAW 210	Crisis Intervention .....3
LAW 128	Special Category Offenders .....3
<b>TOTAL CREDIT HOURS .....17</b>	

<b>Quarter 5</b>	
COMM 204	Technical Writing ( <i>or</i> )
COMM 200	Business Communications .....3
LAW 112	Criminal Investigation II .....4
LAW 219	Correctional Law .....4
LAW 211	Institutional Corrections .....3
NSCI 101	Natural Science I ( <i>or</i> )
CHEM 111	Elementary Chemistry I .....5
<b>TOTAL CREDIT HOURS .....19</b>	

<b>Quarter 6</b>	
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224 .....5
LAW 221	Counseling: Probation and Parole .....4
LAW 223	Correctional Administration .....3
LAW 256	Law Enforcement Practicum I .....2
LAW 257	Law Enforcement Practicum Seminar I .....1
LAW 271	Contemporary Issues in Criminal Justice .....3
<b>TOTAL CREDIT HOURS .....18</b>	
<b>TOTAL DEGREE CREDIT HOURS .....104</b>	

#### Technical Electives must be selected from the following list of courses:

LAW 102	Patrol Procedures .....3
LAW 111	Criminalistics I .....3
LAW 115	Community and Personal Relations .....3

LAWE 220	Constitutional Law	4
LAWE 241	Correctional Internship I ( <i>and</i> )	1
LAWE 249	Corrections Seminar II	1
LAWE 252	Police Administration	3
LAWE 253	Criminal Procedure	3
LAWE 260	Criminal Evidence and Trial	3
LAWE 299	Special Topics in Law Enforcement	3
LAWE 215	Introduction to Cyberlaw	3
SPAN 100	Spanish for the Professions	3

LAWE 211	Institutional Corrections	3
LAWE 219	Correctional Law	3
LAWE 221	Counseling Probation and Parole	4
LAWE 223	Correctional Administration	3
LAWE 277	Emergency Aircraft Assault	3
LAWE 299	Special Topics in Law Enforcement	3
LAWE 215	Introduction to Cyberlaw	3
SPAN 100	Spanish for the Professions	3
LAWE 276	Criminalistics III	3

## Law Enforcement Major

COURSE	CR	
<b>Quarter 1</b>		
ENGL 101	Beginning Composition	3
LAWE 101	Introduction to Criminal Justice	3
LAWE 104	Government and the Law	3
LAWE 120	Criminology	3
LAWE 253	Criminal Procedure	3
LAWE 102	Patrol Procedures	3
<b>TOTAL CREDIT HOURS</b>	<b>18</b>	

<b>Quarter 2</b>		
ENGL 102	Essay and Research	3
CIT 101	PC Applications 1	3
LAWE 115	Community and Personal Relations	3
MATH 102	Beginning Algebra	4
LAWE 204	Juvenile Procedures	3
EMS 123	Emergency Psychiatric Intervention	3
<b>TOTAL CREDIT HOURS</b>	<b>19</b>	

<b>Quarter 3</b>		
COMM 105	Speech	3
LAWE 125	Traffic Accident Investigation	3
LAWE 252	Police Administration	3
SSCI 101	Cultural Diversity ( <i>or</i> )	3
ANTH 240	Forensic Anthropology	5
LAWE 271	Contemporary Issues in Criminal Justice	3
<b>TOTAL CREDIT HOURS</b>	<b>17</b>	

<b>Quarter 4</b>		
LAWE 110	Criminal Investigation I	4
LAWE 268	Hazardous Materials	3
LAWE 212	Ohio Criminal Code	4
LAWE 111	Criminalistics I	3
LAWE 210	Crisis Intervention	3
<b>TOTAL CREDIT HOURS</b>	<b>17</b>	

<b>Quarter 5</b>		
COMM 204	Technical Writing ( <i>or</i> )	3
COMM 200	Business Communications	3
LAWE 112	Criminal Investigation II	4
NSCI 101	Natural Science I ( <i>or</i> )	3
CHEM 111	Elementary Chemistry I	5
LAWE 260	Criminal Evidence and Trial	3
LAWE XXX	Law Enforcement Electives	3
<b>TOTAL CREDIT HOURS</b>	<b>18</b>	

<b>Quarter 6</b>		
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224	5
LAWE 220	Constitutional Law	3
LAWE 135	Terrorism	3
LAWE 256	Law Enforcement Practicum I	2
LAWE 257	Law Enforcement Practicum Seminar I	1
LAWE XXX	Law Enforcement Elective	3
<b>TOTAL CREDIT HOURS</b>	<b>17</b>	
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>106</b>	

Technical Electives must be selected from the following list of courses:

LAWE 113	Criminalistics II	3
LAWE 121	Juvenile Delinquency	3
LAWE 124	Penology	3
LAWE 128	Special Category Offenders	3
LAWE 205	Contemporary Corrections	3
LAWE 208	Community Based Corrections	3

## Law Enforcement Major – Academy Track

COURSE	CR	
<b>Quarter 1</b>		
ENGL 101	Beginning Composition	3
LAWE 101	Introduction to Criminal Justice	3
LAWE 104	Government and the Law	3
LAWE 120	Criminology	3
LAWE 253	Criminal Procedure	3
<b>TOTAL CREDIT HOURS</b>	<b>15</b>	

<b>Quarter 2</b>		
ENGL 102	Essay and Research	3
MATH 102	Beginning Algebra I	4
SSCI 101	Cultural Diversity ( <i>or</i> )	3
SOC 101	Introduction to Sociology	5
<b>TOTAL CREDIT HOURS</b>	<b>12</b>	

<b>Quarter 3</b>		
COMM 105	Speech	3
NSCI 101	Natural Science I	5
CIT 101	PC Applications 1	3
LAWE 124	Penology	3
<b>TOTAL CREDIT HOURS</b>	<b>14</b>	

<b>Quarter 4</b>		
LAWE 111	Criminalistics I	3
SPAN 100	Spanish for the Professions	3
LAWE 135	Terrorism	3
LAWE 204	Juvenile Procedures	3
<b>TOTAL CREDIT HOURS</b>	<b>12</b>	

<b>Quarter 5</b>		
COMM 200	Business Communications ( <i>or</i> )	3
COMM 204	Technical Writing	3
LAWE 256	Law Enforcement Practicum I	2
LAWE 257	Law Enforcement Practicum Seminar I	1
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224	5
LAWE 260	Criminal Evidence and Trial	3
<b>TOTAL CREDIT HOURS</b>	<b>14</b>	

<b>Quarter 6</b>		
LAWE 110*	Criminal Investigation I	4
LAWE 220*	Constitutional Law	3
LAWE 102*	Patrol Procedures	3
LAWE 125*	Traffic Accident Investigation	3
LAWE 265 *	Police Physical Fitness	3
LAWE 210 *	Crisis Intervention	3
LAWE 272*	Alcohol Detection, Apprehension and Prosecution	2
<b>TOTAL CREDIT HOURS</b>	<b>21</b>	

<b>Quarter 7</b>		
LAWE 264*	Police Firearms	3
LAWE 263*	Arrest and Control	3
LAWE 212*	Ohio Criminal Code	4
LAWE 112*	Criminal Investigation II	4
LAWE 115*	Community and Personal Relations	3
LAWE 261*	Defensive Driving and Emergency Response	2
<b>TOTAL CREDIT HOURS</b>	<b>19</b>	
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>107</b>	

\*These classes contain Student Performance Objectives and attendance must be maintained.

# Marketing

## Marketing Associate Degree

### Direct Marketing Major

### Retail Management Major

### Direct Marketing Certificate

### Electronic Marketing Certificate

### Pre-MBA Certificate

Marketing is at the heart of what every business must do to be successful: attract and retain customers. Marketing professionals are responsible for knowing how to produce, price, promote, and distribute goods and services. Program graduates enjoy career opportunities in such diverse areas as product management, advertising, market research, public relations, Web-based businesses, customer service and sales.

The **Marketing** program provides a strong foundation in fundamental marketing concepts and principles. The advanced courses provide the opportunity for studying topics of particular interest to the student in such areas as consumer behavior, public relations, and advanced sales techniques. All of the courses in the Marketing Associate Degree program can be completed in both a traditional and distance learning option. The traditional class room experience continues to provide students with high quality instruction in a small classroom setting at our main campus and off-campus locations. The distance learning option provides the same high quality learning as traditional instruction, with the flexibility of being able to complete coursework online or through video based instruction

The **Direct Marketing and Retail Management** majors build on a solid foundation in marketing to provide advanced skills in these specialized areas. The Direct Marketing major provides graduates with a survey of the major components of direct marketing including creative design, list selection, database management, and financial evaluation of direct marketing programs. Particular emphasis is placed on interactive technologies and their impact on direct marketing. The Retail Management major provides in-depth exposure to retail management principles and a strong internship program supported by many of the city's leading retail operations.

The MBA (Master of Business Administration) is one of the most sought-after professional degrees—not only by those currently working in business but also by many other professionals who are increasingly in need of these types of skills. The **Pre-MBA Certificate** is designed for individuals who have already completed a baccalaureate degree and wish to pursue an MBA or for professionals in various fields who wish a basic grounding in business principles through an introduction to the business disciplines. All of the courses in this certificate can be completed online. For more information, access the Pre-MBA Web site at <http://www.csc.edu/premba>.

Transfer agreements are available that enable Marketing graduates to transfer to other institutions to complete their baccalaureate

degree. Please contact advisor if interested in this option.

Columbus State Community College is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the Associate of Arts, Associate of Science, and Associate of Applied Science degrees.

Upon completion of the associate degree in Marketing, the graduate will be able to:

- Explain the role of branding, the concept of brand equity, and brand elements in designing marketing programs and strategies.
- Demonstrate and apply major communications tools used in marketing, with particular emphasis on developing a creative brief and comprehensive direct marketing campaign.
- Relate how consumer behavior impacts overall marketing strategy and influences the purchaser's decision-buying process as identified by marketing research.
- Analyze the sales process and explain how it relates to consumer and business-to-business purchasing.
- Identify issues that arise in global marketing and describe the basic mechanisms for doing business in foreign markets.
- Differentiate between various consumer and industrial systems of distribution and supply chain management.
- Evaluate the components of the successful e-Commerce business model and their interrelationship.
- Explain the role of ethical decision making in the business world.

### Direct Marketing Major

In addition to the Marketing competencies, a graduate with a Direct Marketing major will be able to:

- Define and develop a target market and select the most appropriate methods to reach it.
- Select and use the appropriate methodology to assess the costs of direct marketing efforts.
- Understand and be able to utilize interactive direct marketing media.
- Plan and implement telemarketing campaigns for purposes of direct selling, fund-raising, and business-to-business sales.
- Integrate creative activities and outcomes with appropriate direct marketing techniques.

### Retail Management Major

In addition to the Marketing competencies, a graduate with a Retail Management major will be able to:

- Identify the various types of stock control systems appropriate for a merchandise mix.
- Explain the basic concepts of store operations.
- Demonstrate and apply retail mathematical tools that aid in merchandise planning, selection, and pricing.

### Software/Hardware Requirements

Students taking courses in this curriculum may need to own or have access to hardware or software to pursue this degree. This is particularly important for students who are enrolled in distance learning-based sections of a particular course. Check with the program advisor to discuss specific course needs and options.

## Marketing Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101	Beginning Composition .....3
MATH 104	Intermediate Algebra.....5
MKTG 111	Marketing Principles .....5
IMMT 112	Fundamentals of Interactive Design .....3
ECON 200	Microeconomics.....5
<b>TOTAL CREDIT HOURS</b>	<b>.....21</b>
<b>Quarter 2</b>	
ENGL 102	Essay and Research .....3
MKTG 140	Introduction to Advertising and Promotion .....4
MKTG102	Branding.....3
MKTG 145	Services Marketing.....3
ACCT 106	Financial Accounting.....5
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>
<b>Quarter 3</b>	
COMM 105	Speech .....3
ACCT 107	Managerial Accounting .....5
MKTG 101	Introduction to Retailing ( <i>or</i> )
LOGI 100	Principles of Supply Chain Management .....5
MKTG 131	Market Research Principles .....3
MKTG 122	Web and Electronic Marketing .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>
<b>Quarter 4</b>	
COMM 200	Business Communication .....3
HUM XXX	Humanities 111,112,113,151,152 or 224 .....5
MKTG 221	Consumer Behavior .....3
MKTG 229	Organizational Marketing .....3
MKTG 141	Interactive Marketing Media.....4
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>
<b>Quarter 5</b>	
MKTG 226	Customer Service Principles and Practices.....4
MKTG 223	Sales Principles and Practices.....4
MKTG 236	Direct Marketing .....3
NSCI 101	Natural Science I .....5
BMGT 257	Project Management .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>
<b>Quarter 6</b>	
MKTG 270	Global Marketing.....5
MKTG 241	Marketing Practicum I .....4
MKTG 242	Marketing Seminar I .....1
MKTG XXX	Approved Elective .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....13</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....108</b>

### Technical Electives

Any advisor-approved courses from the following list can be used for the marketing technical elective:

GRPH 284	Advertising Agency I.....4
HRM 121	Human Resources Management .....4
MKTG 142	Media Buying.....3
MKTG 146	Nonprofit Marketing .....3
MKTG 224	Public Relations .....3
MKTG 237	Database Marketing .....3
MKTG 251	Practicum II.....4
MKTG 252	Seminar II .....2
MKTG 285	Advertising/Promotion on the Web.....1
MKTG 286	Customer Service on the Web .....1
MKTG 287	Public Relations on the Web .....1
MKTG 288	Market Research on the Web .....1
MKTG 289	Direct Marketing on the Web.....1
MKTG 290	Government Marketing on the Web.....1
MKTG 292	Nonprofit Marketing Using the Web.....1
IMMT 123	Video Basics.....2
MATH 135	Statistics .....5
MKTG 150	Introduction to e-Commerce .....3
MKTG 125	Social Networking .....3

## Direct Marketing Major

COURSE	CR
<b>Quarter 1</b>	
ENGL 101	Beginning Composition .....3
MATH 104	Intermediate Algebra.....5
MKTG 111	Marketing Principles .....5
ECON 200	Microeconomics.....5
IMMT 112	Fundamentals of Interactive Design .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....21</b>
<b>Quarter 2</b>	
ENGL 102	Essay and Research .....3
MKTG 102	Branding.....3
MKTG 140	Introduction to Advertising and Promotion .....4
MKTG 122	Web and Electronic Marketing .....3
MKTG 226	Customer Service Principles and Practices.....4
MKTG 229	Organizational Marketing .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....20</b>
<b>Quarter 3</b>	
ACCT 106	Financial Accounting .....5
MKTG 101	Introduction to Retailing ( <i>or</i> )
LOGI 100	Principles of Supply Chain Management .....5
MKTG 131	Market Research Principles .....3
MKTG 141	Interactive Marketing Media.....4
NSCI 101	Natural Science I .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....22</b>
<b>Quarter 4</b>	
COMM 105	Speech.....3
COMM 200	Business Communication .....3
ACCT 107	Managerial Accounting .....5
MKTG 221	Consumer Behavior .....3
MKTG 236	Direct Marketing.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....17</b>
<b>Quarter 5</b>	
MKTG 263	Direct Marketing Creative and Financial Analysis.....4
MKTG 237	Database Marketing .....3
BMGT 257	Project Management .....3
HUM XXX	Humanities 111,112,113,151,152 or 224 .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....15</b>
<b>Quarter 6</b>	
MKTG 241	Marketing Practicum I .....4
MKTG 242	Marketing Seminar I .....1
MKTG 270	Global Marketing.....5
MKTG XXX	Elective .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....13</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....108</b>

### Technical Electives

Any course from the following list can be used to fulfill the marketing technical elective requirement:

MATH 135	Statistics .....5
MKTG 142	Media Buying.....3
MKTG 146	Nonprofit Marketing .....3
MKTG 150	Introduction to e-Commerce .....3
MKTG 224	Public Relations .....3
MKTG 285	Advertising and Promotion on the Web.....1
MKTG 286	Customer Service on the Web .....1
MKTG 287	Public Relations on the Web .....1
MKTG 288	Market Research on the Web .....1
MKTG 289	Direct Marketing on the Web.....1
MKTG 290	Government Marketing on the Web.....1
MKTG 292	Nonprofit Marketing Using the Web.....1
HRM 121	Human Resources Management .....4

## Retail Management Major

COURSE	CR
<b>Quarter 1</b>	
ENGL 101	Beginning Composition .....3
MATH 104	Intermediate Algebra.....5

ECON 200	Microeconomics.....	5
MKTG 111	Marketing Principles .....	5
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

**Quarter 2**

ENGL 102	Essay and Research .....	3
IMMT 112	Fundamentals of Interactive Design .....	3
MKTG 101	Introduction to Retailing .....	5
MKTG 223	Sales Principles and Practices .....	4
ACCT 106	Financial Accounting.....	5
<b>TOTAL CREDIT HOURS</b>		<b>20</b>

**Quarter 3**

COMM 105	Speech.....	3
ACCT 107	Managerial Accounting.....	5
MKTG 131	Market Research .....	3
MKTG 140	Introduction to Advertising and Promotion .....	4
MKTG 205	Quantitative Methods in Retail .....	5
<b>TOTAL CREDIT HOURS</b>		<b>20</b>

**Quarter 4**

HUM XXX	Humanities 111, 112, 113, 151, 152 or 224 .....	5
BMGT 218	Management Training for Supervisors .....	5
MKTG 141	Interactive Marketing Media.....	4
MKTG 226	Customer Service Principles and Practices.....	4
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

**Quarter 5**

COMM 200	Business Communication.....	3
MKTG 270	Global Marketing.....	5
NSCI 101	Natural Science I.....	5
MKTG XXX	Approved Elective .....	3
MKTG 150	Introduction to e-Commerce .....	3
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

**Quarter 6**

MKTG 241	Marketing Practicum I .....	4
MKTG 242	Marketing Seminar I .....	1
BMGT 257	Project Management .....	3
MKTG 213	Merchandise Buying and Management .....	4
MKTG 102	Branding.....	3
<b>TOTAL CREDIT HOURS</b>		<b>15</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>110</b>

**Approved Electives**

MKTG 142	Media Buying.....	3
MKTG 146	Nonprofit Marketing .....	3
MKTG 145	Services Marketing .....	3
MKTG 236	Direct Marketing .....	3
MKTG 237	Database Marketing .....	3
MKTG 285	Advertising and Promotion on the Web.....	1
MKTG 290	Government Marketing on the Web.....	1
MKTG 292	Nonprofit Marketing Using the Web.....	1
LOGI 100	Principles of Supply Chain Management .....	5

**Direct Marketing Certificate**

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
MKTG 236	Direct Marketing.....	3
<b>Quarter 2</b>		
MKTG 237	Database Marketing .....	3
MKTG 263	Direct Marketing Creative and Financial Analysis.....	4
<b>Quarter 3</b>		
MKTG 122	Web and Electronic Marketing .....	3
<b>TOTAL CERTIFICATE CREDITS</b>		<b>13</b>

**Electronic Marketing Certificate**

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
MKTG 122	Web and Electronic Marketing .....	3
MKTG 150	Introduction to e-Commerce .....	3
<b>Quarter 2</b>		
IMMT 112	Fundamentals of Interactive Design .....	3
MKTG 125	Social Networking .....	3
<b>Quarter 3</b>		
MKTG 236	Direct Marketing.....	3
<b>TOTAL CERTIFICATE CREDITS</b>		<b>15</b>

**Pre-MBA Certificate**

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
ACCT 269	Foundations of Accounting <sup>1</sup> .....	5
FMGT 201	Corporate Finance.....	5
<b>Quarter 2</b>		
BMGT 111	Management .....	5
ECON 200	Principles of Microeconomics <sup>1</sup> .....	5
<b>Quarter 3</b>		
MATH 135	Elementary Statistics <sup>1</sup> .....	5
MKTG 111	Principles of Marketing.....	5
<b>TOTAL CERTIFICATE CREDITS</b>		<b>30</b>

NOTE: Individuals who have completed one or more of the above courses can substitute the following:

LEGL 261	Business Law I.....	3
LOGI 100	Principles of Supply Chain Management .....	5
ECON 240	Principles of Macroeconomics.....	5
BMGT 257	Project Management .....	3

<sup>1</sup>Students must meet the prerequisite requirements before enrolling in these classes. These prerequisites can be completed by taking Math 102 Beginning Algebra I (for Accounting and Economics) and Math 103 Beginning Algebra II (for Statistics) with a grade of “C” or better.

**Massage Therapy**

**Massage Therapy Associate Degree  
 Massage Therapy LMT Degree Completion  
 Massage Therapy Certificate  
 Massage Therapy Advanced Techniques  
 Certificate**

The Massage Therapy program meets all requirements to sit for the State of Ohio Medical Board examination for Massage Therapy. It prepares the students to work in the massage therapy field in, but not limited to, health and fitness environments, salon and day spas, medical offices, private practices and many other opportunities.

The Massage Therapy LMT Degree Completion program is designed for currently Licensed Massage Therapists to earn an associate of applied science degree. With proof of current licensure by the State of Ohio, the student will be awarded 45 technical credits towards their degree.



The Massage Therapy Advanced Techniques Certificate includes training in various advanced topics in massage therapy designed to prepare students for positions in specialized areas.

Upon completion of the associate degree in Massage Therapy, the graduate will be able to:

- Demonstrate and be able to perform soft tissue manipulation techniques which may be appropriate for use in the treatment of disorders of the human body.
- Effectively communicate the beneficial effects of massage to patients.
- Demonstrate the ability to assess and appropriately treat disorders of the human body, which may benefit from massage.
- Display an understanding and demonstrate the ability to establish and maintain appropriate patient and business records.
- Display an understanding of skills necessary to establish and operate a massage therapy practice or integrate into a multi-disciplinary environment.
- Demonstrate the ability to communicate effectively with other health care providers as to the advisability of massage.
- Display an understanding of and demonstrate the effective use of complementary therapeutic modalities in the treatment of ailments of the human body.
- Display an understanding of, and effectively educate patients in the proper care and prevention of musculoskeletal injuries.
- Demonstrate the ability to provide therapeutic massage in accordance with the State Medical Board of Ohio scope of practice and the professional ethical standards as determined by the American Massage Therapy Association.

### Specific Program Admissions Information

Listed below are additional requirements for admission to the Massage Therapy degree program:

- High school graduate or GED equivalency
- Placement into ENGL 101 Beginning Composition
- Placement into MATH 101 Business Math
- Student must obtain a Certificate of Preliminary Education from the State Medical Board of Ohio

### Massage Therapy Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101 Beginning Composition .....	3
HIMT 121 Advanced Medical Terminology .....	3
BIO 261 Human Anatomy .....	5
MULT 171 Current Issues in HIV .....	1
<b>TOTAL CREDIT HOURS</b> .....	<b>12</b>
<b>Quarter 2</b>	
MASS 271 Massage Anatomy and Physiology I.....	5
MASS 261 Massage Techniques I.....	6
MASS 235 Principles of Massage Law and Business .....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>15</b>
<b>Quarter 3</b>	
MASS 262 Massage Techniques II.....	6
MASS 272 Massage Anatomy and Physiology II .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>11</b>
<b>Quarter 4</b>	
MASS 236 Medical Ethics for Massage Therapy.....	3
MASS 292 Massage Therapy Practicum I .....	5
MASS 273 Massage Anatomy and Physiology III .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>13</b>

<b>Quarter 5</b>	
MASS 294 Massage Therapy Practicum II .....	5
MASS XXX Massage Elective .....	2-5
MASS 274 Massage Anatomy and Physiology IV .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>12-15</b>

<b>Quarter 6</b>	
ENGL 102 Essay and Research .....	3
HUM XXX Humanities 111, 112, 113, 151,152 or 224 .....	5
XXX xxx Basic Related Elective: HOSP 153, NURC 176 or NURC 177.....	4-5
<b>TOTAL CREDIT HOURS</b> .....	<b>12-13</b>

<b>Quarter 7</b>	
SSCI XXX 100, 101, 102, 105 or GEOG 240 .....	5
COMM 200 Business Communications .....	3
MATH 101 Business Math.....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>13</b>

<b>Quarter 8</b>	
MASS 28X Advanced Massage Elective from approved list.....	3
COMM 105 Speech .....	3
XXX XXX Basic Related Elective: HOSP 153, NURC 176 or NURC 177.....	4-5
<b>TOTAL CREDIT HOURS</b> .....	<b>10-11</b>
<b>TOTAL DEGREE CREDIT HOURS</b> .....	<b>98-103</b>
<b>Students should request a plan of study from their faculty advisor.</b>	

### Technical Electives for Massage Therapy Associate of Applied Science

<b>Degree Program:</b>	
MULT 103 Responding to Emergencies.....	2
NURC 175 Principles of Homeopathy.....	4
SES 240 Exercise Physiology.....	5
SES 241 Kinesiology .....	5

### Advanced Massage Electives:

MASS 280 Nationwide Children's Hospital Advanced Studies .....	3
MASS 281 Hot Stone Massage.....	3
MASS 282 Trigger Point I .....	3
MASS 283 Trigger Point II.....	3
MASS 284 Sports Massage .....	3
MASS 285 Aromatherapy Massage.....	3
MASS 286 Spa Services .....	3

### Massage Therapy LMT Degree Completion

#### Specific Program Admissions Information

Must be a Licensed Massage Therapist by the State Medical Board of Ohio

Must place into ENGL 101

<b>Quarter 1</b>	
ENGL 101 Beginning Composition .....	3
MASS 28X Advanced Massage Elective .....	3
BIO 261 Human Anatomy .....	5
HOSP 153 Nutrition for a Healthy Lifestyle .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>

<b>Quarter 2</b>	
MASS 28X Advanced Massage Elective.....	3
MULT 171 Current Issues in HIV.....	1
COMM 105 Speech .....	3
ENGL 102 Essay and Research .....	3
HUM XXX Humanities 111, 112, 113, 151, 152, 224.....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>15</b>

<b>Quarter 3</b>	
MASS 28X Advanced Massage Elective .....	3
SSCI XXX 100,101,102, 105 or GEOG 240 .....	5
MATH 101 Business Math.....	5
SES 240 Exercise Physiology.....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>18</b>

**Quarter 4**

MASS 28X	Advanced Massage Elective.....	3
MASS 28X	Advanced Massage Elective.....	3
COMM 200	Business Communications.....	3
HIMT 121	Medical Terminology.....	3
NURC 177	Holistic Healing Methods.....	4
<b>TOTAL CREDIT HOURS</b>		<b>16</b>
<b>TECHNICAL CREDITS FROM LICENSURE</b>		<b>45</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>110</b>

**Advanced Massage Electives:**

MASS 280	Nationwide Children’s Hospital Advanced Studies.....	3
MASS 281	Hot Stone Massage.....	3
MASS 282	Trigger Point I.....	3
MASS 283	Trigger Point II.....	3
MASS 284	Sports Massage.....	3
MASS 285	Aromatherapy Massage.....	3
MASS 286	Spa Services.....	3

**Massage Therapy Certificate****Specific Program Admissions Information**

Prerequisites for the Massage Therapy Certificate program:

- High School Graduate or GED
- Student must obtain a Certificate of Preliminary Education from the State Medical Board of Ohio
- Student must complete the prerequisites listed below with a minimum of a 2.5 GPA and C’s or better in each of the courses.

**PREREQUISITE COURSES** **CR**  
(Placement into ENGL 101)

HIMT 121	Advanced Medical Terminology.....	3
BIO 261	Human Anatomy.....	5
MULT 171	Current Issues in HIV.....	1

**COURSE** **CR****Quarter 1**

MASS 261	Massage Technique I.....	6
MASS 271	Massage Anatomy and Physiology I.....	5
<b>TOTAL CREDIT HOURS</b>		<b>11</b>

**Quarter 2**

MASS 262	Massage Technique II.....	6
MASS 272	Massage Anatomy and Physiology II.....	5
MASS 235	Massage Law and Business Principles for Massage Therapy.....	4
<b>TOTAL CREDIT HOURS</b>		<b>15</b>

**Quarter 3**

MASS 236	Medical Ethics for Massage Therapists.....	3
MASS 273	Massage Anatomy and Physiology III.....	5
MASS 292	Massage Therapy Practicum I.....	5
<b>TOTAL CREDIT HOURS</b>		<b>13</b>

**Quarter 4**

XXXX XXX	Massage Therapy Elective Course.....	2–5
MASS 294	Massage Therapy Practicum II.....	5
MASS 274	Massage Anatomy and Physiology IV.....	5
<b>TOTAL CREDIT HOURS</b>		<b>12–15</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>51–54</b>

**Technical Electives for Massage Therapy Certificate Program**

MULT 103	Responding to Emergencies.....	2
NURC 175	Principles of Homeopathy.....	4
NURC 176	Fundamentals of Herbology.....	4
NURC 177	Holistic Healing Methods.....	4
SES 240	Exercise Physiology.....	5
SES 241	Kinesiology.....	5

**Advanced Massage Electives**

MASS 280	Nationwide Children’s Hospital Advanced Studies.....	3
MASS 281	Hot Stone Massage.....	3
MASS 282	Trigger Point I.....	3
MASS 283	Trigger Point II.....	3
MASS 284	Sports Massage.....	3
MASS 285	Aromatherapy Massage.....	3
MASS 286	Spa Services.....	3

**Massage Therapy Advanced Techniques Certificate****Specific Program Admissions Information**

Placement into ENGL 101

Completion of State Medical Board of Ohio massage therapy course-work

**Quarter 1** **CR**

MASS 28X	Advanced Massage Elective.....	3
MASS 28X	Advanced Massage Elective.....	3
MASS 28X	Advanced Massage Elective.....	3
<b>TOTAL CREDIT HOURS</b>		<b>9</b>

**Quarter 2**

MASS 28X	Advanced Massage Elective.....	3
MASS 28X	Advanced Massage Elective.....	3
<b>TOTAL CREDIT HOURS</b>		<b>6</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>		<b>15</b>

**NOTE: Students must receive a letter grade of “C” or better in all Massage Therapy course work.**

**Advanced Massage Electives**

MASS 280	Nationwide Children’s Hospital Advanced Studies.....	3
MASS 281	Hot Stone Massage.....	3
MASS 282	Trigger Point I.....	3
MASS 283	Trigger Point II.....	3
MASS 284	Sports Massage.....	3
MASS 285	Aromatherapy Massage.....	3
MASS 286	Spa Services.....	3

# Mechanical Engineering Technology

## Mechanical Engineering Technology Associate Degree

Individuals who are mechanically inclined and like to solve problems can have a satisfying career in the field of engineering that creates machines to work for people: Mechanical Engineering.

Columbus State's Mechanical Engineering Technology program prepares students to enter this growing profession where the pool of applicants does not meet the demand. The program presents an inside look at the manufacturing process, as well as highlights skills with drafting, computers, and troubleshooting. Coursework includes an introduction to manufacturing technology, hydraulics, robotics, materials science, and computer aided drafting and manufacturing. Students get their hands on the college's Solar Car and can be part of the team that designs the next winner of the Society of Automotive Engineers MiniBaja® competition.

Graduates are qualified to assist engineers in the industrial, consulting, scientific research and consulting communities or to transfer to a four-year college to pursue a Bachelor of Science in Engineering degree.

Engineering technology teaches students how to organize thoughts and approach problems—processes which are not only critical to their work, but also beneficial in everyday life. Mechanical engineering skills can take graduates anywhere—from designing stronger yet lighter helmets for the NFL to creating wheelchairs that are more maneuverable.

Upon completion of the associate degree in Mechanical Engineering Technology, the graduate will be able to:

- Apply basic knowledge of manufacturing and engineering technology, procedures, symbols, and graphics skills to the reading and production of sketches, drawings, blueprints and specifications.
- Assist in establishing tolerances related to production, by utilizing manual and/or computerized methods.
- Make significant contributions to the production of manufactured goods by utilizing skills and knowledge of: drafting, computers and automation technology, sound manufacturing practices, quality measures, machine capabilities/limitations, and assist in the selection of product equipment.
- Contribute to the solution of engineering and design problems involving mechanical systems, by utilizing knowledge and skills in electrical and mechanical principles, material performance and selection, basic machine elements, sound design and engineering practices. Apply computers and computer language to the solution of engineering problems.
- Utilize various quality tools and techniques such as SPC and TQM to support production in manufacturing area and other applicable work situations to improve any and all quality measures.

## Mechanical Engineering Technology Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGT 100 Introduction to Engineering Technology .....	4
MECH 112 Computer Applications in Manufacturing .....	3
MECH 115 Engineering Graphics .....	4
MECH 240 Machine Tools .....	4
ENGL 101 Beginning Composition .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>18</b>

<b>Quarter 2</b>	
MECH 145 2D CAD .....	4
MECH 150 Manufacturing Materials and Processes .....	4
MECH 243 Robotics .....	4
MATH 111 Technical Math I .....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>

<b>Quarter 3</b>	
MECH 175 3D CAD .....	4
MECH 253 Computer Numerical Control .....	4
MATH 112 Technical Math II .....	4
PHYS 117 College Physics .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>17</b>

<b>Quarter 4</b>	
MECH 130 Statics .....	4
MECH 215 Parametric CAD .....	4
COMM 105 Speech ( <i>or</i> ) .....	3
COMM 110 Conference and Group Discussion .....	3
HUM XXX Humanities 111,112,113,151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>

<b>Quarter 5</b>	
MECH 242 Strength of Materials .....	4
MECH 260 Basic Mechanisms .....	4
COMM 204 Technical Writing .....	3

And choose one of the following Basic Electives:	
ENGT 131 Hydraulics and Pneumatics .....	4
EMEC 250 Motors and Controls .....	4
ENVR 170 General Industry, Safety and Health .....	4
SKTR 118 Introduction to Welding .....	4
PHYS 118 College Physics (Electricity, Magnetism and Light) .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>15-16</b>

<b>Quarter 6</b>	
MECH 261 Machine Design .....	4
MECH 270 Engineering Statistics .....	4
ENGL 102 Essay and Research .....	3
SSCI XXX Social Science 100,101, 102, 105 or GEOG 240 .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>
<b>TOTAL DEGREE CREDIT HOURS</b> .....	<b>98-99</b>

# Medical Assisting

## Medical Assisting Associate of Technical Studies Degree Medical Assisting Certificate

The Medical Assisting program prepares graduates to work as medical assistants primarily in ambulatory settings such as medical offices, urgent care centers and clinics. Medical assistants are multi-skilled professionals who assist in patient care management. They perform a broad range of clinical and administrative duties, including scheduling and receiving patients, establishing and maintaining medical records, handling telephone calls, completing correspondence, processing insurance claims and managing finances. Medical assistants are valuable members of the health care team, and job opportunities are numerous in central Ohio and nationwide. Graduates of the program are eligible to take the National Certification examination which is administered three times a year.

Upon completion of the Certificate Program in Medical Assisting, the graduate will be able to:

- Perform clerical functions to include execution of bookkeeping principles and special accounting entries.
- Process insurance claims including the application of managed care policies both diagnostic and procedural coding.
- Identify medical/legal issues within the medical office, respecting confidentiality and documenting appropriately in the medical record.
- Perform risk-management procedures and patient instruction for follow-up care health maintenance and disease prevention.
- Properly handle and dispose of infectious waste and biohazard materials in compliance with government regulations.
- Perform and collect various specimens in compliance with Standard Precautions set forth by the Centers for Disease Control and Prevention.
- Perform various diagnostic tests ordered by the physician, utilizing quality control procedures.
- Conduct various patient care procedures administrative, clinically, and laboratory, including preparation and administration of oral and parenteral medications as directed by the physician.
- Maintain and perform inventory of administrative and clinical supplies and equipment following office policy.

Listed below are additional requirements for admission to the Medical Assisting program:

- High school graduate or GED equivalency
- Placement into MATH 102 Beginning Algebra I or completion of DEV 031 with a grade of “C” or higher
- Placement into ENGL 101 Beginning Composition or completion of ENGL 100 with a grade of “C” or higher
- Placement OUT of reading requirements or completion of DEV/ESL courses
- Attend a Medical Assisting program information session (Program applications are available ONLY at the information sessions.)

- Completion of MULT 101 with a grade of “C” or better
- Completion of CIT 101 with a grade of “C” or better
- Current Heart Association Health Care Provider CPR with AED certification or completion of MULT 103 with a grade of “C” or better
- Current Red Cross First Aid certification or completion of MULT 103 with a grade of “C” or better
- BIO 121 and 122 require completion of high school biology and chemistry or BIO 100 within the last five years and CHEM 100 within the last three years. Contact the Biology Department (Nestor Hall, 4<sup>th</sup> Floor) for the most current information. Phone number is (614) 287-2522 or 5107.
- Students are required to maintain a grade of “C” or better in all basic and technical studies.
- Drug screening and a background check may be required.

### Statement Regarding Infectious Diseases

Students in any of the Allied Health programs, including Medical Assisting, perform their clinical work on real people. Columbus State does not discriminate against students, faculty, or patients in any way, or based on color, creed, national origin, gender, disability or sexual preference. The patient populations with whom students will work come from all walks of life, and students may therefore be exposed to many types of communicable diseases. These are not limited to, but may include, Hepatitis (A, B, C or D), HIV/AIDS, Tuberculosis, Mumps, Rubella, Rubeola, etc.

*ALL students are required to have appropriate immunizations after they are admitted to the program and before autumn quarter begins (information is given to all admitted students). Additionally, although all precautions are taken to minimize exposure and risk, there is always a slight possibility that precautions may fail or that a student may accidentally expose him/herself. All students entering the Medical Assisting program must be aware of this slight, but real, potential risk. Students are required to maintain personal health insurance.*

### Statement Regarding Pregnancy

Student disclosure of pregnancy status to program personnel is strictly voluntary. While the college does not require that a pregnant student disclose her pregnancy, the college encourages any student who is pregnant, or may become pregnant, to discuss with her advisor any potential risks and limitations.

Pregnancy does not preclude a student from remaining in a health-related program. Students disclosing a pregnancy are encouraged to have their health care practitioner document any restrictions that may assist the college in providing reasonable accommodations when required.

Should the student’s health care provider indicate that there are restrictions, once notified, the college is required to abide by the restrictions. If a student is placed on restrictions by her health care provider, and these restrictions are significant enough to compromise the student’s ability to continue in a laboratory course or clinical placement, the student may be required to withdraw from the course and re-enter the program at a later date, following delivery. If a health care provider indicates there are no restrictions, the student may continue in her laboratory or clinical course without any changes.

## Statement Concerning Students Who Plan to Follow the GXMO Radiography Licensing Path

It is required that RAD 190 (Radiation Protection for General Machine Operators), RAD 141A (Introduction to Radiography Equipment and Patient Care), plus one positioning course from the selection of: RAD 141B, RAD 141C, RAD 142A, or RAD 142B must be completed. This optional elective is only for those affected students and is not a requirement of the general Medical Assisting Program Certificate.

## Medical Assisting Associate of Technical Studies Degree

COURSE	CR
<b>Quarter 1</b>	
MAT 100	Introduction to Medical Assisting ..... 3
BIO 121	Anatomy and Physiology I.....5
MAT 111	Clinical Procedures–Lecture.....3
MAT 113	Clinical Procedures–Lab.....2
<b>TOTAL CREDIT HOURS</b>	<b>.....13</b>

<b>Quarter 2</b>	
ENGL 101	Beginning Composition .....3
MATH 100	Calculations and Dosages .....2
BIO 122	Anatomy and Physiology II .....5
MAT 121	Advanced Medical Assisting.....5
MAT 122	Advanced Office Procedures–Lecture .....3
MAT 123	Advanced Office Procedures–Lab .....1
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 3</b>	
PSY 100	Introduction to Psychology .....5
MAT 238	Computer Applications for the Medical Office.....3
MAT 230	Pharmacology .....4
MAT 240	Physician’s Office Laboratory .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....17</b>

<b>Quarter 4</b>	
MAT 290	Practicum I .....2.5
MAT 296	Seminar .....2
MAT 260	Ethical and Professional Principles.....2
<b>TOTAL CREDIT HOURS</b>	<b>.....6.5</b>

<b>Quarter 5</b>	
ENGL 102	Essay and Research .....3
HUM XXX	Humanities 111, 112, 113, 151 152 or 224 .....5
BMGT 111	Management.....5
HIMT 113	Managed Care Trends .....2
BMGT 102	Managing Interpersonal Skills I.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>

<b>Quarter 6</b>	
COMM 200	Business Communications .....3
COMM 105	Speech ( <i>or</i> ).....3
COMM 110	Conference and Group Discussion.....3
BMGT 216	Ethics and Leadership.....4
LEGL 264	Legal Environment of Business.....4
BMGT 103	Managing Interpersonal Skills II .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....17</b>

<b>Quarter 7</b>	
SSCI XXX	Social Science 100,101,102, 105 <i>or</i> GEOG 240 .....5
BMGT 218	Management Training for Supervisors.....5
BMGT 201	Creative Problem Solving.....3
<b>TOTAL CREDIT HOURS</b>	<b>.....13</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....103.5</b>

## Medical Assisting Certificate Program

COURSE	CR
<b>Quarter 1</b>	
MAT 100	Introduction to Medical Assisting ..... 3
BIO 121	Anatomy and Physiology I.....5
MAT 111	Clinical Procedures–Lecture.....3
MAT 113	Clinical Procedures–Lab.....2
<b>TOTAL CREDIT HOURS</b>	<b>.....13</b>

<b>Quarter 2</b>	
ENGL 101	Beginning Composition .....3
MATH 100	Calculations and Dosages .....2
BIO 122	Anatomy and Physiology II .....5
MAT 121	Advanced Medical Assisting.....5
MAT 122	Advanced Office Procedures–Lecture .....3
MAT 123	Advanced Office Procedures–Lab .....1
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 3</b>	
PSY 100	Introduction to Psychology .....5
MAT 238	Computer Applications for the Medical Office.....3
MAT 230	Pharmacology .....4
MAT 240	Physician’s Office Laboratory .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....17</b>

<b>Quarter 4</b>	
MAT 290	Practicum I .....2.5
MAT 296	Seminar .....2
MAT 260	Ethical and Professional Principles .....2
<b>TOTAL CREDIT HOURS</b>	<b>.....6.5</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....55.5</b>

## Medical Laboratory Technology

### Medical Laboratory Technology Associate Degree Clinical Lab Assisting Certificate

Medical laboratory technicians play an important role in the practice of modern medicine. They perform diagnostic procedures in the health care setting, such as chemical analysis of body fluids, classification of blood cells, identification of disease producing microorganisms, and the selection of compatible donor blood for transfusion. The Medical Laboratory Technology Associate Degree program is designed to prepare graduates to perform laboratory procedures in a variety of settings. Career and employment opportunities include hospitals, research and reference laboratories, public health and veterinary facilities, and environmental and quality assurance laboratories. Graduates may also pursue careers in marketing, sales and customer service.

The first six quarters of the Medical Laboratory program provide the students with entry-level knowledge and skills in clinical chemistry, clinical microbiology, hematology, immunohematology, immunology, and phlebotomy in a classroom laboratory setting. This training is enriched during the seventh quarter of the program when students have the opportunity to apply their previously acquired knowledge and skills in an actual working environment. Affiliated hospital and private laboratories located within our service district of approximately 60-miles of Columbus will be utilized for this ten-week clinical practicum.

Students who successfully complete the program are eligible to take the certification examination administered by the Board of Registry of the American Society for Clinical Pathology and become a certified MLT(ASCP). With additional education and/or technical experience, graduates may also advance in the field to become a technologist, research specialist, manager or educator.

The Medical Laboratory Technology program at Columbus State is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) at 5600 N. River Rd, Rosemont, IL 60018-5119, telephone (773) 714-8880. The program has produced over 800 graduates in the past 35 years who have consistently met or exceeded the national average on credentialing examinations. The Ohio Board of Regents recognizes Columbus State's MLT program as a "Program of Excellence."

The Medical Laboratory Technology Program delivers all program technical lecture courses in a Web-based format (online) and the technical laboratories are offered face-to-face in the campus laboratories located in Union Hall.

### Alternative Web-Based Option for Students Outside of the Service District

This option is designed for students who are not located in our service district (outside Columbus, Ohio and surrounding counties). Both the Medical Laboratory Technology technical lecture and technical laboratory components are available in a Web-based format for students currently working in a clinical laboratory. The employer must be willing to sponsor the student by entering in a contractual agreement with Columbus State Community College and to provide the clinical training for seven quarters working closely with Medical Laboratory Technology Program faculty. Students interested in pursuing this option will need to contact the Medical Laboratory program coordinator for specific entrance requirements. The Medical Laboratory program contact number is (614) 287-2518. The program's home page is <http://www.csc.edu/MLT/index.htm>.

### Medical Laboratory Technology

Upon completion of the associate degree in Medical Laboratory Technology, the graduate will be able to demonstrate entry-level competencies in the following areas of professional practice:

- Pre-analytical, analytical, and post-analytical processes in all disciplines of the clinical laboratory.
- Theoretical knowledge needed to assure accuracy and validity of test results by clinical correlation and quality control performance.
- Professional attitudes and behaviors which are necessary for gaining and maintaining the confidence of the health care community.
- Meeting the requirements to take a national certifying examination for Medical Laboratory Technicians.

### Specific Program Admission Information

Listed below are additional requirements for admission to the Medical Laboratory Technology:

- Placement into NO READING REQUIRED
- High school biology with grade of "C" or better completed within the last five years, or completion of BIO 100 with grade

of "C" or better, or equivalent college credit

- Placement into ENGL 101, or ENGL 111, or completion of ENGL 100 with a grade of "C" or better
- Completion of MATH 103 with a grade of "C" or better, or equivalent college credit
- Completion of CHEM 113 with a "C" or better, or equivalent college credit
- Completion of MLT 100 with a grade of "C" or better
- Completion of CIT 101, with a grade of "C" or better or equivalent college credit
- Completed health record on file in the Health Records Office
- Minimum GPA of 2.500 or better through most recently completed course work
- Students may be required to complete drug testing, background screening, or a Basic Entrance Exam.

### Medical Laboratory Technology Associate Degree COURSE CR

#### Quarter 1

MLT 141	Hematology I (Admission to Program).....	3
MLT 142	Hematology I Lab .....	3
MLT 120	Introduction to MLT .....	2
MLT 121	Introduction to MLT Lab .....	1
ENGL 101	Beginning Composition .....	3
BIO 121	Anatomy and Physiology I.....	5
<b>TOTAL CREDIT HOURS .....</b>		<b>17</b>

#### Quarter 2

MLT 130	Immunology .....	3
MLT 131	Immunology Lab .....	2
BIO 122	Anatomy and Physiology II .....	5
MATH 135	Elementary Statistics.....	5
<b>TOTAL CREDIT HOURS .....</b>		<b>15</b>

#### Quarter 3

MLT 260	Clinical Chemistry .....	3
MLT 261	Clinical Chemistry Lab .....	3
BIO 215	General Microbiology .....	5
ENGL 102	Essay and Research.....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>14</b>

#### Quarter 4

MLT 250	Clinical Microbiology .....	4
MLT 251	Clinical Microbiology Lab.....	4
COMM 105	Speech.....	3
SSCI XXX	SSCI 100, 101,102,, 105 or GEOG 240.....	5
<b>TOTAL CREDIT HOURS .....</b>		<b>16</b>

#### Quarter 5

MLT 220	Immunoematology .....	4
MLT 223	Immunoematology Lab .....	3
HUM XXX	HUM 111, 112, 113, 151 152, or 224 .....	5
MULT 116	Venipuncture for Health Care Providers.....	2
XXX XXX	Basic Studies Elective.....	2
<b>TOTAL CREDIT HOURS .....</b>		<b>16</b>

#### Quarter 6

MLT 240	Hematology II .....	2
MLT 245	Hematology II Lab .....	2
MLT 242	Body Fluids.....	2
MLT 243	Body Fluids Lab.....	2
MLT 244	Case Studies.....	3
COMM 200	Business Communications.....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>14</b>

<b>Quarter 7</b>		
MLT 270	Clinical Practicum .....	5
MLT 271	Clinical Seminar.....	2
<b>TOTAL CREDIT HOURS .....</b>		<b>7</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>		<b>99</b>

### Clinical Laboratory Assisting Certificate

The CLA Certificate program may fulfill one of the certificate requirements for the Associate of Applied Science (A.A.S.) in Multi-Competency Health. These courses may also be taken as stand-alone courses that meet a professional need or personal interest.

Upon completion of the associate degree in Clinical Laboratory Assisting, the graduate will be able to:

- Prepare blood and body fluid specimens for analysis according to clinical laboratory industry standards.
- Prepare reagents, standards, and control materials for analysis according to clinical laboratory industry standards.
- Populate patient data into the Laboratory Information System (LIS) with accuracy.
- Demonstrate safety practices consistent with clinical laboratory industry standards.
- Perform waived laboratory testing with accuracy and precision and correlate with clinical conditions.

### Clinical Laboratory Assisting Certificate

#### COURSE

<b>Quarter 1</b>		<b>CR</b>
MLT 100	Introduction to Healthcare .....	3
HIMT 245A	ICD-9-CM Coding .....	1
<b>TOTAL CREDIT HOURS .....</b>		<b>4</b>

#### Quarter 2

HIMT 255A	CPT-4 Coding .....	1
CLA 100	Laboratory Theory for Health-Related Industries .....	2
CLA 101	Laboratory Techniques for Health-Related Industries.....	2
<b>TOTAL CREDIT HOURS .....</b>		<b>5</b>
<b>TOTAL CERTIFICATE HOURS.....</b>		<b>9</b>

## Mental Health/Addiction Studies/ Developmental Disabilities

### Associate Degree–Mental Health Track Associate Degree–Addiction Studies Track

### Associate Degree–Developmental Disabilities Track

### Advanced Mental Health Certificate

### Advanced Addiction Studies Certificate

### Advanced Developmental Disabilities Certificate

### Community/Habilitation Assistant Certificate

### Community Living Specialist Certificate

With social, economic, and moral issues constantly changing, society is faced with increasingly complex problems which require professional, caring helpers. This evolution has created a high demand for human service specialists. Human service specialists have a professionally and personally challenging role in providing services to both children and adults with a variety of needs and/or disabilities. Graduates work with persons with mental retardation and/or developmental disabilities, emotional/mental disorders, substance abuse and chemical dependency, as well as individuals who have co-occurring disorders. Specialists also work in consultation with educators, psychiatrists, psychologists and social workers.

Innovative educational approaches including videotaping, simulated situations, role-playing, marathon group participation, online discussion boards and interaction in small group seminars are used to help students develop the knowledge, therapeutic skills, and necessary attitudes to succeed in this profession. The program stresses development and exploration of both personal and professional characteristics graduates will need to be effective helpers.

The associate degree program enables students to specialize in one of the following educational tracks during their second year: Mental Health, Addiction Studies or Developmental Disabilities. The six-quarter, three-track program includes 560 hours of hands-on experience under the direct supervision of professionals in local and adjacent county agencies. Practicum experiences are available in a variety of community agencies which include mental health centers, day habilitation programs, state psychiatric hospitals, schools, senior centers, workshops, private hospitals, rehabilitation facilities, drug and alcohol treatment centers, homeless shelters, supported living environments, foster care facilities, youth treatment programs, and treatment programs within the criminal justice system

Graduates who complete the associate degree program are eligible to apply for a Certificate of Registration as a Social Work Assistant with the State of Ohio Counselor/Social Worker and Marriage and

Family Therapist Board. The Mental Health/Addiction Studies and Developmental Disabilities Program is accredited by the Council for Standards in Human Service Education.

The program also offers the following certificate programs:

### **Advanced Mental Health Certificate**

This 52-credit-hour program is open to students with an associate, bachelor's or master's degree. The curriculum provides courses focused on the knowledge and skills necessary to work in the mental health field. Students participate in four clinical practicum experiences in a variety of human service agencies.

### **Advanced Addiction Studies Certificate**

This is a 54-credit-hour program for students with an associate degree in a related field or a bachelor's or master's degree in any field. Completion of this certificate meets the 270 hours of acceptable chemical dependency experience required for licensure in the state of Ohio. Students may participate in up to 540 hours of supervised clinical practicum in addictions studies.

### **Advanced Developmental Disabilities Certificate**

This 51-credit-hour program is designed for students with an associate, bachelor's or master's degree. The curriculum offers courses focused on the knowledge and skills necessary to work with clients with DD issues. Students participate in four clinical practicums in a variety of human service agencies.

### **Community/Habilitation Assistant Certificate**

This is a 26-credit-hour program for students who have a developmental disability. Course work is adapted to a fifth grade reading level. The curriculum provides students with the knowledge and skills necessary to work as an assistant in the DD field. Students participate in three clinical practicum experiences in a variety of human service agencies.

### **Community Living Specialist Certificate**

This certificate is open to students who have, in the past, struggled with their own severe mental illness and can demonstrate two years of stability. Students make use of their own coping skills to work effectively with persons with mental illness as a peer support person and/or case management assistant. Recommendations from treatment professionals and an interview with the coordinator of the program are required.

Courses MHAD 112, MHAD 115, MHAD 135, MHAD 191, MHAD 241, MHAD 247, MHAD 258, MHAD 291, and MHAD 298 are approved by the Ohio Department of Developmental Disabilities in obtaining adult service certification.

All technical courses in the chemical dependency track are accepted by Ohio Chemical Dependency Professional Board and for renewal of social work licensure.

Upon completion of the associate degree in Mental Health/Addiction Studies/Developmental Disabilities, the graduate will be able to:

- Collect data, make assessments, develop and implement treatment plans
- Use counseling skills.
- Plan for, lead, and process groups.
- Apply conflict resolution skills.
- Demonstrate effective teaching and supporting strategies using the principles of person centered planning
- Recognize stages of change and implement appropriate intervention strategies
- Apply the principles of motivational interviewing in the counseling relationship
- Demonstrate ethical behavior.
- Apply service coordination/case management skills.
- Demonstrate self-assessment skills.

In addition to the general outcomes listed above a graduate in the Addiction Studies track will be able to:

- Identify and demonstrate the 12 Core Functions of a chemical dependency counselor.
- Recognize and identify significant signs and symptoms of chemical dependency using a variety of assessment tools.
- Identify varying levels of care for chemical dependency treatment and common criteria for appropriate referral.
- Identify relapse dynamics/triggers and utilize a variety of intervention strategies.
- Recognize stages of change and implement appropriate treatment strategies.

MH/AS/DD has articulation agreements with the following four-year colleges/universities: Ohio Dominican University, Otterbein College, Capital University, Franklin University, and the University of Cincinnati.

Because students and workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention.

### **Specific Program Admissions Information**

Listed below are additional requirements for admission to the Mental Health/Addiction Studies/Developmental Disabilities Program:

- Submission of an official copy of high school transcript verifying graduation or GED to Records and Registration.
- Attendance at a (voluntary) MH/AS/DD program information session.
- Placement out of or completion of DEV 031 and 044.
- Completion of ENGL 101 and PSY 100 with a "C" or higher.
- Completion of the following five courses with a grade of "C" or higher:
  - MHAD 111: Introduction to Mental Health
  - MHAD112:Introduction to Developmental Disabilities
  - MHAD 114: Introduction to Addiction Studies
  - MHAD 115: Introduction to Counseling
  - MHAD 117: Introduction to Documentation Skills
- Compliance with and completion of all additional program requirements outlined in the program's admission policy.
- Mandatory attendance at a group admissions interview with the Mental Health/Addiction Studies//Developmental Disabilities admissions coordinator and clinical coordinator.



## Mental Health and Developmental Disabilities

### Tracks

COURSE		CR
<b>Quarter 1</b>		
ENGL 101	Beginning Composition .....	3
PSY 100	Introduction to Psychology .....	5
MHAD 111	Introduction to Mental Health .....	4
MHAD 112	Introduction to Developmental Disabilities .....	3
MHAD 114	Introduction to Addiction Studies .....	4
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

NOTE: MHAD introductory courses may be taken in any order.

<b>Quarter 2</b>		
ENGL 102	Essay and Research .....	3
HUM XXX	Humanities 111,112,113,151,152 or 224 .....	5
CIT 101	PC Applications 1 .....	3
MHAD 115	Introduction to Counseling .....	4
MHAD 117	Introduction to Documentation Skills .....	2
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

Note: MHAD introductory courses may be taken in any order.

<b>Quarter 3</b>		
PSY 230	Abnormal Psychology .....	5
PSY 240	Human Growth and Development through the Life Span .....	4
MHAD 135	Intervention Strategies .....	4
MHAD 191A	Fundamentals in Human Service Practice .....	4
MHAD 191B	Fundamentals in Human Service Practice: Practicum .....	4
<b>TOTAL CREDIT HOURS</b>		<b>21</b>

<b>Quarter 4</b>		
MHAD 150	Pharmacology in Human Services .....	2
SSCI 101	Cultural Diversity .....	5
MHAD 241*	Counseling Skills .....	4
MHAD 247*	Teaching and Supporting Strategies .....	4
MHAD 291*	Practicum in Teaching/Supporting Strategies .....	4
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

\*Offered only during autumn and winter quarters

<b>Quarter 5</b>		
COMM 105	Speech .....	3
COMM 202	Writing for Health and Human Services .....	3
MHAD 251*	Social Policy and Programs .....	4
MHAD 253*	Therapeutic Group Work Skills .....	4
MHAD 295*	Practicum in Therapeutic Group Work Skills .....	4
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

\*Offered only during winter and spring quarters

<b>Quarter 6</b>		
BIO 111	Introductory Biology I .....	5
MHAD 258*	Service Coordination/Case Management .....	4
MHAD 298*	Practicum in Service Coordination/Case Management .....	4
MHAD 299*	Portfolio Completion/Capstone .....	1
<b>TOTAL CREDIT HOURS</b>		<b>14</b>

\*Offered only during spring and summer quarters

**TOTAL CREDIT HOURS** .....108

### Addiction Studies Track

COURSE		CR
<b>Quarter 1</b>		
ENGL 101	Beginning Composition .....	3
PSY 100	Introduction to Psychology .....	5
MHAD 111	Introduction to Mental Health .....	4
MHAD 112	Introduction to Developmental Disabilities .....	3
MHAD 114	Introduction to Addiction Studies .....	4
NOTE: MHAD introductory courses may be taken in any order.		
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

<b>Quarter 2</b>		
ENGL 102	Essay and Research .....	3
CIT 101	PC Applications 1 .....	3
HUM XXX	Humanities 111,112,113,151,152 or 224 .....	5
MHAD 115	Introduction to Counseling .....	4

MHAD 117	Introduction to Documentation Skills .....	2
NOTE: MHAD introductory courses may be taken in any order.		
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

<b>Quarter 3</b>		
PSY 230	Abnormal Psychology .....	5
PSY 240	Human Growth and Development through the Life Span .....	4
MHAD 135	Intervention Strategies .....	4
MHAD 191A	Fundamentals in Human Services Practice .....	4
MHAD 191B	Fundamentals in Human Service Practice: Practicum .....	4
<b>TOTAL CREDIT HOURS</b>		<b>21</b>

<b>Quarter 4</b>		
SSCI 101	Cultural Diversity .....	5
MHAD 150	Pharmacology in Human Services .....	2
MHAD 241*	Counseling Skills .....	4
MHAD 245*	Assessment and Treatment of Addictions .....	4
MHAD 293*	Practicum in Assessment and Treatment of Addictions .....	4
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

\*Offered only during autumn and winter quarters

<b>Quarter 5</b>		
COMM 105	Speech .....	3
COMM 202	Writing for Health and Human Services ( <i>or</i> ) .....	3
COMM 200	Business Communications .....	3
MHAD 251*	Social Policy and Programs .....	4
MHAD 253*	Therapeutic Group Work Skills .....	4
MHAD 295*	Practicum in Therapeutic Group Work Skills .....	4
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

\*Offered only during winter and spring quarters

<b>Quarter 6</b>		
BIO 111	Introductory Biology I .....	5
MHAD 265*	Advanced Addiction Studies .....	4
MHAD 296*	Practicum in Advanced Addiction Studies .....	4
MHAD 299*	Portfolio Completion/Capstone .....	1
MHAD XXX	Technical Elective .....	2
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

\*Offered only during spring and summer quarters

**TOTAL CREDIT HOURS** .....110

### Technical Electives

MHAD 274	Special Studies in MH/AS/DD .....	1 to 12
MHAD 284	Special Studies in MH/AS/DD (Special Population in Human Services) .....	2
MHAD 234	Therapeutic Laughter .....	3

### Advanced Mental Health Certificate

COURSE		CR
<b>Quarter 1</b>		
MHAD 111	Introduction to Mental Health .....	4
MHAD 115	Introduction to Counseling .....	4
MHAD 117	Introduction to Documentation Skills .....	2
<b>TOTAL CREDIT HOURS</b>		<b>10</b>

<b>Quarter 2</b>		
MHAD 135	Intervention Strategies .....	4
MHAD 191A	Fundamentals in Human Service Practice .....	4
MHAD 191B	Fundamentals in Human Service Practice: Practicum .....	4
MHAD 150	Pharmacology in Human Services .....	2
<b>TOTAL CREDIT HOURS</b>		<b>14</b>

<b>Quarter 3</b>		
MHAD 241*	Counseling Skills .....	4
MHAD 247*	Teaching and Supporting Strategies .....	4
MHAD 291*	Practicum in Teaching/Supporting Strategies .....	4
<b>TOTAL CREDIT HOURS</b>		<b>12</b>

\*Offered only during autumn and winter quarters

<b>Quarter 4</b>		
MHAD 253*	Therapeutic Group Work Skills .....	4
MHAD 295*	Practicum in Therapeutic Group Work Skills .....	4
<b>TOTAL CREDIT HOURS</b>		<b>8</b>

\*Offered only during winter and spring quarters

<b>Quarter 5</b>	
MHAD 258*	Service Coordination/Case Management .....4
MHAD 298*	Practicum in Service Coordination/Case Management .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....8</b>
<b>*Offered only during spring and summer quarters</b>	
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....52</b>
Associate, baccalaureate or master's degree in a related field is required.	

## Advanced Addiction Studies Certificate

<b>COURSE</b>	<b>CR</b>
<b>Quarter 1</b>	
MHAD 114	Introduction to Addiction Studies .....4
MHAD 115	Introduction to Counseling .....4
MHAD 117	Introduction to Documentation Skills.....2
<b>TOTAL CREDIT HOURS</b>	<b>.....10</b>

<b>Quarter 2</b>	
MHAD 135	Intervention Strategies .....4
MHAD 191A	Fundamentals in Human Service Practice .....4
MHAD 191B	Fundamentals in Human Service Practice: Practicum .....4
MHAD 150	Pharmacology in Human Services .....2
<b>TOTAL CREDIT HOURS</b>	<b>.....14</b>

<b>Quarter 3</b>	
MHAD 241*	Counseling Skills .....4
MHAD 245*	Assessment and Treatment of Addictions .....4
MHAD 293*	Practicum in Assessment and Treatment of Addictions .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....12</b>
<b>*Offered only during autumn and winter quarters</b>	

<b>Quarter 4</b>	
MHAD 253*	Therapeutic Group Work Skills .....4
MHAD 295*	Practicum in Therapeutic Group Work Skills .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....8</b>
<b>*Offered only during winter and spring quarters</b>	

<b>Quarter 5</b>	
MHAD 265*	Advanced Addiction Studies .....4
MHAD 296*	Practicum in Advanced Addiction Studies I .....4
MHAD XXX	Technical Elective .....2
<b>TOTAL CREDIT HOURS</b>	<b>.....10</b>
<b>*Offered only during spring and summer quarters</b>	
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....54</b>
Associate degree in a related field or a bachelor's or master's in any field is required.	

## Technical Electives

MHAD 274	Special Studies in MH/AS/DD ..... 1 to 12
MHAD 284	Special Studies in MH/AS/DD (Special Population in Human Services) ..... 2
MHAD 234	Therapeutic Laughter .....3

## Advanced Developmental Disabilities Certificate

<b>COURSE</b>	<b>CR</b>
<b>Quarter 1</b>	
MHAD 112	Introduction to Developmental Disabilities .....3
MHAD 115	Introduction to Counseling .....4
MHAD 117	Introduction to Documentation Skills.....2
<b>TOTAL CREDIT HOURS</b>	<b>.....9</b>

<b>Quarter 2</b>	
MHAD 135	Intervention Strategies .....4
MHAD 191A	Fundamentals in Human Service Practice .....4
MHAD 191B	Fundamentals in Human Service Practice: Practicum .....4
MHAD 150	Pharmacology in Human Services.....2
<b>TOTAL CREDIT HOURS</b>	<b>.....14</b>

<b>Quarter 3</b>	
MHAD 241*	Counseling Skills .....4
MHAD 247*	Teaching and Supporting Strategies .....4
MHAD 291*	Practicum in Teaching/Supporting Strategies .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....12</b>
<b>* Offered only during autumn and winter quarters</b>	

<b>Quarter 4</b>	
MHAD 253*	Therapeutic Group Work Skills .....4
MHAD 295*	Practicum in Therapeutic Group Work Skills .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....8</b>
<b>*Offered only during winter and spring quarters</b>	

<b>Quarter 5</b>	
MHAD 258*	Service Coordination/Case Management .....4
MHAD 298*	Practicum in Service Coordination/Case Management .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....8</b>
<b>*Offered only during spring and summer quarters</b>	
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....51</b>
<b>Associate, bachelor's or master's degree is required</b>	

## Community/Habilitation Assistant Certificate

<b>Quarter 1</b>	
MHAD 284	Special Studies MH/AS/DD (Early Experience) .....3
MHAD 274	Program Success Skills .....2
<b>TOTAL CREDIT HOURS</b>	<b>.....5</b>

<b>Quarter 2</b>	
MHAD 112	Introduction to Developmental Disabilities .....3
MHAD 284	Special Studies MH/AS/DD:Practicum in Developmental Disabilities .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....7</b>

<b>Quarter 3</b>	
MHAD 274	Special Studies MH/AS/DD: Principles of Behavior Support ....3
MHAD 284	Special Studies MH/AS/DD: Practicum in Behavior Support ....4
<b>TOTAL CREDIT HOURS</b>	<b>.....7</b>

<b>Quarter 4</b>	
MHAD 274	Special Studies MH/AS/DD:Principles of Habilitation .....3
MHAD 284	Special StudiesMH/AS/DD:Practicum in Principles of Habilitation .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....26</b>

## Community Living Specialist Certificate

<b>COURSE</b>	<b>CR</b>
<b>Quarter 1</b>	
ENGL 101	Beginning Composition .....3
PSY 100	Introduction to Psychology .....5
CIT 101	PC Applications I .....3
<b>TOTAL CREDIT HOURS</b>	<b>..... 11</b>

<b>Quarter 2</b>	
PSY 240	Human Growth and Development through the Life Span .....4
MHAD 111	Introduction to Mental Health .....4
MHAD 112	Introduction to Developmental Disabilities .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....11</b>

<b>Quarter 3</b>	
MHAD 115	Introduction to Counseling .....4
MHAD 117	Introduction to Documentation Skills .....2
MHAD 114	Introduction to Addiction Studies .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....10</b>

<b>Quarter 4</b>	
MHAD 135	Intervention Strategies .....4
MHAD 191A	Fundamentals in Human Service Practice .....4
MHAD 191B	Fundamentals in Human Service Practice: Practicum .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....12</b>

<b>Quarter 5</b>	
SSCI 101	Cultural Diversity.....5
MHAD 150	Pharmacology in Human Services.....2
MHAD 284	Special Studies MH/AS/DD .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....11</b>

<b>Quarter 6</b>	
*MHAD 284	Special Studies MH/AS/DD .....4
<b>TOTAL CREDIT HOURS</b>	<b>.....4</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>..... 55-59</b>

\*Optional placement quarter contingent upon individualized student learning plan

## Multi-Competency Health

**Associate of Applied Science Degree or  
Associate of Technical Studies Degree  
Basic Electrocardiography Certificate  
Health Care Manager Certificate  
Histology Certificate (Accredited by NAACLS)  
Phlebotomy Certificate (Approved by NAACLS)  
Clinical Laboratory Assisting Certificate (CLA)  
Nursing Certificate Programs (NURC)**

Many health care facilities have reorganized, and the job roles within these systems have adjusted to provide care and services based on patient needs. Many employment opportunities have been created for the individual who has documented competencies in a variety of health care skills. Multi-Competency Health provides the flexibility for students to gain these important skills in health care. Many of these courses require a clinical placement. Fingerprinting and drug screening may be required for this clinical placement. The student has many options from which to choose in Multi-Competency Health.

### Option 1: Associate Degree

An Associate of Applied Science degree (A.A.S.) or an Associate of Technical Studies degree (A.T.S.) in Multi-Competency Health can be obtained by:

A) Associate of Applied Science (A.A.S.) option: A student may earn this degree option by choosing two or more certificate programs, one of which must be in MULT, and the second may be in MULT, CLA (Clinical Laboratory Assisting) or NURC (Nursing Certificate programs), and at least six hours of technical options for a minimum of 49 technical hours. The student also completes

the required general education courses, the required basic related courses, and the technical core courses. This degree allows the student to choose the multi-skill grouping of certificates that best suits his/her interest or employer needs.

B) Associate of Technical Studies (A.T.S.) option: “Designing Your Own Degree” (Refer to the Graduation Requirements for the A.T.S. in the College Catalog.)

Upon completion of the associate degree requirements in Multi-Competency Health, the graduate will be able to:

- Use medical terminology correctly.
- Recognize life-threatening situations and take appropriate action.
- Demonstrate proficiency in technical skills.
- Work in a health care organization as a valued member of the health care team.
- Demonstrate interpersonal communication skills.
- Demonstrate effective infection control and safety practices.

### Option 2: Certificate Programs

Many certificate programs are offered through the Multi-Competency Health Technology. These are focused technical programs that result in a certificate of completion. The certificate programs range from those designed for anyone interested to those that require completion of a health care program or specific licensure. Many area health care employers are interested in students who have successfully completed one or more of these certificates.

### Option 3: Enhance or Complement Primary Skills in Nursing or Allied Health

There are many courses within Multi-Competency Health that can be taken in association with the degree option, as a complement to a certificate program, or as stand-alone courses that meet a professional need or personal interest. The requirements vary for each course. Many of these courses are open to all students and have no prerequisites. Others require completion of a health record.

### Basic Electrocardiography (EKG) Certificate

A student completing the EKG Certificate will be able to:

- Position leads and operate electrocardiographic equipment correctly.
- Obtain and prepare an electrocardiography recording for analysis by a physician.
- Recognize and correct technical errors in an electrocardiography recording.
- Provide safe, professional, direct patient contact, specifically in the areas of infection control, electrical safety, privacy and environmental safety.

**The following is required for admission to the EKG Certificate Program:**

- Completion of a current health record.

### Health Care Manager Certificate (Online Certificate)

A student completing the Health Care Manager Certificate will be able to:

- Apply theories and principles of human resource management to real life health care situations.
- Generate action plans, implementation activities, and evalu-

ation processes to assure continuous quality improvement in health care institutions.

- Apply strategies, processes and current trends in health care management.
- Understand risk management and the underlying legal principles inherent in the health care system.

All of the Health Care Management Certificate courses are completed online.

### **Histology Certificate**

Acceptance into program is required.

A student completing the Histology Certificate will be able to:

- Receive and accession tissue specimens.
- Prepare tissue specimens for microscopic examination, including all routine procedures.
- Assist with frozen section procedures in histopathology.
- Identify tissue structures and their staining characteristics.
- Perform preventive and corrective maintenance of equipment and instruments or refer to appropriate sources for repairs.
- Recognize factors that affect procedures and results, and take appropriate action within predetermined limits when corrections are indicated.
- Perform and monitor quality control within predetermined limits.
- Apply principles of safety.
- Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel, other health care professionals, and with the public.
- Recognize responsibilities of other laboratory and health care personnel and interact with them with respect for their jobs and patient care.
- Recognize and act upon individual needs for continuing education as a function of growth and maintenance of professional competence.
- Exercise principles of management, safety, and supervision.
- Complete eligibility requirements to sit for the American Society for Clinical Pathology Histotechnician certification exam.

Following are the criteria for admission to the Histology Certificate Program:

Academic Standards

- MULT 101: Medical Terminology with a grade of 'C' or higher
- MATH 102: Beginning Algebra I with a grade of 'C' or higher
- CHEM 113: Introduction to Organic and Biochemistry with a grade of 'C' or higher
- BIO 261: Human Anatomy with a grade of 'C' or higher
- Placement into ENGL 101 (Demonstrate credit for ENGL 100 or placement test results must show placement into ENGL 101.)
- 2.5 minimum overall GPA

Non-Academic Standards

- Health Record: Completion of a current health record.
- Background check: Some clinical facilities may require this.
- Demonstration of a shadowing experience.
- Two acceptable recommendations .
- Online learning and computer skills assessment.

- Completion of Blackboard Orientation.
- Professional Goals Narrative.

### **Phlebotomy Certificate**

A student completing the Phlebotomy certificate will be able to:

- Demonstrate proficiency in all areas of phlebotomy related pre-analytical processes of laboratory testing, recognizing and adhering to infection control and safety policies and procedures.
- Demonstrate the theoretical knowledge needed to assure quality of phlebotomy processes through appropriate quality control methods, thus contributing to the accuracy of laboratory test results.
- Exhibit the professional attitudes and behaviors that are necessary for gaining and maintaining the confidence of the health care community.
- Meet requirements to take a national certifying examination for Phlebotomy Technicians.

Following are the criteria for admission to the Phlebotomy Certificate Program:

Academic Standards:

- Medical Terminology, MULT 101 or HIMT 121 with a grade of 'C' or higher.
- Placement above or credit for ENGL 100.

Non-Academic Standards:

- Completion of current health record requirements (for most current information, contact the Health Records Office, Union 134A, 614-287-2450).
- Background check: Fingerprinting must be completed in the Columbus State Police Department. Print the form available on the program website at <http://www.csc.edu/phlebotomy/> and follow directions regarding this procedure. You must complete this process at Columbus State. The results of this are good for one year only.
- Drug Screening: See cashier for this procedure; program of study is "MULT". This prerequisite should not be completed until after you are registered for MULT 115. It must be completed within 7 days after the start of the quarter in which you are registered for MULT 115.

### **Clinical Laboratory Assisting Certificate**

A student completing the Clinical Laboratory Assisting Certificate will be able to:

- Prepare blood and body fluid specimens for analysis according to clinical laboratory industry standards.
- Prepare reagents, standards, and control materials for analysis according to clinical laboratory industry standards.
- Populate patient data into the Laboratory Information System (LIS) with accuracy.
- Demonstrate safety practices consistent with clinical laboratory industry standards.
- Perform waived laboratory testing with accuracy and precision and correlate with clinical conditions.
- Demonstrate professional attitudes and behaviors.

### **Complementary Care Certificate**

A student completing the Complementary Care Certificate will be able to:

- Define terms associated with complementary care practices.
- Identify the different types of complementary care practices.
- Discuss the use of complementary care methods for health maintenance.
- Discuss the role of research in the evaluation of complementary care.

### Nurse Aide Training Program Certificate

A student completing the Nurse Aide Training Program Certificate will be able to:

- Effectively communicate in the health care setting.
- State and demonstrate principles of medical asepsis and standard precautions.
- Identify and demonstrate the principles of safe resident care.
- Discuss and demonstrate correct basic nursing skills.
- Meet the requirements set forth in the Omnibus Budget Reconciliation Act of 1987.
- Meet the eligibility requirements needed to apply to take the state test for nurse aides.

### Patient Care Skills Certificate

A student completing the Patient Care Skills Certificate will be able to:

- Effectively communicate in the health care setting.
- State and demonstrate principles of medical asepsis and standard precautions.
- State and demonstrate the principles of surgical asepsis.
- Identify and demonstrate the principles of safe resident care in an acute care setting.
- Discuss and demonstrate correct basic nursing skills commonly performed in the acute care setting.

### Pranic Healing Certificate Level I

A student completing the Pranic Healing Certificate Level I will be able to:

- Identify basic concepts and principles of Pranic Healing.
- Demonstrate basic Pranic Healing techniques on three or more ailments.
- Identify the eleven major energy centers and their corresponding internal organs.
- Describe important things to avoid when healing.
- Demonstrate self-decontamination techniques and self-recharging techniques.
- Practice self-healing and distant healing.

### Pranic Healing Certificate Level II – Advanced Pranic Healing

A student completing the Pranic Healing Certificate Level II will be able to:

- Demonstrate proper advanced energizing techniques and color prana production.
- Describe the properties of the seven color pranas.
- Identify the eleven major energy centers and organs controlled by each center.
- Demonstrate advanced scanning and cleansing techniques.
- Use Advanced Pranic Healing knowledge and skill to accurately identify and safely apply protocols.

### Pranic Healing Certificate Level III - Mental and Emotional Well-Being

A student completing the Pranic Healing Certificate Level III will be able to:

- Identify fundamental principles of Pranic Healing for Mental and Emotional Well-Being.
- Describe psychological functions of the eleven major energy centers.
- Demonstrate the advanced general and local sweeping techniques for Level III
- Demonstrate knowledge of advanced chakral scanning and auric shielding.
- Demonstrate application of Level III techniques for various issues related to mental and emotional well-being.

### Registered Nurse First Assistant Certificate

A student completing the Registered Nurse First Assistant Certificate will be able to:

- Act effectively and safely as a first assistant in surgery.
- Meet eligibility requirements to take the RNFA certificate examination.

### Train the Trainer Certificate

A student completing the Train the Trainer Certificate will be able to:

- Teach, coordinate, and supervise a Nurse Aide Training Program.
- Meet the requirements established by the Ohio Department of Health.

### Multi-Competency Health Associate Degree

#### General Education Requirements

COURSE		CR
ENGL 101	Beginning Composition .....	3
ENGL 102	Essay and Research .....	3
COMM 105	Speech .....	3
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224 .....	5
SSCI XXX	Social Science 100, 101, 102, 105 or GEOG 240 .....	5
COMM 200	Business Communications .....	3

#### Basic Studies Requirements (specific to degree track)

COURSE		CR
MATH 102	Beginning Algebra I .....	4
BIO 215	Microbiology.....	5
BIO 261	Human Anatomy ( <i>or</i> ) .....	
BIO 121	Anatomy and Physiology I .....	5
BIO 262	Human Physiology ( <i>or</i> ) .....	
BIO 122	Anatomy and Physiology II .....	5
CHEM 113	Elements of Organic and Biochemistry .....	5
BIO 263	Human Pathophysiology .....	5

These requirements may vary according to major/plan of study.

#### Technical Studies Core – Required

COURSE		CR
MULT 101	Medical Terminology .....	2
MULT 102	Cardiopulmonary Resuscitation (CPR) .....	1

Students must select a minimum of 6 credit hours from technical options courses.

#### Technical Option Courses

Any Multi-Competency course will be accepted as a Technical Options course (when not used as part of a student's identified certificate program).

MULT 103	Responding to Emergencies .....	2
MULT 105	Exploring Healthcare Professions.....	1
MULT 110	Basic Electrocardiography .....	6
MULT 114	Phlebotomy Practicum II .....	1.5
MULT 115	Phlebotomy .....	4.75

MULT 116	Venipuncture for Health Care Providers .....	2
MULT 127 **	Patient Care Assistant .....	5
MULT 128 **	Introduction to Patient Care Assistant .....	5
MULT 135 **	Basic PCA/MSP Training .....	4
MULT 136 **	Advanced Patient Care Assistant .....	2
MULT 137 **	Phlebotomy Training .....	4
MULT 138 **	EKG Training .....	2
MUTL 139 **	Basic PCA Training .....	4
MULT 140 **	Patient Care Technician Training .....	3
MULT 150*	Histologic Techniques.....	3
MULT 151*	Histologic Techniques Clinical.....	2
MULT 152*	Tissue Identification.....	3
MULT 154*	Chemistry of Stains I.....	3
MULT 155*	Chemistry of Stains I Clinical .....	2
MULT 156*	Chemistry of Stains II.....	3
MULT 157*	Chemistry of Stains II Clinical .....	2
MULT 171	Current Issues: HIV .....	1
MULT 270	Human Resources Management for Health Services.....	4
MULT 272	Health Care Resources Management .....	4
MULT 274	TQM/UM Accreditation .....	4
MULT 276	Legal Aspects and Risk Management .....	3
MULT 290	Special Topics in Health Care.....	1-5
MULT 291	Special Topics in Health Care Facilities.....	1-5
CLA 100	Laboratory Theory for Health Related Industries I1	
CLA 101	Laboratory Techniques for Health Related Industries .....	2
NURC 101	Nurse Aide Training Program .....	5
NURC 102	Patient Care Skills.....	4
NURC 175	Principles of Homeopathy ( <i>or</i> ).....	4
NURC 176	Fundamentals of Herbology .....	4
NURC 177	Holistic Healing Methods .....	4
NURC 179	Pranic Healing Level I .....	2
NURC 180	Pranic Healing Level II – Advanced Pranic Healing .....	3
NURC 181	Pranic Healing Level III – Mental and Emotional Well-Being.....	2
NURC 245	Registered Nurse First Assistant .....	5
NURC 246	RNFA Experience in the Operating Room.....	5
NURC 250	NATP Train the Trainer .....	3
PNUR 191	Introduction to Relaxation Techniques .....	1

\*Must be accepted into Histology Certificate Program to take these courses.  
 \*\*Contact CEWD for these courses.

## Associate of Applied Science Degree

This degree requires two or more certificate programs, one of which must be in MULT and the other may be in MULT, CLA or NURC, and at least six hours of Technical Options courses for a minimum of 49 technical hours. The following is a suggested curriculum plan.

<b>COURSE</b>	<b>CR</b>	
<b>Quarter 1</b>		
ENGL 101	Beginning Composition.....	3
MATH 102	Beginning Algebra I.....	4
CHEM 113	Elements of Organic and Biochemistry.....	5
MULT 101	Medical Terminology .....	2
MULT XXX*	Technical Certificate Course.....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>17</b>

<b>Quarter 2</b>		
ENGL 102	Essay and Research .....	3
BIO 121	Anatomy and Physiology I ( <i>or</i> ).....	
BIO 261	Human Anatomy.....	5
MULT XXX*	Technical Certificate Course.....	5
MULT XXX*	Technical Certificate Course.....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>16</b>

<b>Quarter 3</b>		
MULT XXX*	Technical Certificate Course.....	3
HUM XXX	Humanities 111, 112, 113, 151, 152, or 224.....	5
MULT 102	CPR .....	1
BIO 122	Anatomy and Physiology II ( <i>or</i> ).....	
BIO 262	Human Physiology .....	5
MULT XXX	Technical Options Course.....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>17</b>

<b>Quarter 4</b>		
SSCI XXX	Social Science 100, 101, 102, 105 (or) GEOG 240.....	5

BIO 215	Microbiology.....	5
MULT XXX*	Technical Certificate Course.....	3
MULT XXX	Technical Options Course.....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>16</b>

<b>Quarter 5</b>		
COMM 105	Speech .....	3
MULT XXX*	Technical Certificate Course.....	5
MULT XXX*	Technical Certificate Course.....	3
MULT XXX*	Technical Certificate Course.....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>14</b>

<b>Quarter 6</b>		
MULT XXX*	Technical Certificate Course.....	5
MULT XXX*	Technical Certificate Course.....	5
MULT XXX	Technical Options Course.....	3
COMM 200	Business Communications .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>16</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....</b>	<b>96</b>

\*NURC and CLA courses may also fulfill this requirement.

## Basic Electrocardiography (EKG) Certificate COURSE CR

<b>Quarter 1</b>		
MULT 110	Basic Electrocardiography (EKG).....	6
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>6</b>
<b>TOTAL CERTIFICATE CREDITS HOURS</b>	<b>.....</b>	<b>6</b>

## Health Care Manager Certificate\*

\*This program is offered online.

### COURSE CR

<b>Quarter 1</b>		
CIT 101	PC Applications I.....	3
BMGT 218	Management Training for Supervisors .....	5
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>8</b>

<b>Quarter 2</b>		
MULT 270	Human Resource Management in Health Services Organizations .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>

<b>Quarter 3</b>		
MULT 276	Legal Aspects and Risk Management .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>3</b>

<b>Quarter 4</b>		
MULT 272	Health Care Resource Management .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>

<b>Quarter 5</b>		
MULT 274	TQM/UM/Accreditation .....	4
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>4</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....</b>	<b>23</b>

Healthcare Management courses may be taken in any order.

## Histology Certificate

\*Some courses are offered online.

### COURSE CR

<b>Quarter 1</b>		
MULT 150*	Histologic Techniques .....	3
MULT 151	Histologic Techniques Clinical.....	2
MULT 152*	Tissue Identification .....	3
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>8</b>

<b>Quarter 2</b>		
MULT 154*	Chemistry of Stains I.....	3
MULT 155	Chemistry of Stains Clinical I.....	2
<b>TOTAL CREDIT HOURS</b>	<b>.....</b>	<b>5</b>

<b>Quarter 3</b>		
MULT 156*	Chemistry of Stains II.....	3
MULT 157	Chemistry of Stains Clinical II.....	2
<b>TOTAL CREDIT HOURS .....</b>		<b>5</b>
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>18</b>

\*Curriculum plans are available in the Multi-Competency Health Office.  
This certificate is earned by taking the theory courses online while attending a clinical experience for the clinical courses. The clinical experience is performed in clinical facilities, not necessarily in Columbus, with whom the college has affiliation agreements.

### Phlebotomy Certificate

<b>COURSE</b>			<b>CR</b>
<b>Quarter 1</b>			
MULT 115	Phlebotomy .....	4.75	
<b>TOTAL CREDIT HOURS .....</b>		<b>4.75</b>	

<b>Quarter 2</b>			
MULT 114	Phlebotomy Practicum II .....	1.5	
<b>TOTAL CREDIT HOURS .....</b>		<b>1.5</b>	
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>6.25</b>	

### Clinical Laboratory Assisting Certificate

<b>Quarter 1</b>			<b>CR</b>
MLT 100	Introduction to Healthcare.....	3	
HIMT 245A	ICD-9-CM Coding .....	1	
<b>TOTAL CREDIT HOURS .....</b>		<b>4</b>	

<b>Quarter 2</b>			
HIMT 255A	CPT-4 Coding.....	1	
CLA 100	Laboratory Theory for Health-Related Industries .....	2	
CLA 101	Laboratory Techniques for Health-Related Industries.....	2	
<b>TOTAL CREDIT HOURS .....</b>		<b>5</b>	
<b>TOTAL CERTIFICATE HOURS.....</b>		<b>9</b>	

### Complementary Care Certificate

<b>COURSE</b>			<b>CR</b>
<b>Quarter 1</b>			
NURC 177	Holistic Healing Methods .....	4	
<b>TOTAL CREDIT HOURS .....</b>		<b>4</b>	

<b>Quarter 2</b>			
NURC 176	Fundamentals of Herbology .....	4	
<b>TOTAL CREDIT HOURS .....</b>		<b>4</b>	

<b>Quarter 3</b>			
NURC 175	Principles of Homeopathy ( <i>or</i> ).....	4	
NURC 179	Pranic Healing Level I ( <i>or</i> ).....	2	
PNUR 191	Introduction to Relaxation Techniques.....	1	
<b>TOTAL CREDIT HOURS .....</b>		<b>1-4</b>	
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>9-12</b>	

## Nursing Certificates

### Nurse Aide Certificate

<b>COURSE</b>			<b>CR</b>
NURC 101	Nurse Aide Training Program .....	5	
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>5</b>	

### Patient Care Skills Certificate

<b>COURSE</b>			<b>CR</b>
NURC 102	Patient Care Skills .....	4	
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>4</b>	

### Pranic Healing Certificate Level I

<b>COURSE</b>			<b>CR</b>
NURC 179	Pranic Healing Level I .....	2	
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>2</b>	

### Pranic Healing Certificate Level II - Advanced

<b>Pranic Healing</b>			<b>CR</b>
<b>COURSE</b>			
NURC 179	Pranic Healing Level I .....	2	
NURC 180	Pranic Healing Level II – Advanced Pranic Healing .....	3	
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>5</b>	

### Pranic Healing Certificate Level III – Mental and Emotional Well-Being

<b>COURSE</b>			<b>CR</b>
NURC 179	Pranic Healing Level I .....	2	
NURC 180	Pranic Healing Level II – Advanced Pranic Healing .....	3	
NURC 181	Pranic Healing Level III – Mental & Emotional Well-Being.....	2	
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>7</b>	

### Registered Nurse First Assistant Certificate

<b>COURSE</b>			<b>CR</b>
<b>Quarter 1</b>			
NURC 245	Registered Nurse First Assistant .....	5	
<b>TOTAL CREDIT HOURS .....</b>		<b>5</b>	

<b>Quarter 2</b>			<b>CR</b>
NURC 246	RNFA Experience in the Operating Room .....	5	
<b>TOTAL CREDIT HOURS .....</b>		<b>5</b>	
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>10</b>	

### Train the Trainer Certificate

<b>COURSE</b>			<b>CR</b>
NURC 250	NATP Train the Trainer .....	3	
<b>TOTAL CERTIFICATE CREDIT HOURS.....</b>		<b>3</b>	

## Nuclear Medicine

### Associate of Applied Science in Nuclear Medicine Technology

Nuclear Medicine Technology is the medical specialty that uses the physiologic properties of radioactive material to evaluate conditions of the body and to provide therapy. The skills of the nuclear medicine technologist complement those of the nuclear medicine physician and other professionals in the field. Nuclear medicine technologists perform a number of tasks in the areas of patient care, technical skills, and radiopharmaceutical administration. They apply their knowledge of radiation physics and safety regulations to limit radiation exposure, prepare and administer radiopharmaceuticals, and use radiation detection devices and other kinds of laboratory equipment that measure the quantity and distribution of radionuclides deposited in the patient. They also perform in-vivo and in-vitro diagnostic procedures, use quality control techniques as part of a quality assurance program covering all procedures and products in the laboratory, and may participate in research activities.

Technology classes begin once per year. Admission to the program is competitive with completed applications received annually. Because students and health care workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention.

Upon completion of the associate of applied science in Nuclear Medicine Technology degree, the graduate will be able to:

- Apply knowledge of anatomy, physiology and positioning techniques to accurately acquire/process/display functional and anatomical structures on a nuclear medicine image.
- Develop the necessary skills to apply effective communication, critical thinking and problem solving in a nuclear medicine setting.
- Provide patient care and comfort in a compassionate, ethical and professional manner.
- Act as an agent through observation and communication to obtain pertinent information for the physician to aid in the diagnosis and treatment of the patient.
- Evaluate nuclear medicine images for appropriate positioning and image quality.
- Apply the principles of radiation protection for the patient, staff, and general public.
- Recognize emergency patient conditions and, if necessary, initiate lifesaving first aid and basic life-support procedures.
- Evaluate the quality control performance of nuclear medicine equipment systems, including the safe limits of equipment operation, and report malfunctions to the proper authority.
- Exercise independent judgment and discretion while performing nuclear medicine imaging procedures.
- Participate in nuclear medicine quality assurance programs.
- Meet or exceed the entry level expectations of employers.
- To successfully complete the ARRT and/or NMTCB national certification exams.

### Specific Program Admissions Information

Prospective students are required to attend an informational and advising session to learn detailed program requirements and career opportunities. These sessions are held in the autumn and winter quarters and are extremely helpful in answering students' questions.

A program application is available in each information packet distributed at the autumn and winter quarter informational/advising sessions. Interested persons can obtain session dates and general information by contacting Shawndea Thomas in the Nuclear Medicine Technology Office, (614) 287-5215, or via e-mail to: [nuclearmedicine@csc.edu](mailto:nuclearmedicine@csc.edu). For the most current admissions requirements, consult CSCC Nuclear Medicine web link at <http://www.csc.edu/NucMed/index.htm>

Listed below are additional requirements for admission to the Nuclear Medicine Technology program:

- High school graduate or GED equivalency
- Required high school (or equivalent) courses in Biology (grade of "C" or better) or completion of BIO 100 (grade of "C" or better) and Chemistry (grade of "C" or better) or completion of CHEM 100 (grade of "C" or better)
- Placement into ENGL 101 Beginning Composition or completion of ENGL 100
- Completion of PHYS 100 or equivalent with a grade of "C" or better
- Completion of MATH 104 and/or placement into or completion of MATH 148 College Algebra
- Completion of CHEM 112 or CHEM 113 or equivalent with a grade of "C" or better

- Placement into "No Reading Required" or completion of DEV 040
- Completion of sixteen observation hours in a hospital- based Nuclear Medicine department
- Attendance at a nuclear medicine technology information and advising session.

*NOTE: Individuals who have been convicted of, plead guilty to, or plead nolo contendere to a crime may be ineligible to take the credentialing exams. For additional information, contact the Nuclear Medicine Technology office at (614) 287-5215 or the American Registry of Radiologic Technologists (ARRT) Code of Ethics, Section B.3, Rules of Ethics at [www.rrt.org](http://www.rrt.org).*

## Associate of Applied Science in Nuclear Medicine Technology

### COURSE CR

#### Quarter 1

NUC 200	Introduction to Nuclear Medicine.....	3
NUC 232	Radiation Safety and Protection.....	2
BIO 261	Human Anatomy .....	5
MATH 148	College Algebra .....	5
MULT 101	Medical Terminology .....	2
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

#### Quarter 2

NUC 149	Introduction to Clinical Nuclear Medicine .....	3
NUC 213	Physics and Nuclear Imaging I: Lecture.....	3
NUC 214	Physics and Nuclear Imaging I: Lab.....	1
NUC 234	Nuc. Med. Radiochemistry and Radiopharmacology I.....	3
ENGL 101	Beginning Composition .....	3
BIO 262	Human Physiology.....	5
<b>TOTAL CREDIT HOURS</b>		<b>18</b>

#### Quarter 3

NUC 215	Physics and Nuclear Imaging II: Lecture.....	3
NUC 216	Physics and Nuclear Imaging II: Lab.....	1
NUC 235	Radiochemistry and Radiopharmacy II .....	4
NUC 251	Clinical Theory and Procedures I.....	5
NUC 260	Clinical Practicum I .....	2
<b>TOTAL CREDIT HOURS</b>		<b>15</b>

#### Quarter 4

NUC 217	Physics and Nuclear Imaging III: Lecture .....	3
NUC 218	Physics and Nuclear Imaging III: Lab .....	1
NUC 252	Clinical Theory and Procedures II .....	5
NUC 261	Clinical Practicum II .....	2
BIO 263	Pathophysiology.....	5
<b>TOTAL CREDIT HOURS</b>		<b>16</b>

#### Quarter 5

NUC 240	Seminar I .....	1
NUC 254	Clinical Theory III .....	5
NUC 262	Clinical Practicum III .....	3
NUC 270	Case Studies I .....	1
SSCI XXX	Social Science 100, 101, 102, 105 or GEOG 240 or SOC 202.....	5
<b>TOTAL CREDIT HOURS</b>		<b>15</b>

#### Quarter 6

NUC 241	Seminar II.....	1
NUC 263	Clinical Practicum IV .....	3
NUC 271	Case Studies II .....	1
COMM 105	Speech ( <i>or</i> ) .....	1
COMM 110	Conference and Group Discussion .....	3
ENGL 102	Essay and Research .....	3
RAD 210	Introduction to Sectional Anatomy .....	1
NUC 280	Cross Modality Directed Practice.....	2
<b>TOTAL CREDIT HOURS</b>		<b>14</b>

#### Quarter 7

NUC 242	Seminar III .....	1
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NUC 264	Clinical Practicum V .....	3
NUC 272	Projects in Nuclear Medicine .....	1
COMM 200	Business Communications .....	3
HUM XXX	Humanities 111, 112, 113, 151, 152, or 224 .....	5
<b>TOTAL CREDIT HOURS .....</b>		<b>13</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>		<b>108</b>

Students should request a program plan of study from their faculty advisor.

## Nursing

### Nursing Associate Degree

### Practical Nursing Certificate

### Nursing Certificate Programs (NURC)

### Vocational Education Transfer Option with The Ohio State University College of Education

#### Nursing Associate Degree

Columbus State's Associate Degree program in Nursing prepares graduates to provide health care services to clients of all ages located in a variety of settings in the community and home.

The program is sequential and integrates theory from biological and social sciences with reasoning and communication skills to develop a graduate who can think critically, solve problems, and communicate effectively. Opportunities are available to complete the nursing program in seven or nine quarters depending on the student's needs. Students who go out-of-sequence in the Nursing program may join the program sequence with a subsequent class, providing space is available and petitioning requirements are met. Students entering subsequent nursing classes will meet the catalog requirements for graduation in place for that class.

Nursing classes are structured to promote student participation and learning through lecture, seminar, laboratory practice, and clinical experiences. Two program tracks are available: the traditional track and the online track. In the traditional track, lecture and seminar activities take place on campus in the classroom. In the online track, lecture and seminar content are done using an online format, but as with the traditional track, laboratory practice and clinical experiences will be hands on. These learning opportunities are designed to encourage the student to apply concepts and utilize critical thinking skills in the promotion, maintenance, and restoration of health of clients. Students learn to work collaboratively with other health team members within the health care delivery system.

Students take 54 credit hours of nursing courses and 51 credit hours in the arts and sciences. An elective of at least 2 credit hours is required. Students participate in 4-16 hours of clinical experience each week in a variety of health care settings under the direction of a registered nurse. Two nursing outcome exams are given during

the nursing program. Students must achieve a minimum percentile score on these exams in order to continue to the next nursing course or to graduate.

Students who successfully complete the associate degree program are qualified to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The Nursing program at Columbus State is accredited by the National League for Nursing Accrediting Commission, 61 Broadway New York, N.Y. 10006, telephone (212) 363-5555, and the North Central Association of Colleges, and is approved by the Ohio Board of Nursing.

Upon completion of the associate degree in Nursing, the graduate will be able to:

- Implement safe, competent, nurturing care in the role of the Associate Degree Nurse.
- Plan care for persons of all ages using the nursing process.
- Communicate effectively, including the use of teaching and counseling techniques, in the promotion, maintenance, and restoration of health.
- Manage nursing care for a diverse population of clients in a variety of practice settings.
- Synthesize knowledge from nursing and related disciplines using critical thinking skills.
- Analyze legal, ethical, and economic concepts that influence nursing practice.
- Plan for maintaining competence and personal growth.

#### Program Admissions Information

Listed below are general requirements for admission to Nursing. For specific directions, see Nursing Admission requirements available in Nursing, Records and Registration, Advising Services, the Admissions Office, and the nursing home page within the Columbus State Community College Web site. Academic advising is available in Advising Services to help guide new students through the admission process. A separate application is required for nursing and is available on the Internet at [www.csc.edu/nursing](http://www.csc.edu/nursing).

It is highly recommended that those with an interest in nursing make an appointment to meet with an academic advisor in Advising Services by calling (614) 287-2668. There are two tracks available for the Nursing program. The online track is available for those who have a bachelor's degree in another field of study; the traditional track is available for those with or without a previous degree. Admission to the online track is competitive based on GPA, A<sub>2</sub> results and requires an essay submission.

#### Admission into Nursing requires completion of these criteria:

##### 1. Required Documentation

An application specific to nursing must be submitted to the Nursing program through the nursing homepage, [www.csc.edu/nursing](http://www.csc.edu/nursing), after all the admission criteria have been completed. Information about application periods will be posted at that site also.

Achievement of a minimum GPA of 2.6 on a 4-point scale based on completion of courses at the school or college most recently attended (high school, vocational program, or higher education institution). Official transcripts must be

on file in the Records and Registration Office to verify GPA by the deadline dates. Students who do not have a minimum 2.6 GPA for their most recent coursework must complete at least 12 credit hours of college-level coursework at Columbus State with a minimum GPA of 2.6 for admission to the Nursing program. The minimum 2.60 GPA must be maintained through the start of classes in Nursing.

## 2. Compass Placement Tests:

**Math Skills** - Placement above MATH 103 (Beginning Algebra II) or completion of MATH 103. Students with transfer credit by Columbus State for MATH 103 are not required to take the Math Skills Test. Credit awarded for MATH 135 will not substitute for the MATH 103 requirement.

**Writing Skills** - Placement into ENGLISH 101 (Beginning Composition) or ENGLISH 111 (English Composition), or completion of ENGLISH 100 (Language Development). Students awarded transfer credit by Columbus State for ENGL 101 or ENGL 111 are not required to take the Writing Skills Test.

3. College courses: completed with a grade of “C” or better.  
NURC 101 (Nurse Aide Training Program) or prior learning assessment credit (“N” credit) or copy of current Ohio practical nurse license (LPN). Requires completion of health records before registering for the course.  
NURC 102 (Patient Care Skills) or copy of current Ohio practical nurse license (LPN).  
CHEM 113 (General and Biological Chemistry)  
PSY 100 (Intro to Psychology) **or** PSY 240 (Human Growth and Development Through the Life Span)
4. Health Education Systems, Inc. (HESI) Admission Assessment (A2) Exam  
Completion of the A2 Exam with a score of 75 is required for admission. This score reflects a necessary reading, science, and math knowledge foundation to be successful in the Nursing Program. Applicants are encouraged to utilize the Evolve Reach Admission Assessment Exam Review by HESI prior to taking the A2 exam. This exam review is available for purchase at the Bookstore

## Additional Admission Information

1. The Columbus State admissions application form is online at <https://secure.csc.edu/application/default.asp>. If it has been more than three years since you attended classes at Columbus State, call (614) 287-2453 or 1-800-621-6407 ext 2453 to reactivate your student file.
2. Placement tests are administered in the Student Success Testing Center, Aquinas Hall, Room 002. See the following web site for specific hours and sample questions. [www.csc.edu/sstc/compass.htm](http://www.csc.edu/sstc/compass.htm)
3. To register to take the A2 Admission Exam, contact the ACT Skills Max and Testing Center at (614) 287-5750. The initial cost of the exam is \$45 payable at the Cashier Office, Rhodes Hall. The cost to repeat the exam is \$65. On the day of the test, bring a picture ID and paid receipt

to the ACT Testing Center, Center for Workforce Development, Room 223. Retesting eligibility begins 6 months from the date of the previous A2 exam. The A2 exam may be taken a maximum of 2 times. A2 exam scores from other schools will not be accepted. The Nursing Program will maintain scores for a period of 4 years.

4. Contact the Records and Registration Office, Room 201, Madison Hall, (614) 287-2658, for information about the processing of college transfer credit from other institutions of higher education
5. Applicants currently licensed as Practical Nurses should refer to “Admission Procedure to Associate Degree Nursing program for Licensed Practical Nurses (LPNs)” available from the Nursing Program or online at [www.csc.edu/nursing](http://www.csc.edu/nursing).
6. Applicants for admission from another program preparing students to take NCLEX-RN should refer to Nursing Procedure for Transfer Students. The information is available from the Nursing Program.
7. Please be advised of the following:
  - i. From the Ohio Revised Code Chapter 4723.09 License Application:
    - (b) For an applicant who entered a prelicensure nursing education program on or after June 1, 2003, the criminal records check of the applicant that is completed by the bureau of criminal identification and investigation and includes a check of federal bureau of investigation records and that bureau submits to the board indicated that the applicant has not been convicted of, has not pleaded guilty to, and has not had a judicial finding of guilt for violating section 2903.01, 2903.02, 2903.03, 2903.11, 2905.01, 2907.02, 2907.03, 2907.05, 2909.02, 2911.01, or 2911.11 of the Revised Code or a substantially similar law of another state, the United States, or another country, (c) For all applicants, the board determines that the applicant has not committed any act that is grounds for disciplinary action under section 3123.47 or 4723.28 of the Revised Code or determines that an applicant who has committed any act that is grounds for disciplinary action under either section has made restitution or has been rehabilitated, or both.
  - ii. It is the applicant’s responsibility to notify the Nursing Program Chairperson of felony convictions, as admission may be revoked due to clinical placement denial.
  - iii. From the Ohio Revised Code 4723-5-12:
    - (13) A student shall not self-administer or otherwise take into the body any dangerous drug, as defined in section 4729.01 of the Revised Code, in any way not in accordance with a legal, valid prescription issued for the student. (14) A student shall not habitually indulge in the use of controlled substances, other habit-forming drugs, or alcohol or other chemical substances to an extent that impairs ability to practice. (15) A student shall not have impairment of the ability to practice according to acceptable and pre-

vailing standards of safe nursing care because of habitual or excessive use of drugs, alcohol, or other chemical substances that impair the ability to practice. (16) A student shall not have impairment of the ability to practice according to acceptable and prevailing standards of safe nursing care because of a physical or mental disability.

8. A new federal law, PRWORA, known as the “Personal Responsibility Act” limits licensure to U.S. citizens and other qualified applicants. The State Board of Nursing is required to keep assurance of citizenship on record with applications for licensure.
9. Admission to Nursing is offered for a specific quarter only. Students who decline the offer of admission or who fail to respond must re-apply if they wish to be considered for a future class and must meet the admission criteria in effect for that class.
10. A minimum grade of “C” or better is required in all Nursing, Science, Psychology and Math courses in the curriculum. Students accepted to Nursing who do not achieve a minimum grade of “C” or better in any of the following support courses must retake the course(s) prior to the start of their NURS classes or during the quarter in which the course(s) is(are) required in the curriculum plan, in order to remain a student in good standing in the program. BIO 261 (Human Anatomy); BIO 262 (Human Physiology); PSY 240 (Human Growth and Development Through the Life Span); BIO 215 (General Microbiology); BIO 263 (Human Pathophysiology); MATH 135 (Elementary Statistics).
11. Columbus State Community College makes every effort to inform prospective students of the admission requirements for the Nursing program. Students are responsible for maintaining awareness of the application periods, of the admission requirements and any changes made to those requirements over time. Any questions about admission criteria should be directed to Columbus State Advising Services at (614) 287-2668.
12. If waiting to start nursing, students should first complete admission requirements and then work on general education and basic related courses listed on the plan of study. Please continue to work with academic advisor to complete your pre-admission checklist and to plan a schedule of other courses.
13. Clinical agencies have set requirements for patient safety. Students accepted to the program will be informed of the specific requirements for health, fingerprinting, drug screening and CPR which must be met prior to starting and while continuing the NURS sequence of courses.

### Application Process

The applications for the Nursing Program will be available twice a year. Please refer to the Nursing homepage on the College website for the application dates and deadlines. All applications can be found online at [www.csc.edu/nursing](http://www.csc.edu/nursing).

## Nursing Associate Degree

COURSE	CR
<b>Quarter 1</b>	
NURS 110*	Introduction to Nursing .....3
NURS 100*	Health Assessment in Nursing .....3
ENGL 101	Beginning Composition .....3
BIO 261*	Human Anatomy .....5
<b>TOTAL CREDIT HOURS</b>	<b>14</b>
<b>Quarter 2</b>	
NURS 111*	Health Promotion of Women and Families .....6
NURS 123*	Nursing Skills I .....2
NURS 132*	Nursing Concepts of Pharmacology I .....2
BIO 262*	Human Physiology .....5
PSY 240*	Human Growth and Development through the Life Span .....4
<b>TOTAL CREDIT HOURS</b>	<b>19</b>
<b>Quarter 3</b>	
NURS 112*	Introduction to Nursing Concepts of Health Maintenance and Restoration .....6
NURS 124*	Nursing Skills II .....2
NURS 133*	Nursing Concepts of Pharmacology II .....2
BIO 263*	Human Pathophysiology .....5
<b>TOTAL CREDIT HOURS</b>	<b>15</b>
<b>Quarter 4</b>	
NURS 210*	Nursing Concepts of Health Maintenance and Restoration I .....6
ENGL 102	Essay and Research .....3
BIO 215*	General Microbiology .....5
NURS XXX*	Nursing Elective 187, 188,189, 190, 191, 192, 193 194, 197, 198, or 199 .....2-3
<b>TOTAL CREDIT HOURS</b>	<b>16-17</b>
<b>Quarter 5</b>	
NURS 211*	Nursing Concepts of Health Maintenance and Restoration II .....6
COMM 200	Business Communications ( <i>or</i> )
COMM 202	Writing for Health and Human Services .....3
SSCI XXX	Social Sciences 100, 101, 102, 105 ( <i>or</i> ) GEOG 240 .....5
<b>TOTAL CREDIT HOURS</b>	<b>14</b>
<b>Quarter 6</b>	
NURS 212*	Nursing Concepts of Health Maintenance and Restoration III .....6
MATH 135*	Elementary Statistics .....5
COMM 105	Speech ( <i>or</i> )
COMM 110	Conference and Group Discussion .....3
<b>TOTAL CREDIT HOURS</b>	<b>14</b>
<b>Quarter 7</b>	
NURS 213	Concepts of Nursing Management .....8
HUM XXX	Humanities 111,112, 113, 151, 152, or 224 .....5
	Nursing Outcome Exam..... Passing
<b>TOTAL CREDIT HOURS</b>	<b>13</b>
<b>TOTAL CREDIT HOURS</b>	<b>105</b>

\* A grade of “C” or better is required in order to continue in the nursing sequence.

### Vocational Education Transfer Option with the Ohio State University College of Education

The Nursing Program at Columbus State has completed an articulation agreement with the Technical Education and Training Program of the Ohio State University College of Education. This agreement allows nursing students to complete their associate degree at Columbus State, transfer their credits to Ohio State, and complete a baccalaureate degree in Technical Education and Training. Students completing the Ohio State program may be eligible for certification by the Ohio Department of Education to teach in related high school career and technical education programs throughout the State of Ohio. Interested students should contact their Columbus State department chairperson for curriculum requirements and additional details. Please note that course

requirements for this transfer option may differ from the standard Plan of Study published in the catalog.

## Practical Nursing Certificate

The Practical Nursing Certificate program is a part-time evening and weekend program designed to prepare graduates to provide health care to clients of various ages in a variety of health care settings. The seven-quarter program is designed as a career path for entry-level patient care providers. Nursing assistants and patient care assistants can continue their education in the PN certificate program and become licensed practical nurses after successful completion of the program and passing the PN licensing examination. After obtaining their practical nursing license, graduates of the PN certificate program may apply for articulation into the associate degree nursing program at Columbus State Community College.

The practical nursing certificate program is sequential and it helps students to develop communication, critical thinking, and problem-solving skills. Nursing courses are structured to promote student learning through lecture, laboratory, clinical, seminar, and practicum experiences. Learning opportunities are designed to apply practical nursing concepts in the promotion, maintenance and restoration of health for clients. Students learn to work collaboratively with other health team members in the health care delivery system.

Students take 32 hours of nursing courses and 23 hours in arts and sciences for a total of 55 credits. Students will participate in clinical experiences in a variety of health care settings under the direction of a registered nurse. A practical nursing outcome exam will be given at the beginning of the seventh quarter of the program. Students must achieve a minimum score on this outcome exam in order to graduate.

Students who successfully complete the Practical Nursing Certificate program are qualified to apply to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN). The program is approved by the Ohio Board of Nursing.

Upon completion of the Practical Nursing Certificate Program, the graduate will be able to:

- Demonstrate the role and scope of practice for the practical nurse in Ohio.
- Apply knowledge from the biological, behavioral, and nursing sciences to the care of clients.
- Utilize the nursing process to provide safe and effective nursing care to a diverse population in a variety of health care settings.
- Communicate effectively with clients and families, health care providers, and community members for the purpose of health promotion, maintenance and restoration.
- Safely perform nursing skills according to accepted standards of practice.
- Demonstrate professionalism by engaging in legal, ethical, and accountable behaviors and utilizing economic concepts as they relate to the health care arena.
- Synthesize knowledge from nursing and related disciplines using critical thinking skills.
- Demonstrate caring behaviors by respecting the diversity of each person by treating them with dignity and integrity.
- Collaborate with the health care team to provide and delegate

nursing care according to Ohio Board of Nursing rules.

## Program Admissions Information

Students need to apply to CSCC and adhere to admission criteria. Specific requirements for admission to the Practical Nursing Certificate Program are listed below.

- Practical Nurse Certificate Program application.
- High school biology, with a grade of “C” or better, within the past five years or BIO 100 Introduction to Biological Sciences, or a college level biology.
- Placement into ENGL 101 Beginning Composition.
- Placement into MATH 100 Calculations and Dosages.
- Completion of the following college courses with a grade of “C” or better: NURC 101 Nurse Aide Training Program or STNA and MULT 101 Medical Terminology.
- Completion of Test of Essential Academic Skills (TEAS) with scores of 80% in Reading, 70% in English, and 60% in Math.
- Grade point average of 2.25 or better in most recently completed course work.
- DEV 090 College Success Skills is recommended.

The Ohio Board of Nursing Felony Policy, Section 4723.28 of the Ohio Revised Code, states that the Board may deny a convicted felon a license or the privilege of sitting for the licensure examination. A student with a history of felony conviction is responsible for informing the program coordinator.

The Ohio Board of Nursing Licensure Application includes the requirement that all applicants for licensure identify existing psychiatric conditions(s). Please check with the Board of Nursing, (614) 466-3947 or [www.nursing.ohio.gov](http://www.nursing.ohio.gov), for further clarification.

A federal law known as the “Personal Responsibility Act” (PRO-WORA) limits licensure to U.S. citizens and other qualified applicants. The State Board of Nursing is required to keep assurance of citizenship on record with applications for licensure.

## Practical Nursing Certificate Program

COURSE	CR
<b>Quarter 1</b>	
ENGL 101* Beginning Composition .....	3
BIO 261* Human Anatomy .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>8</b>
<b>Quarter 2</b>	
BIO 262* Human Physiology.....	5
MATH 100 Calculations and Dosages .....	2
PNUR 100 Introduction to Practical Nursing.....	1
<b>TOTAL CREDIT HOURS</b> .....	<b>8</b>
<b>Quarter 3</b>	
PNUR 101* Foundations of Practical Nursing.....	2
PNUR 121* Pharmacology I .....	2
SSCI XXX* Social Sciences 100, 101, 102, 105 (or) GEOG 240 .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>9</b>
<b>Quarter 4</b>	
PNUR 102* Introduction to Practical Nursing Concepts.....	6
PNUR 122* Pharmacology II.....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>9</b>
<b>Quarter 5</b>	
PNUR 104* Maternal and Child Health.....	6
COMM 110* Conference and Group Discussion (or)	3
COMM 105* Speech.....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>9</b>

<b>Quarter 6</b>	
PNUR 103*	Health Promotion, Maintenance, and Restoration .....6
<b>TOTAL CREDIT HOURS</b>	<b>.....6</b>

<b>Quarter 7</b>	
PNUR 105*	Concepts Relating to Practice.....5
PNUR 19X*	Special Topics in Practical Nursing 190, 191, 192, 193, 194, 195, 196 or 197 (or)
MULT 171*	Current Issues HIV Infection .....1
<b>TOTAL CREDIT HOURS</b>	<b>.....6</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b>	<b>.....55</b>

\*Note: A grade of “C” or better is required to continue in sequence.

\*\* Note: A grade of “B” or better in Math 100 is required to continue in sequence.

## Nursing Certificate Programs (NURC)

Several certificate programs are offered through the Nursing Department. These are focused programs that result in a certificate of completion. The programs range from those designed for anyone interested in patient care to those for the licensed nurse interested in a specific area of training. Many area health care employers are interested in students who have successfully completed these programs. A Nursing Certificate Program may fulfill one of the certificate requirements for the Associate of Applied Science (A.A.S.) in Multi-Competency Health.

Clinical agencies have set requirements for patient safety. Students enrolling in programs with a clinical component will be informed of the specific requirements for health, fingerprinting, and/or drug screening prior to enrollment.

### Nurse Aide Training Program Certificate

A student completing the Nurse Aide Training Program Certificate will be able to:

- Effectively communicate in the health care setting.
- State and demonstrate principles of medical asepsis and standard precautions.
- Identify and demonstrate the principles of safe resident care.
- Discuss and demonstrate correct basic nursing skills.
- Meet the requirements set forth in the Omnibus Budget Reconciliation Act of 1987.
- Meet the eligibility requirements needed to apply to take the state test for nurse aides.

### Patient Care Skills Certificate

A student completing the Patient Care Skills Certificate will be able to:

- Effectively communicate in the health care setting.
- State and demonstrate principles of medical asepsis and standard precautions.
- State and demonstrate the principles of surgical asepsis.
- Identify and demonstrate the principles of safe resident care in an acute care setting.
- Discuss and demonstrate correct basic nursing skills commonly performed in the acute care setting.

### Pranic Healing Certificate Level I

A student completing the Pranic Healing Certificate Level I will be able to:

- Identify basic concepts and principles of Pranic Healing.
- Demonstrate basic Pranic Healing techniques on three or more ailments.

- Identify the eleven major energy centers and their corresponding internal organs.
- Describe important things to avoid when healing.
- Demonstrate self-decontamination techniques and self-recharging techniques.
- Practice self-healing and distant healing.

Pranic Healing Certificate Level II – Advanced Pranic Healing  
A student completing the Pranic Healing Certificate Level II will be able to:

- Demonstrate proper advanced energizing techniques and color prana production.
- Describe the properties of the seven color pranas.
- Identify the eleven major energy centers and organs controlled by each center.
- Demonstrate advanced scanning and cleansing techniques.
- Use Advanced Pranic Healing knowledge and skill to accurately identify and safely apply protocols.

Pranic Healing Certificate Level III - Mental and Emotional Well-Being

A student completing the Pranic Healing Certificate Level III will be able to:

- Identify fundamental principles of Pranic Healing for Mental and Emotional Well-Being.
- Describe psychological functions of the eleven major energy centers.
- Demonstrate the advanced general and local sweeping techniques for Level III
- Demonstrate knowledge of advanced chakral scanning and auric shielding.
- Demonstrate application of Level III techniques for various issues related to mental and emotional well-being.

### Complementary Care Certificate

A student completing the Complementary Care Certificate will be able to:

- Define terms associated with complementary care practices.
- Identify the different types of complementary care practices.
- Discuss the use of complementary care methods for health maintenance.
- Discuss the role of research in the evaluation of complementary care.

### Registered Nurse First Assistant Certificate

A student completing the Registered Nurse First Assistant Certificate will be able to:

- Act effectively and safely as a first assistant in surgery.
- Meet eligibility requirements to take the RNFA certificate examination.

### Train the Trainer Certificate

A student completing the Train the Trainer Certificate will be able to:

- Teach, coordinate, and supervise a Nurse Aide Training Program.
- Meet the requirements established by the Ohio Department of Health.

## Nurse Aide Certificate

<b>COURSE</b>	<b>CR</b>
NURC 101 Nurse Aide Training Program .....	5
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>5</b>

## Patient Care Skills Certificate

<b>COURSE</b>	<b>CR</b>
NURC 102 Patient Care Skills .....	4
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>4</b>

## Pranic Healing Certificate Level I

<b>COURSE</b>	<b>CR</b>
NURC 179 Pranic Healing Level I .....	2
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>2</b>

## Pranic Healing Certificate Level II - Advanced Pranic Healing

<b>COURSE</b>	<b>CR</b>
NURC 179 Pranic Healing Level I .....	2
NURC 180 Pranic Healing Level II – Advanced Pranic Healing .....	3
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>5</b>

## Pranic Healing Certificate Level III – Mental and Emotional Well-Being

<b>COURSE</b>	<b>CR</b>
NURC 179 Pranic Healing Level I .....	2
NURC 180 Pranic Healing Level II – Advanced Pranic Healing .....	3
NURC 181 Pranic Healing Level III – Mental and Emotional Well-Being .....	2
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>7</b>

## Complementary Care Certificate

<b>COURSE</b>	<b>CR</b>
<b>Quarter 1</b>	
NURC 177 Holistic Healing Methods .....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>4</b>

### Quarter 2

NURC 176 Fundamentals of Herbology .....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>4</b>

### Quarter 3

NURC 175 Principles of Homeopathy ( <i>or</i> ) .....	4
NURC 179 Pranic Healing Level I ( <i>or</i> ) .....	2
PNUR 191 Introduction to Relaxation Techniques .....	1
<b>TOTAL CREDIT HOURS</b> .....	<b>1-4</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>9-12</b>

## Registered Nurse First Assistant Certificate

<b>COURSE</b>	<b>CR</b>
<b>Quarter 1</b>	
NURC 245 Registered Nurse First Assistant .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>5</b>

### Quarter 2

NURC 246 RNFA Experience in the Operating Room .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>5</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>10</b>

## Train the Trainer Certificate

<b>COURSE</b>	<b>CR</b>
NURC 250 NATP Train the Trainer .....	3
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>3</b>

# Paralegal Studies

## Paralegal Studies Associate Degree

### Paralegal Studies Certificate (Post Baccalaureate Option)

Due to the explosive growth of legal services now being requested in all sectors of our economy, there is a continuous demand for well-trained personnel in all facets of the legal assisting process. The need for paralegal assistants is so great that it is estimated that one paralegal will assist every three or four attorneys, and, in some areas of practice, such as corporate legal departments, there will be one legal assistant hired for every attorney.

The nature of the paralegal assistant's position in the legal community requires individuals with a well-rounded educational background. Critical thinking and excellent communication skills are essential competencies of a legal assistant and are included in courses in English, mathematics, humanities, social science, and basic science.

The technical curriculum has been designed to provide students with knowledge and skills in the role of a legal assistant, ethical requirements, legal research, analysis, the preparation of legal documents, litigation practice and procedure, real estate transactions, family law, administrative law, criminal law, and probate law and practice.

The Paralegal Studies Certificate (Post Baccalaureate Option) is designed for persons who currently possess a bachelor's, master's or Ph.D. degree.

Paralegal assistants have traditionally been utilized in legal environments that are intensive in both client contact and document preparation.

Upon completion of the associate degree in Paralegal Studies, the graduate will be able to:

- Demonstrate proficiency in manual and computer assisted research of legal questions and incorporate the same into properly cited memoranda of law.
- Demonstrate an understanding of the legal and ethical responsibilities of a legal assistant.
- Demonstrate an ability to use municipal, county, state, and federal clerks of court, and other recording offices.
- Prepare deeds, notes, and other documents for residential real estate transfer.
- Draft documents required to complete family law matters.
- Draft pleadings, motions and other documents within the applicable rules of evidence and procedure to prepare and complete civil and criminal litigation.
- Prepare documents for use in corporate, partnership, and other business related matters.
- Draft wills, trusts, and other documents necessary for estate administration.
- Describe the legislative and judicial functions of administrative agencies.

**NOTE:** Paralegal assistants may not sign legal documents, appear in court, or give legal advice. All activities in legal matters must be supervised by a licensed attorney.

## Paralegal Studies Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101	Beginning Composition .....3
BOA 191	Word I (2) (or)
BOA 131	Keyboarding I .....3
LEGL 101	Introduction to Paralegal Studies .....4
LAW 104	Government and the Law .....3
LEGL 102	The Legal System .....2
LEGL 103	Law Office Procedures and Management .....3
<b>TOTAL CREDIT HOURS</b>	<b>17-18</b>

<b>Quarter 2</b>	
ENGL 102	Essay and Research .....3
MATH 101	Business Mathematics (5) (or)
MATH 102	Beginning Algebra I .....4
CIT 101	PC Applications I .....3
LEGL 111	Legal Research and Writing I .....4
LEGL 114	Family Law .....3
<b>TOTAL CREDIT HOURS</b>	<b>17-18</b>

<b>Quarter 3</b>	
COMM 200	Business Communications .....3
SOC 101	Introduction to Sociology .....5
LEGL 112	Legal Research and Writing II .....4
LEGL 119	Real Estate Transactions .....3
LEGL 226	Administrative Law .....3
<b>TOTAL CREDIT HOURS</b>	<b>18</b>

<b>Quarter 4</b>	
COMM 105	Speech (or)
COMM 110	Conference and Group Discussion .....3
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224 .....5
LEGL 205	Litigation Practices and Procedures I .....3
LEGL 201	General Practice .....4
LEGL 210	Criminal Law and Procedure .....3
LEGL 113	Legal Research and Writing III .....3
<b>TOTAL CREDIT HOURS</b>	<b>21</b>

<b>Quarter 5</b>	
NSCI 101	Natural Science I .....5
PSY 100	Introduction to Psychology .....5
LEGL 235	Survey of Legal Software .....2
LEGL 215	Paralegal Practicum I .....2
LEGL 216	Paralegal Practicum Seminar I .....1
<b>TOTAL CREDIT HOURS</b>	<b>15</b>

<b>Quarter 6</b>	
LEGL 224	Probate Law and Practice .....3
LEGL 220	Business Organizations .....3
LEGL XXX	Electives .....5
LEGL 227	Paralegal Practicum II .....2
LEGL 228	Paralegal Practicum Seminar II .....1
LEGL 243	Alternative Dispute Resolution .....3
<b>TOTAL CREDIT HOURS</b>	<b>17</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>105-107</b>

### Recommended Electives:

LEGL 230	Special Problems in Legal Assisting .....2
LEGL 234	Litigation II .....3
LEGL 238	Insurance Law .....3
LEGL 240	Professional Malpractice .....3
LEGL 232	Taxation .....3
LEGL 244	Debtor/Creditor Relations .....3
LEGL 250	Intellectual Property .....4
LEGL 251	Computer Assisted Legal Research .....3
LEGL 272	Mediation .....4
LEGL 281	Social Security Practice and Procedure .....4
LAW 212	Ohio Criminal Code .....4
LAW 220	Constitutional Law .....3
LAW 215	Introduction to Cyberlaw .....3
LAW 260	Criminal Evidence and Trial .....3
LEGL 222	Immigration Law .....3

ACCT 106	Financial Accounting .....5
ACCT 107	Managerial Accounting .....5

\*LEGL 261, 262, 263, 264, and 265 are not electives for Paralegal Studies. Credit toward graduation will not be given.

## Paralegal Studies Certificate (Post Baccalaureate Option)

COURSE	CR
<b>Quarter 1</b>	
LEGL 101	Introduction to Paralegal Studies .....4
LEGL 102	Legal Systems .....2
LEGL 103	Law Office Procedures .....3
LEGL 111	Legal Research and Writing I .....4
<b>TOTAL CREDIT HOURS</b>	<b>13</b>

<b>Quarter 2</b>	
LEGL 114	Family Law .....3
LEGL 205	Litigation Practice and Procedure .....3
LEGL 112	Legal Research and Writing II .....4
LEGL 243	Alternative Dispute Resolution .....3
<b>TOTAL CREDIT HOURS</b>	<b>13</b>

<b>Quarter 3</b>	
LEGL 119	Real Estate Transactions .....3
LEGL 226	Administrative Law .....3
LEGL 224	Probate Law and Practice .....3
LEGL 210	Criminal Law and Procedures .....3
LEGL 113	Legal Research and Writing III .....3
<b>TOTAL CREDIT HOURS</b>	<b>15</b>

<b>Quarter 4</b>	
LEGL 220	Business Organizations .....3
LEGL 201	General Practice .....4
LEGL 215	Paralegal Practicum I .....2
LEGL 216	Paralegal Practicum Seminar I .....1
LEGL 235	Survey of Legal Software .....2
<b>TOTAL CREDIT HOURS</b>	<b>12</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>53</b>

# Quality Assurance Technology

## Associate Degree

Individuals who have high standards, are logical and observant, good at problem solving, and have an investigative mind, are a great fit for a career as a Quality Assurance Technician. Quality assurance technicians are responsible for monitoring, testing, and continuously improving the quality of products and services for today's businesses.

Coursework in Columbus State's Quality Assurance program will include an introduction to manufacturing, statistical process control, value engineering, and technical writing. Participants will study and practice the major elements and concepts of total quality management, including principles and styles of systems thinking, continuous improvement, management by data, and historic influences of leaders in quality management. Students will learn statistical methods to determine reliability, the effectiveness of data analysis, the use of simulations, and ways to improve system performance.

Graduates will find a wide range of opportunities in fields as diverse as manufacturing, banking, insurance, or food processing. A valuable member of the business team, graduates will apply the tools of their chosen field in a problem-solving process to achieve significant gains for the company—such as product improvement, reducing scrap, shortening cycle time, and improving profitability. Quality assurance technicians have the satisfaction of working in an area that is essential, not only to profitability, but to survival of the business.

### Quick Notes on QA:

- Salaries for QA technician job postings in Columbus are seven percent higher than the national average. (*Source: Indeed.com*)
- Students work on quality improvement projects for local organizations as part of their course work.
- The quality movement started in manufacturing, but it is now applied to service, health care, education and government sectors.
- A career in QA may combine technical knowledge, change management, people skills and teaching.

The Quality Assurance Technology also shares related courses with the Electronic Engineering Technology and the Mechanical Engineering Technology. For additional information, refer to Electronic Engineering Technology and Mechanical Engineering Technology which are listed in this section of the Catalog.

Upon completion of the associates degree in Quality Assurance Technology, the graduate will be able to:

- Improve products, processes and systems in manufacturing and service environments by selectively applying statistical and quality improvement tools according to the Shewhart Cycle.
- Apply a variety of teamwork, leadership, and communications skills (verbal, written, and graphic) to communicate effectively with clients, suppliers, co-workers and others in the work environment.

- Apply fundamental principles of project management.
- Read and interpret engineering blueprints, drawings, specifications and quality charts.
- Apply a basic knowledge of physics, electronics, manufacturing processes, metrology, and materials testing and analysis to improving, and/or designing new products and processes.
- Apply knowledge of specifications, sampling plans and testing techniques to the analysis of materials, components and systems.
- Apply cost estimating techniques and cost containment procedures to new and existing products and systems, while maintaining or improving quality.
- Apply the elements of current quality management trends including inspection, traceability/documentation, quality audits, and nonconforming identification and review processes to business elements within an organization.

## Quality Assurance Technology Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGT 100 Introduction to Engineering Technology .....	4
MECH 112 Computer Applications in Manufacturing .....	3
MECH 115 Engineering Graphics.....	4
MECH 240 Machine Tools.....	4
ENGL 101 Beginning Composition .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>
<b>Quarter 2</b>	
MECH 150 Manufacturing Materials and Processes .....	4
QUAL 240 Total Quality Management .....	3
ENGL 102 Essay and Research .....	3
MATH 111 Technical Math I .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>14</b>
<b>Quarter 3</b>	
QUAL 250 Metrology .....	3
HUM XXX Humanities 111,112,113,151 152, or 224 .....	5
MATH 112 Technical Math II .....	4
PHYS 117 College Physics.....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>
<b>Quarter 4</b>	
QUAL 150 Quality Transformation .....	4
COMM 105 Speech ( <i>or</i> ) .....	3
COMM 110 Conference and Group Discussion.....	3
SSCI XXX Social Science 100,101, 102, 105 or GEOG 240 or SOC 202 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>12</b>
<b>Quarter 5</b>	
QUAL 251 Value Engineering .....	3
BMGT 111 Management.....	5
COMM 204 Technical Writing .....	3
<b>And choose one of the following basic electives:</b>	
ENGT 131 Hydraulics and Pneumatics.....	4
EMEC 250 Motors and Controls .....	4
ENVR 170 General Industry, Safety and Health .....	4
SKTR 118 Introduction to Welding .....	4
PHYS 118 College Physics (Electricity, Magnetism and Light) .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>15-16</b>
<b>Quarter 6</b>	
EET 105 Basic Electronic Systems.....	5
QUAL 260 Reliability and System Maintainability .....	3
BMGT 257 Project Management .....	3
MECH 270 Engineering Statistics.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>91-92</b>



# Radiography Associate Degree

A radiographer, is a medical professional who applies doses of ionizing radiation to patients to create medical images of the human anatomy to aid radiologists and doctors diagnose and treat illness and injury. They work in hospitals, clinics, medical laboratories, nursing homes, and in private practice.

Radiographers employ a wide range of sophisticated equipment to produce medical images with the least amount of radiation to the patient, so that doctors and other medical professionals may better diagnose and treat injury or disease. Radiologic Technologists use their expertise and knowledge of physics, anatomy, physiology and pathology to assess the patient, develop optimal radiographic technique and evaluate resulting radiographic images to determine if additional procedures are warranted. They care for the patient even when acutely ill or traumatized.

The practice of Radiography includes the following modalities (or specialties):

- Diagnostic Radiography – deals with examination of internal organs, bones, cavities and foreign objects; includes cardiovascular imaging and interventional radiography.
- Fluoroscopy – live motion Radiography (constant radiation) usually used to visualize the digestive system; monitor the administration of contrast agents to highlight vessels and organs or to help position devices within the body (such as pacemakers, guidewires, stents etc.)
- CT (computed tomography) – which provides cross-sectional views (slices) of the body; can also reconstruct additional images from those taken to provide more information in either 2 or 3D.
- MRI (magnetic resonance imaging) – builds a 2-D or 3-D map of different tissue types within the body;
- Mammography - uses x-ray to image the breast tissues.
- Vascular Interventional Radiography- specialize in medical imaging technique used to visualize blood vessels and organs of the body with particular interest in the arteries, veins and the heart chambers.

Technology classes begin in summer quarter. Admission to the program is competitive with completed applications received annually. Because students and health care workers in the field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention.

## Program Mission and Goals

The mission of the Columbus State Community College Radiography program is to provide a quality educational program that meets the lifelong learning needs of its community. This is achieved by preparing graduates for entry-level employment as radiography science professionals. The program mission is consistent with the college's mission statement.

## Program Mission Statement

The program holds as its primary objectives the education and training of qualified applicants to become competent radiographers. The program endeavors to instill in students, and subsequently graduates, the following goals:

1. Recognition of the need for lifelong learning in their chosen profession.
2. The ability to behave in a compassionate, ethical, and professional manner.
3. Completion of all program requirements, competence to meet entry-level expectations of employers, and successfully completion of the ARRT national certification exam.
4. Ability to apply skills in communication, critical thinking, and problem solving in the practice of the radiography profession.

## Specific Program Admissions Information

Prospective students are required to attend a mandatory information session to learn detailed program requirements and career opportunities. These sessions are held several times each quarter and are very helpful in answering students' questions. Information session dates are available by calling Shawndea Thomas at (614) 287-5215 or via email at [radiography@csc.edu](mailto:radiography@csc.edu). Information can also be found on the Web at: [www.csc.edu/radiography](http://www.csc.edu/radiography)

The yearly deadline for application to the Radiography program is April 1 for admission beginning the following summer. Applications are available only by attending one of the mandatory information sessions. ([csc.edu/radiography/admission](http://csc.edu/radiography/admission))

Listed below are additional requirements for admission to the Radiography program.

- High school graduate, GED, or equivalent
- Required high school (or equivalent) courses in Biology (grade of "C" or better), Chemistry (grade of "C" or better) and Physics (grade of "C" or better)
- Completion of NURC101, CHEM113, RAD190, MULT101 (or equivalent) (grade of "C" or better)
- Placement into ENGL 101 Beginning Composition
- Placement into MATH 135 Elementary Statistics *or* Math 148 College Algebra
- Placement into "No Reading Required" on Compass™ Test
- Completion of the HOBET assessment test.
- Submission of a written statement relevant to interest and intent in Radiography
- Health care experience or observation hours
- Attend radiography mandatory information session.

*Note: Individuals who have been convicted of, plead guilty to, or plead nolo contendere to a crime may not be eligible to take the American Registry of Radiologic Technologists (ARRT) Radiography Examination according to the ARRT's Code of Ethics, Section B.3. Rules of Ethics. For additional information, contact the ARRT ([www.rrt.org](http://www.rrt.org)).*

## Limited Radiography Certificate

This certificate program meets the requirements of the Ohio Revised Code (3701-72-01 - 3701-72-04) for a General X-Ray Machine Operator. It is designed to meet the learning needs of adults wishing to enter the imaging field of radiography with a limited license. The RAD 190 course and the modularized RAD 141 and RAD 142 courses are a part of the program's technical

requirements.

At the completion of the program, the learner will be able to:

- Demonstrate competence in academic technical courses that meet the ODH requirements.
- Be eligible to apply for the ODH General X-Ray Machine Operator (GxMO) State Examination.
- Demonstrate competence in patient care skills and radiographic positioning and imaging skills specific to a GxMO.
- Incorporate general education outcomes for effective communications necessary in a health care setting.
- Incorporate basic related course content to support technical course academic theory and practice.
- Develop technical skills required for employment in outpatient imaging facilities, urgent care centers, and physician practices.
- Develop additional clinical skills needed for employment in subspecialty areas in imaging. Examples include podiatry, chiropractic, general practitioner, outpatient imaging facilities, etc.
- Move seamlessly from the certificate program to the associate degree program at Columbus State, if desired.

## Radiography Associate Degree

COURSE	CR
<b>Quarter 1</b>	
RAD 111 Introduction to Radiologic Technology .....	3
RAD 141 Radiographic Procedures I .....	4
BIO 261 Human Anatomy .....	5
MATH 148 College Algebra ( <i>or</i> ) .....	
MATH 135 Elementary Statistics .....	5
MULT 102 CPR .....	1
<b>TOTAL CREDIT HOURS</b> .....	<b>18</b>
<b>Quarter 2</b>	
RAD 142 Radiographic Procedures II .....	4
RAD 261 Clinical I .....	2
BIO 262 Human Physiology .....	5
CIT 101 PC Applications I .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>14</b>
<b>Quarter 3</b>	
RAD 113 Radiologic Science .....	5
RAD 143 Radiographic Procedures III .....	4
RAD 262 Clinical II .....	2
ENGL 101 Beginning Composition .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>14</b>
<b>Quarter 4</b>	
RAD 118 Radiographic Exposure and Processing .....	5
RAD 148 Special Radiologic Procedures .....	4
RAD 263 Clinical III .....	2
XXX XXX Technical Elective .....	3
ENGL 102 Essay and Research .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>17</b>
<b>Quarter 5</b>	
RAD 254 Seminar I .....	1
RAD 264 Clinical IV .....	3
RAD 212 Sectional Anatomy .....	3
MULT 103 Responding to Emergencies .....	2
SSCI XXX Social Science 100, 101, 102, 105 or GEOG 240 .....	5
HUM XXX Humanities 111, 112, 113, 151, 152, or 224 .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>19</b>
<b>Quarter 6</b>	
RAD 126 Radiation Biology and Processing .....	3
RAD 222 Computerized Imaging .....	1

RAD 255 Seminar II .....	1
RAD 265 Clinical V .....	3
COMM 200 Business Communications .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>11</b>

### Quarter 7

RAD 123 Advanced Exposure and Processing .....	4
RAD 231 Radiographic Pathology .....	3
RAD 256 Seminar III .....	1
RAD 266 Clinical VI .....	3
COMM 105 Speech ( <i>or</i> ) .....	
COMM 110 Conference and Group Discussion .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>14</b>
<b>TOTAL DEGREE CREDIT HOURS</b> .....	<b>107</b>

Students should request a program plan of study from their faculty advisor.

### Technical Electives

RAD 267 Clinical VII: Elective .....	3
NURC 101 Nurse Aid Training .....	5
HIMT 121 Advanced Medical Terminology .....	3
RAD 190 Radiation Protection for General Machine Operators .....	2
RAD 141A Intro to Radiography Equipment and Patient Care .....	0.5
RAD 142A Radiographic Positioning of the Chest Abdomen .....	0.75
RAD 141B Radiographic Positioning of the Upper Extremities .....	0.75
RAD 141C Radiographic Positioning of the Lower Extremities .....	0.75
RAD 142B Radiographic Positioning of the Spine/Skull .....	0.75
RAD 299 Special Topics in Radiography .....	1-5

## Limited Radiography Certificate

This Certificate Program meets the requirements of the Ohio Revised Code (3701-72-01 to 3701-72-04) for a General X-ray Machine Operator. It is designed to meet the learning needs of adults wanting to enter the imaging field of radiography with a limited license. The RAD190 course and the modularized RAD141/142 courses are part of the certificates's technical requirements.

Ohio Law provides two avenues to obtain a license in Radiography for imaging of humans. The limited license (General X-ray Machine Operator) provides opportunities for employment primarily in out-patient facilities which use a film-based and digital-based imaging systems.

### General Education Courses

ENGL 101 Beginning Composition .....	3
ENGL 102 Essay and Research .....	3

### Basic Related Courses

MATH 100 (or higher) Dosages and Calculations .....	2
BIO 101 (or higher) Introduction to Anatomy and Physiology .....	3
MULT 101 Medical Terminology ( <i>or</i> ) .....	2
HIMT 121 Advanced Medical Terminology .....	2
CIT 101 PC Applications I .....	3

### Technical Courses

RAD 190 Radiation Protection for General Machine Operators .....	2
RAD 141A Intro to Radiography Equipment and Patient Care .....	0.5
RAD 142A Radiographic Positioning of the Chest /Abdomen .....	0.75
RAD 141B Radiographic Positioning of the Upper Extremities .....	0.75
RAD 141C Radiographic Positioning of the Lower Extremities .....	0.75
RAD 142B Radiographic Positioning of the Spine/Skull .....	0.75
<b>TOTAL CREDIT HOURS</b> .....	<b>21.5</b>

# Real Estate

## Real Estate Associate Degree

### Appraisal Certificate

### Real Estate Pre-Licensure Certificate

The associate degree program in Real Estate offers course work that meets the standards of professionalism in the real estate industry. The program follows a blueprint for real estate education developed by the Ohio Association of Realtors. Courses meet the educational requirements for real estate licensure in the State of Ohio.

The program meets the career objective of persons interested in real estate sales or other allied real estate professions. For licensed real estate brokers and sales associates, it provides training to upgrade their professional competence and to meet future educational requirements of the profession. For students who plan to continue their education beyond the associate degree, it offers credit courses that may transfer to some four-year colleges and universities.

Prospective real estate students who plan to take the real estate licensing exam are more successful when they take courses as shown in the plan of study.

Upon completion of the associate degree in Real Estate, the graduate will be able to:

- Demonstrate understanding of key principles and concepts involved in a real estate transaction.
- Prepare and present correctly all forms necessary to complete a real estate transaction.
- Create effective promotional plans to market property.
- Identify and explain different construction materials.
- Apply one of three appraisal techniques to the evaluation of a residential or commercial property.
- Manage a real estate property sales force effectively.
- Apply relevant formulas and microcomputer applications to the practice of real estate.
- Effectively apply current technology to real estate activity.

## Real Estate Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101 Beginning Composition .....	3
PSY 100 Introduction to Psychology .....	5
CIT 101 PC Applications 1.....	3
REAL 101 Real Estate Principles and Practices .....	4
REAL 102 Real Estate Law .....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>19</b>

<b>Quarter 2</b>	
ENGL 102 Essay and Research .....	3
HUM XXX Humanities 111, 112, 113, 151, 152 or 224.....	5
MATH 101 Business Mathematics.....	5
REAL 111 Real Estate Finance .....	2
REAL 112 Real Estate Appraisal (2) (or)	
APPR 101 Principles of Appraisal (3).....	2-3
<b>TOTAL CREDIT HOURS .....</b>	<b>17-18</b>

<b>Quarter 3</b>	
COMM 200 Business Communications .....	3
LEGL 264 Legal Environment of Business .....	4
ACCT 106 Financial Accounting.....	5
MKTG 122 Business and the Internet.....	3

REAL 121 Residential Sales Practices .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>

<b>Quarter 4</b>	
COMM 105 Speech .....	3
CMGT 153 Residential Construction .....	3
ENVR 158 Environmental Site Assessment .....	3
FMGT 201 Business Finance.....	5
REAL 201 R.E. Etiquette and Professional Standards.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 5</b>	
ECON 200 Principles of Microeconomics .....	5
BMGT 111 Management.....	5
XXXX XXX Technical Elective .....	3
XXXX XXX Technical Elective .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>16</b>

<b>Quarter 6</b>	
NSCI 101 Natural Science I .....	5
HRM 121 Human Resources Management.....	4
REAL 296 Practicum/Seminar.....	2
XXXX XXX Technical Elective .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>14</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>101-102</b>

#### Technical Electives:

REAL 221 Professional Property Management .....	3
REAL 250 Commercial Real Estate.....	3
REAL 270 Real Estate Investing.....	3
REAL 275 Repair, Restore, Remodel.....	3
APPR 101 Principles of Appraisal.....	3
APPR 102 Procedures of Appraisal .....	3
APPR 284 USPAP and Fair Housing .....	2

## Appraisal Certificate

This certificate program helps to prepare students to become a State Registered Appraiser Assistant. The certificate program provides the knowledge and skills necessary to prepare individuals for entry into the real estate appraisal profession. The three courses listed below are also offered as real estate major electives.

Those interested in becoming a State Registered Real Estate Appraiser Assistant must complete a minimum of seventy-eight (78) pre-registration education hours to become a state-registered assistant. Columbus State students may add other general education classes to this schedule. The two-quarter plan of study for this certificate program satisfies the required 78 classroom hours and includes APPR 101, 102, and 284.

Upon completion of the Appraisal Certificate program, students will be able to:

- Determine the best method to arrive at real property value
- Complete various standard appraisal forms and reports
- Demonstrate market analysis techniques and applications
- Apply appropriate technology as needed within the appraisal profession
- Continue appraisal education.

COURSE	CR
<b>Quarter 1</b>	
APPR 101 Principles of Appraisal) .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>3</b>

<b>Quarter 2</b>	
APPR 102 Procedures of Appraisal .....	3
APPR 284 USPAP and Fair Housing .....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>5</b>
<b>TOTAL CERTIFICATE CREDIT HOURS .....</b>	<b>8</b>

## Real Estate Pre-Licensure Certificate

This certificate program helps to prepare students interested in entering the real estate industry to prepare to earn their Ohio real estate license. The coursework is approved by the Ohio Board of Realtors and meets all of the classroom requirements needed to be able to sit for state licensure.

- Demonstrate understanding of key principles and concepts involved in a real estate transaction.
- Prepare and present correctly all forms necessary to complete a real estate transaction.
- Prepare students to take the state licensing exam.

REAL 101	Real Estate Principles and Practices .....	4
REAL 102	Real Estate Law .....	4
REAL 111	Real Estate Finance .....	2
REAL 112	Real Estate Appraisal ( <i>or</i> ) .....	2
APPR 101	Principles of Appraisal .....	3
<b>TOTAL CERTIFICATE CREDIT HOURS .....</b>		<b>12-13</b>

## Respiratory Care

### Registered Respiratory Therapist Associate

#### Degree

#### Sleep Study Certificate

Respiratory therapists are life support specialists concerned with managing, controlling and treating problems related to the cardio-pulmonary system. Respiratory care practitioners work with the physician, nurse and other health care personnel.

The complexity of the respiratory therapist's responsibility requires extensive training, dedication and professionalism. Respiratory Care takes place in such settings as intensive care units, the newborn nursery, surgical and medical units, emergency departments, outpatient departments, sleep laboratories, and home health facilities.

In addition to classroom learning, students enrolled in the Respiratory Care program gain hands-on experience while working in area health care facilities, under the supervision of qualified instructors. These clinical experiences teach students to apply their knowledge and skills in actual work environments. Because students and workers in the health care field may be exposed to infectious materials and communicable diseases, the program emphasizes safety and prevention.

Columbus State's program is accredited by the Committee on Accreditation for Respiratory Care.

Graduates are eligible to sit for the Certification Examination for Entry-Level Respiratory Therapists and the Registry Examination for Advanced Respiratory Therapy Practitioners offered by the National Board for Respiratory Care, Inc. Upon successful completion of the Certification Examination, graduates are eligible

to become licensed as Respiratory Care Professionals as required by the Ohio Respiratory Care Board.

Upon completion of the associate degree in Respiratory Care, the graduate will be able to:

- Demonstrate the ability to collect and evaluate patient data; and recommend procedures to obtain additional data.
- Demonstrate the ability to correctly assemble, use and maintain respiratory care equipment using principles of infection control and quality assurance.
- Initiate, conduct, and independently modify prescribed therapeutic procedures and recommend modifications based on patient response.
- Demonstrate personal and professional behaviors required for successful employment.

### Specific Respiratory Care Program Admissions Information

Listed below are requirements for admission to the Respiratory Care program.

- High school graduate or GED equivalency
- Official transcripts of all previously attended colleges/universities
- Placement into MATH 135 Elementary Statistics
- Placement into ENGL 101 Beginning Composition
- Placement into "No Reading Required"
- High school biology with a "C" or above within the last 5 years
- High school chemistry with a "C" or above within the last three years
- CHEM 113 with a "C" or above
- NURC 101 with a "C" or above
- Completion of the Health Occupation Basic Entrance Test (HOBET)
- RESP 102 with a "C" or above
- Completed health record on file in the Health Records Office
- Minimum Total GPA of 2.50 or above
- Acceptable Drug Testing and Background Screening must be completed. Students receive this information upon acceptance into the program.

All admission criteria must be met by March 31 of the application year. Prospective students may obtain additional information at quarterly program information sessions. Contact Cheryl Trogus, [ctrogus@csc.edu](mailto:ctrogus@csc.edu), for session dates.

For additional information, please see the program Web site at <http://www.csc.edu/Respiratory/index.htm>

### Statement Regarding Infectious Diseases:

Students in this program perform their clinical work on patients in health care facilities and may therefore be exposed to many types of communicable diseases and infectious materials. These are not limited to, but may include, Hepatitis (A, B, C or D), HIV/AIDS, TB, measles, German measles, and mumps.

All students are required to have appropriate immunizations after they are admitted to the program (information is given to all admitted students). Additionally, although all precautions are taken to minimize exposure and risk, there is always a slight possibility that precautions may fail or that a student may have an accidental exposure. All students entering the program must be aware of this slight, but real, potential risk. All students are encouraged to have personal health insurance in effect by the first day of class.

## Respiratory Care Associate Degree

COURSE	CR
<b>Quarter 1</b>	
BIO 261 Human Anatomy .....	5
MATH 135 Elementary Statistics .....	5
MULT 101 Medical Terminology.....	2
RESP 100 Introduction to Respiratory Care .....	5
RESP 160 Introduction to Respiratory Care Equipment.....	1
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>
<b>Quarter 2</b>	
ENGL 101 Beginning Composition .....	3
BIO 215 General Microbiology .....	5
BIO 262 Human Physiology .....	5
RESP 114 Introduction to Pulmonary Disease .....	4
RESP 150 Introduction to Pharmacology .....	2
RESP 170 Mechanical Ventilation .....	1
<b>TOTAL CREDIT HOURS .....</b>	<b>20</b>
<b>Quarter 3</b>	
HUM XXX Humanities 111,112,113,151, 152 or 224 .....	5
RESP 130 Patient Assessment .....	2
RESP 152 Case Management I .....	2
RESP 196 Clinical Practice I .....	8
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>
<b>Quarter 4</b>	
ENGL 102 Essay and Research .....	3
RESP 132 Patient Assessment II .....	2
RESP 154 Case Management II .....	2
RESP 198 Clinical Practice II .....	8
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>
<b>Quarter 5</b>	
COMM 105 Speech .....	3
RESP 230 Patient Assessment III .....	2
RESP 256 Case Management III .....	2
RESP 290 Clinical Practices III .....	8
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>
<b>Quarter 6</b>	
COMM 200 Business Communications .....	3
SSCI XXX Social Science, 100, 101, 102, 105 (or) GEOG 240.....	5
RESP 270 Current Issues in Respiratory Care .....	2
RESP 292 Clinical Practices IV .....	8
RESP XXX Technical Elective.....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>21</b>
<b>Quarter 7</b>	
RESP 295 Clinical Experience.....	4
<b>TOTAL CREDIT HOURS .....</b>	<b>4</b>
<b>TOTAL DEGREE CREDIT HOURS .....</b>	<b>110</b>

### Technical Electives

RESP 232 Pediatric Respiratory Care .....	3
RESP 238 Pulmonary Functions .....	3
RESP 251 Respiratory Care Home Care Techniques .....	3
RESP 280 Respiratory Care Seminar .....	2
RESP 221 Introduction to Sleep Problems .....	2
RESP 223 Level I Polysomnography Technician .....	2
RESP 224 Level I Polysomnography Technician Clinical .....	2
RESP 225 Level II Polysomnography Technician .....	2
RESP 226 Level II Polysomnography Technician Clinical .....	2
RESP 228 Polysomnography Current Topics .....	2

## Sleep Study Certificate

Sleep technicians, also called polysomnography technicians, monitor various physiologic parameters in adults and children during a sleep study. Sleep technicians summarize the information for the sleep physician to make a diagnosis and recommend treatment.

Students enrolled in the Sleep Study Certificate receive didactic and clinical training from registered polysomnographic technologists.

A student completing the Sleep Study Certificate will be able to:

- Demonstrate basic understanding of the function of sleep and the effects of sleep on the different body systems.
- Demonstrate an understanding of the different stages of the normal architecture of sleep and the function of the circadian rhythm.
- Demonstrate an understanding of basic sleep disorders, sleep hygiene, and the effects of sleep deprivation on the body and society.
- Demonstrate an understanding of the functions of sleep and the electrical activity of the brain during sleep.
- Demonstrate knowledge of the basic electronics and instrumentation used in a sleep lab.
- Demonstrate knowledge of EEG electrode placement and respiratory monitoring devices.
- Demonstrate the ability to score polysomnography tracings.
- Demonstrate the ability to titrate various treatment devices to provide patient education.

## Specific Sleep Studies Certificate Admission Information

Requirements for admission to the Sleep Study Certificate program are:

- High school graduate or GED equivalency
- Placement into ENGL 101
- BIO 100, CHEM 100, MATH 102 with a grade of “C” or better
- MULT 102 or proof of current Health Care Provider CPR certification
- Completed health statement. See Health Records Office for detailed requirements.
- Acceptable drug testing and background screening must be completed.

Drug screening

## Sleep Study Certificate

COURSE	CR
<b>Quarter 1</b>	
RESP 221 Introduction to Sleep Medicine.....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>2</b>
<b>Quarter 2</b>	
RESP 223 Level I Polysomnography Technician.....	2
RESP 224 Level I Polysomnography Technician Clinical.....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>4</b>
<b>Quarter 3</b>	
RESP 225 Level II Polysomnography Technician .....	2
RESP 226 Level II Polysomnography Technician Clinical.....	2
<b>TOTAL CREDIT HOURS .....</b>	<b>4</b>
<b>TOTAL CERTIFICATE CREDIT HOURS .....</b>	<b>10</b>

# Skilled Trades Technology (formerly Applied Technologies)

## Apprenticeship Partnership

### Degree Programs

#### Associate of Technical Studies Degree in Construction Trades

#### Facilities Maintenance Associate Degree

#### Facilities Maintenance Certificate

#### Facilities Module Certificates

#### Intermediate Welder Certificate

#### Introduction to the Construction Industry Certificate

The mission of Skilled Trades is to develop and implement partnership programs with area employers that include the use of college coursework as a part of their employee career preparation programs. The department collaborates with local industry partners to custom build certificate and/or degree programs that will best meet their educational and training needs. These programs can include employer-specific courses as well as integration of their employees into mainstream college coursework.

The goal of this initiative is to meet all of the educational and training needs of employers at all levels within their organization. These partnerships actively involve local employers in the educational process, including recruiting, selection, curriculum development, related work experience, and final placement.

Upon completion of the associate degree in Skilled Trades, the graduate will be able to:

- Understand the role and function of the skilled trades in the construction industry.
- Discriminate the work they perform and how it interrelates with the other trades in the overall scope of a construction project.
- Apply underlying theories and principles that are foundational to the trade that they have chosen.
- Demonstrate skills and proper work practices in all building, renovation, or repair activities.
- Be qualified and prepared to become a lead worker and/or mentor to others on construction and maintenance job sites.
- Read, interpret, and follow construction drawings.
- Apply current industry-specific building codes in the planning and execution of work.
- Demonstrate the use of proper safety procedures in all activities.

For more information about the Skilled Trades programs, contact J.D. White, Program Coordinator, at Ph: (614) 287-5211, e-mail: [jwhite02@csc.edu](mailto:jwhite02@csc.edu).

## Apprenticeship Partnership Degree Programs

These Skilled Trades degree programs are part of partnerships between area trades apprenticeship programs and the college. Participation in these programs is limited to students who are currently enrolled in the full-time apprenticeship programs offered by the college's industry partner trades organizations.

Students in the Skilled Trades degree programs combine apprenticeship courses, advanced technical coursework, and basic and general education courses to earn an Associate of Applied Science in Skilled Trades. Electrician, carpentry, millwright, sheet metal and operating engineer majors are currently available.

For more information, students can refer to the website (<http://www.csc.edu/skilledtrades>) and/or contact the Skilled Trades Program Coordinator, J.D. White at (614) 287-5211.

## Associate of Technical Studies Degree in Construction Trades

In partnership with several central Ohio trades apprenticeship programs, the college offers apprentices the opportunity to earn college credit in their apprenticeship programs. Students are awarded college credit for technical courses taken during each year of the apprenticeship, leading to a certificate in the program upon successful completion of their apprenticeship. Students who wish to continue their education can apply the credits they have earned toward an Associate of Technical Studies in Construction Trades with a technical minor in their trade and a major in construction management. All Skilled Trades partnership programs have restricted enrollment, requiring that participants are accepted into their respective trade apprenticeship programs prior to enrollment in one of these Associate of Technical Studies Degree Programs.

## Facilities Maintenance Associate Degree

The Skilled Trades – Facilities Maintenance major degree program prepares individuals for careers in technical jobs supporting the maintenance, upkeep, and light repair of residential, commercial, and multi-family properties. Facilities maintenance requires that employees have a broad range of knowledge and skills across multiple trades. The technical coursework in this program provides education and training in five technical skill areas: welding, carpentry, electricity, plumbing, and heating/air conditioning. In addition, to the technical theoretical knowledge coursework, students will study nontechnical coursework needed to provide the necessary support of this technical degree.

Area facilities managers have been consulted and involved in the development of this program. Its goal is to prepare entry-level workers and to provide opportunities for developmental training of current employees within this growing industry. Upon completion of the program, students earn an Associate of Applied Science degree in Skilled Trades–Facilities Maintenance major. The program is designed to:

- Provide students with basic skills and knowledge in the core trades of carpentry, electricity, plumbing, heating and air conditioning, and welding.
- Provide students with the foundational academic skills to support their success in trades-related employment.
- Prepare students for entry-level positions in facilities maintenance.

With their knowledge in this wide-range of technical trades, graduates will be prepared to enter the workforce as facilities maintenance technicians. Those who are interested in specializing in a specific trade may use this education as a foundation to help them qualify for entry into any of a variety of skilled trades registered apprenticeship programs.

## Facilities Maintenance Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101 Basic Composition.....	3
CMGT 135 Safety and Loss Prevention.....	3
MATH 111 Technical Mathematics.....	4
SKTR 112 Introduction to Carpentry.....	4
SKTR 114 Introduction to Plumbing Supply Systems.....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>18</b>
<b>Quarter 2</b>	
ENGL 102 Essay and Research.....	3
CMGT 115 Building Construction Methods.....	3
CIT 101 PC Applications I.....	3
ARCH 110 Construction Drafting: Manual I.....	2
SKTR 111 Introduction to Electrical Work.....	4
HAC 161 Hand Tools Laboratory.....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>19</b>
<b>Quarter 3</b>	
COMM 200 Business Communications.....	3
HUM XXX Humanities 111, 112, 113, 151, 152, or 224.....	5
CMGT 153 Residential Construction.....	3
CMGT 121 Building Construction Drawings.....	3
SKTR 118 Introduction to Welding.....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>18</b>
<b>Quarter 4</b>	
SSCI XXX Social Sciences, 101, 102, 105, or GEOG 240.....	5
MULT 104 Adult and Pediatric CPR.....	1
SKTR 131 Introduction to Commercial Wiring.....	4
SKTR 132 Carpentry: Structural Framing.....	4
SKTR 138 Fundamentals of MIG Welding.....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>17.5</b>
<b>Quarter 5</b>	
COMM XXX Communications 105 or 110.....	3
SKTR 134 Introduction to Plumbing DWV Systems.....	4
HAC 141 Principles of Refrigeration.....	4
SKTR 208 Intermediate Welding Applications I.....	4
SKTR XXX Technical Elective.....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>18</b>
<b>Quarter 6</b>	
SKTR 201 Intermediate Residential & Commercial Wiring.....	4
SKTR 202 Carpentry: Interior /Exterior Finish Systems.....	4
SKTR 204 Plumbing: Repair and Renovation.....	4
HAC 284 HAC Wiring Circuits II.....	4
SKTR XXX Technical Elective.....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>19</b>
<b>TOTAL DEGREE CREDIT HOURS</b> .....	<b>110</b>
<b>TECHNICAL ELECTIVES</b>	
	<b>CR</b>
SKTR 151 TeleData and Coaxial Systems.....	3
SKTR 152 Steel Framing Construction.....	3
SKTR 128 OxyFuel Weld & Plasma Cutting.....	3
SKTR 158 Introduction to TIG Welding.....	4
SKTR 130 Construction Industry Employability Skills.....	3
SKTR 221 Photovoltaic Systems.....	4
SKTR 148 Welding Specification and Drawings.....	3
SKTR 218 Intermediate Welding Application II.....	4
SKTR 228 Intermediate Welding V Groove and Pipe I.....	4
SKTR 288 AWS Certification Prep I.....	2
<b>SUGGESTED ELECTIVES</b>	
CMGT 105 Construction Contract Doc.....	3
ARCH 112 Construction Drafting – CAD I.....	2
ARCH 113 Architectural Drafting – CAD II.....	2

## Facilities Maintenance Certificate Program

This short-term certificate program prepares students for employment as entry-level maintenance workers. The program can be completed in as little as three quarters. Since the certificate shares

coursework with the associate degree program, graduates have the options of immediately entering the workforce, continuing on at Columbus State to complete the Associate Degree in Facilities Maintenance, or doing both, now or in the future.

COURSE	CR
<b>Quarter 1</b>	
SKTR 100 Survey of the Construction Industry.....	3
SKTR 111 Introduction to Electrical Work.....	4
SKTR 112 Introduction to Carpentry.....	4
SKTR 118 Introduction to Welding.....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>15</b>
<b>Quarter 2</b>	
SKTR 114 Introduction to Plumbing.....	4
SKTR 132 Carpentry: Structural Framing.....	4
SKTR 138 Fundamentals of MIG Welding.....	4
HAC 141 Principles of Refrigeration.....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>
<b>Quarter 3</b>	
SKTR 131 Introduction to Commercial Wiring.....	4
SKTR 134 Introduction to Plumbing Drain / Vent System.....	4
HAC 161 Hand Tools Laboratory (HVAC).....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>12</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>43</b>

## Facilities Module Certificates

The Module Certificates are a great way for students to focus on a single skill set and earn a college certificate. In combination, the modules can be applied towards the Facilities Maintenance Certificate and Skilled Trades - Facilities Maintenance Major Degree program. In local industry, employers and employees both can benefit from these modules as a method to cross-train current workers to build or enhance additional skill sets.

### Carpentry Module Certificate

SKTR 100 Survey of the Construction Industry.....	3
SKTR 130 Construction Industry Employability Skills.....	3
SKTR 112 Introduction to Carpentry.....	4
SKTR 132 Carpentry: Structural Framing.....	4
SKTR 202 Carpentry: Interior / Exterior Finish Systems.....	4
SKTR 152 Steel Framing Construction.....	3
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>21</b>

### Electrician Module Certificate

SKTR 100 Survey of the Construction Industry.....	3
SKTR 130 Construction Industry Employability Skills.....	3
SKTR 111 Introduction to Electrical Work.....	4
SKTR 131 Introduction to Commercial Wiring.....	4
SKTR 201 Intermediate Residential and Commercial.....	4
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>18</b>

### HVAC Module Certificate

SKTR 100 Survey of the Construction Industry.....	3
SKTR 130 Construction Industry Employability Skills.....	3
HAC 161 Hand Tools Laboratory.....	4
HAC 141 Principles of Refrigeration.....	4
HAC 284 HVAC Wiring Circuits II.....	4
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>18</b>

### Plumbing Module Certificate

SKTR 100 Survey of the Construction Industry.....	3
SKTR 130 Construction Industry Employability Skills.....	3
SKTR 114 Introduction to Plumbing Supply Systems.....	4
SKTR 134 Introduction to Plumbing Drain/Vent Systems.....	4
SKTR 204 Plumbing: Repair and Renovation.....	4
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>18</b>

## Welding Module Certificate

SKTR 100	Survey of the Construction Industry .....	3
SKTR 130	Construction Industry Employability Skills.....	3
SKTR 118	Introduction to Welding.....	4
SKTR 138	Fundamentals of MIG Welding.....	4
SKTR 208	Intermediate Welding Applications I .....	4
<b>TOTAL CERTIFICATE CREDIT HOURS .....</b>		<b>18</b>

## Intermediate Welder Certificate

Students that complete the Welding Module Certificate and looking to become an AWS certified Welder require more in-depth training. The Intermediate Welder Certificate provides this necessary training and the ability to enter the workforce as an intermediate level Welder. Individuals already working in the welding industry, which have never had an opportunity to formalize their training by learning the fundamentals and theories of welding will also benefit greatly from this Intermediate Welder Certificate's technical training.

COURSE	CR	
<b>Quarter 1</b>		
SKTR 118	Introduction to Welding .....	4
PHYS 100	Introduction to Physics .....	4
MATH 111	Technical Math.....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>12</b>

<b>Quarter 2</b>		
SKTR 128	Oxyfuel Welding and Plasma Cutting .....	3
SKTR 138	Fundamentals of MIG Welding.....	4
MECH 115	Engineering Graphics.....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>11</b>

<b>Quarter 3</b>		
SKTR 148	Welding Specifications and Drawings .....	3
SKTR 158	Introduction to TIG Welding.....	4
SKTR 208	Intermediate Welding Applications I .....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>11</b>

<b>Quarter 4</b>		
SKTR 218	Intermediate Welding Applications II .....	4
SKTR 228	Intermediate Welding: "V" Groove and Pipe.....	4
SKTR 288	AWS Certification .....	2
<b>TOTAL CREDIT HOURS .....</b>		<b>10</b>
<b>TOTAL CERTIFICATE CREDIT HOURS .....</b>		<b>44</b>

## Introduction to the Construction Industry Certificate

Skilled Trades has developed a certificate to provide foundational information about the construction industry. These courses are intended to address the needs of everyone from the casual observer who simply wants to gain a better understanding of the construction industry to those who are seriously considering a career in construction. These courses provide information about career opportunities in the construction industry, ranging from skilled trades to architecture, design, and management. They explore the skills and knowledge needed to be successful in each of these career paths. Finally, they help students who are interested in a career in construction to prepare to be better candidates entering into a formal program of study to attain their career goals.

NOTE: Students must be able to place into DEV031 – Pre-Algebra math or higher before beginning any of the Skilled Trades technical courses.

## Introduction to the Construction Industry

SKTR 100	Survey of the Construction Industry .....	2
SKTR 110	Basic Skills for the Construction Industry.....	3
SKTR 130	Construction Industry Employability Skills.....	3

## Sport and Exercise Studies

### Associate Degree–Exercise Science Major Associate Degree–Physical Education Major Associate Degree–Sport Management Major Exercise Specialist Certificate

The Sport and Exercise Studies program prepares students to work in sport, recreation, health and/or fitness centers. From private clubs to public facilities, trained managers, instructors, and programmers are needed to develop, train, staff, and implement programming to address the wellness needs of the general public or specific clients/populations, in compliance with local, state, and federal guidelines. Exercise science, strength and resistance training, risk management, human nutrition, anatomy, physiology, sport business/marketing, and health and physical education courses blended with the college's General Education course work will develop the skills necessary to gain a managerial or technical position within the sport and fitness field. The Sport and Exercise Studies program offers three majors from which to choose: Exercise Science, Physical Education and Sport Management.



Upon completion of the associate degree in a Sport and Exercise Studies program, the graduate will be able to:

- Determine a target market for Sport and Exercise programs using needs-based evidence.
- Use evaluation as a means for continuous improvement of Sport and Exercise programming.
- Actively pursue professional development opportunities.
- Model lifestyle physical activity.

The Exercise Science graduate will be able to:

- Accurately interpret health assessment and risk stratification data.
- Perform industry-standard measures of physical fitness assessments.
- Use assessment-based data, in consultation with client needs and interests, to develop exercise prescriptions.
- Monitor client physiological responses to exercise prescription, redefining appropriate goals as needed.
- Educate clients and community about the benefits of increased physical activity across the life span.

The Physical Education Major graduate will be able to:

- Coordinate comprehensive sport programming to meet stated institutional goals and objectives.
- Select and evaluate coaching staff and related personnel in a sport setting.
- Secure supplemental funding sources for private and/or public sport programming.
- Demonstrate applicable research skills and technology assisting sport.
- Choose appropriate pedagogical methods for sport.
- Design and manage physical facilities and equipment to provide a safe, appropriate and cost neutral facility.

The Sport Management graduate will be able to:

- Demonstrate skill in planning and administering effective recreational, fitness, wellness and sport activities in the community.
- Assess the potential for behavioral change in each client, creating maximal opportunity for success.
- Demonstrate organizational and administrative leadership in delivery of sport and exercise programs by establishing program direction, a risk management plan, and financial and budgetary stewardship.

### Traditional Classes and Distance Learning Choices at Columbus State

The Sport and Exercise Studies program is proud to offer traditional and distance learning options for our students. The traditional classroom experience continues to provide students with high quality instruction in a small classroom setting at our downtown campus and off-campus locations. The Sports and Exercise Studies program also offers distance learning courses that provide the same high quality learning as traditional instruction, yet with the flexibility of being able to complete course work online.

The distance learning option for the Sport Management major requires a student to apply for admittance to the program. Some courses may require face-to-face learning or transfer credits from

previous learning. Applicants should contact the Sport and Exercise Studies program coordinator for details on admission.

Students graduating from Columbus State's Sport and Exercise Studies program can transfer into these programs to complete bachelor's degrees via distance learning:

- Wellness and Fitness major at the California University of Pennsylvania
- Sport Management or Sport Coaching at the United States Sports Academy

Students can inquire about traditional learning program transfers into baccalaureate degree programs as well.

### Specific Program Admissions Information

Listed below are additional requirements for admission to Sport and Exercise Studies:

- High school graduate or GED equivalency
- Placement into ENGL 101 Beginning Composition
- Placement into MATH 101 Business Math

### Exercise Science Major

Quarter 1		CR
SES 100	Personal Fitness Concepts.....	4
HOSP 153	Nutrition for a Healthy Lifestyle .....	5
ENGL 101	Beginning Composition .....	3
MATH 148	College Algebra .....	5
<b>TOTAL CREDIT HOURS .....</b>		<b>17</b>

Quarter 2		
ENGL 102	Essay and Research.....	3
PSY 100	Psychology.....	5
SES 101	Introduction to Sport and Exercise Studies.....	4
BIO 261	Human Anatomy .....	5
SES XXX	102, 104, 106, 108, 109, 110.....	1
<b>TOTAL CREDIT HOURS .....</b>		<b>18</b>

Quarter 3		
SES 226	Care and Prevention of Athletic Injuries.....	3
HOSP 223	Sport Nutrition .....	3
SES 115	Intermediate Resistance Training.....	2
SES 230	Fitness Concepts for Special Populations.....	3
BIO 262	Human Physiology.....	5
COMM 105	Speech.....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>19</b>

Quarter 4		
SES 240	Exercise Physiology.....	5
CHEM 111	Elementary Chemistry .....	5
SES 238	Aging, Fitness, and Exercise.....	3
SSCI 101	Cultural Diversity.....	5
<b>TOTAL CREDIT HOURS .....</b>		<b>18</b>

Quarter 5		
SES 215	Advanced Resistance Training.....	3
SES 235	Sport Law.....	3
SES 292	Exercise Studies Practicum I .....	3
SES 239	Quantitative Methods in Exercise Science .....	3
HUM 111	World Civilization.....	5
<b>TOTAL CREDIT HOURS .....</b>		<b>17</b>

Quarter 6		
SES 241	Kinesiology.....	5
SES 294	Exercise Studies Practicum II .....	3
SES 242	Exercise Prescription .....	3
ENGL XXX	250 or 251 or 252 or 253 or 254 .....	5
MULT 103	Responding to Emergencies (if needed) .....	2
<b>TOTAL CREDIT HOURS .....</b>		<b>16-18</b>

**TOTAL DEGREE CREDIT HOURS..... 105 - 107**

**Students should request a plan of study from their faculty advisor.**

## Physical Education Major

COURSE	CR
<b>Quarter 1</b>	
SES 100	Personal Fitness Concepts .....4
HOSP 153	Nutrition for a Healthy Lifestyle .....5
ENGL 101	Beginning Composition .....3
MATH 148	College Algebra .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....17</b>

<b>Quarter 2</b>	
SES 101	Introduction to Sport and Exercise Studies .....4
ENGL 102	Essay and Research .....3
BIO 261	Human Anatomy .....5
PSY 100	Psychology .....5
SES 102/104/105/106/108/109/110	SES Physical Education Requirement .....1
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>

<b>Quarter 3</b>	
SES 225	Athlete Intervention .....3
SES 230	Fitness Concepts for Special Populations .....3
HOSP 223	Sport Nutrition .....3
BIO 262	Human Physiology .....5
PSY 200	Educational Psychology .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 4</b>	
SES 224	Sport Management Foundations .....5
SES 240	Exercise Physiology .....5
SES 235	Sport Law .....3
SSCI 101	Cultural Diversity .....5
SES XXX	Technical Elective .....1
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 5</b>	
SES 241	Kinesiology .....5
SES 280	History of Sport .....3
CHEM 111	Elementary Chemistry .....5
SES 292	Sport and Exercise Studies Practicum I .....3
COMM 105	Speech .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>

<b>Quarter 6</b>	
SES 226	Care and Prevention of Athletic Injuries .....3
SES 294	Sport and Exercise Studies Practicum II .....3
MULT 103	Responding to Emergencies (if needed) .....2
HUM 111	World Civilization I .....5
ENGL XXX	250 or 251 or 252 or 253 or 254 .....5
<b>TOTAL CREDIT HOURS</b>	<b>..... 16-18</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>..... 108-110</b>
<b>Students should request a plan of study from their faculty advisor.</b>	

<b>Technical Electives must be selected from the following list of courses:</b>	
SES 102	Total Body Conditioning .....1
SES 104	Beginning Yoga .....1
SES 105	Introduction to Resistance Training .....1
SES 106	Golf .....1
SES 108	Women's Self Defense .....1
SES 109	Beginning Bowling .....1
SES 110	Fitness Kickboxing .....1

## Sport Management Major

COURSE	CR
<b>Quarter 1</b>	
SES 100	Personal Fitness Concepts .....4
ENGL 101	Beginning Composition .....3
MATH 101	Business Math .....5
HOSP 153	Nutrition for a Healthy Lifestyle .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....17</b>

<b>Quarter 2</b>	
SES 101	Introduction to Sport and Exercise Studies .....4
ENGL 102	Essay and Research .....3
BIO 261	Human Anatomy .....5
COMM 105	Speech .....3
SES	102/104/105/106/108/109/110 SES Physical Education Requirement .....1
<b>TOTAL CREDIT HOURS</b>	<b>.....16</b>

<b>Quarter 3</b>	
SES 116	Basics of Golf .....2
SES 233	Outdoor Community Recreation .....3
SES XXX	Tech Elective .....2
BIO 262	Human Physiology .....5
BMGT XXX	102 or 280 .....3
HOSP 223	Sports Nutrition .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>

<b>Quarter 4</b>	
SES 224	Sport Management Foundations .....5
SES 240	Exercise Physiology .....5
SES 235	Sport Law .....3
SSCI 101	Cultural Diversity .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>

<b>Quarter 5</b>	
SES 234	Sport Marketing .....5
SES 114	Aerobic and Group Fitness .....2
SES 244	Recreation Administration and Programming .....4
SES 292	Sport and Exercise Studies Practicum I .....3
SES XXX	Technical Elective .....2
SES XXX	Technical Elective .....2
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>

<b>Quarter 6</b>	
SES 226	Care and Prevention of Athletic Injuries .....3
SES 294	Sport and Exercise Studies Practicum II .....3
MULT 103	Responding to Emergencies (if needed) .....2
HUM XXX	Humanities World Civilization I .....5
ENGL XXX	250 or 251 or 252 or 253 or 254 .....5
<b>TOTAL CREDIT HOURS</b>	<b>..... 16-18</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>..... 103- 105</b>
<b>Students should request a plan of study from their faculty advisor.</b>	

<b>Technical Electives must be selected from the following list of courses:</b>	
SES 102	Total Body Conditioning .....1
SES 104	Beginning Yoga .....1
SES 105	Introduction to Resistance Training .....1
SES 106	Beginning Golf .....1
SES 108	Women's Self Defense .....1
SES 109	Beginning Bowling .....1
SES 110	Fitness Kickboxing .....1
SES 113	Aquatics Management .....2
SES 115	Intermediate Resistance Training .....2
SES 117	Tae Kwon Do .....2
SES 222	Tennis .....2
SES 223	Racquetball .....2
SES 225	Athlete Intervention .....3
SES 217	Advanced Tae Kwon Do .....2
SES 227	Individual Sports & Activities .....3
SES 228	Team Sports & Activities .....3
SES 230	Fitness Concept Special Population .....3
SES 237	Corporate Health .....3
SES 238	Aging Fitness & Exercise .....3
SES 241	Kinesiology .....5
SES 248	Adapted Physical Education Programming .....3
SES 280	History of Sport .....3
SES 298	Special Topics in Sport .....1

## Exercise Specialist Certificate

### Specific Program Admissions Information

BIO 101 or permission

COURSE	CR
<b>Quarter 1</b>	
SES 100	Personal Fitness Concepts .....4
SES 230	Fitness Concepts for Special Populations .....3
SES 240	Exercise Physiology .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....12</b>

<b>Quarter 2</b>	
SES 101	Introduction to Sport and Exercise Studies .....4
SES 241	Kinesiology .....5
MULT 103	Responding to Emergencies .....2

TOTAL CREDIT HOURS .....11

**Quarter 3**

SES 215 Advanced Resistance Training .....3  
SES 234 Sport Marketing .....5  
SES 292 Exercise Studies Practicum I .....3  
TOTAL CREDIT HOURS ..... 11

**Quarter 4**

SES 294 Exercise Studies Practicum II .....3  
SES 239 Quantitative Methods in Exercise Science .....3  
SES 242 Exercise Prescription.....3  
TOTAL CREDIT HOURS .....9  
TOTAL CERTIFICATE CREDIT HOURS .....43

## Sterile Processing Technology

### Sterile Processing Technology Certificate Sterile Processing Technology Associate of Technical Studies Degree (Also see Surgical Technology)

Sterile Processing Technology is a dynamic and exciting allied health profession. The Certified Sterile Processing Technologist is a vital member of the allied health field of professionals who work closely with hospital wide patient care departments, especially surgical departments.

Columbus State Community College offers a three-quarter academic/laboratory/clinical Certificate Sterile Processing Technology Program **concurrent** with a seven-quarter academic/laboratory/clinical Associate of Technical Studies Degree Program.

The International Association of Healthcare Central Service Material Management (IAHCSMM) accredits the Certificate and Associate Degree programs. Graduates are eligible to obtain national certification as a Central Service Technician upon successful examination administered by the IAHCSMM.

Upon completion of the Sterile Processing Technology Certificate, the student will be able to:

- Apply the principles and techniques of cleaning, assembly, testing, and identification of patient care equipment.
- Demonstrate the general cleaning of instrumentation and specialty items and the operations of mechanical washers.
- Demonstrate packaging techniques for re-usable and disposable supplies and equipment.
- Demonstrate the assembly, inspection, identification and use of instruments/procedure trays.
- Develop entry level proficiency for selected sterilization techniques.
- Demonstrate inventory control for re-usable and disposable supplies and equipment.
- Demonstrate assembly and distribution of department spe-

cific case carts.

- Incorporate quality assurance processes and blood borne pathogen protocols.
- Identify and explain standards, regulations, and policies and procedures related to activities of the sterile processing department.
- Develop professional behaviors required for the successful completion of the Sterile Processing Certificate.

### Specific Program Admission Information

#### Listed below are additional requirements for admission to the Sterile Processing Technology Certificate Program:

College Placement Testing

- Placement testing into DEV 031 or completion of DEV 030. A student who has college algebra transfer credit (grade of “C” or better) is not required to take the placement test.
- Placement testing into ENGL 101 or ENGL 111 or completion of ENGL 100. Student who has college transfer credit for ENGL 101 is not required to take the placement test.
- Placement testing above the reading requirements or completion of DEV 044. Student who has college transfer credit for ENGL 101 is not required to take the placement test.

#### Listed below are the additional requirements for admission to the Sterile Processing Technology Associate of Technical Studies Program:

College placement testing

- Placement testing into MATH 104 or completion of MATH 103. A student who has college algebra transfer credit (grade of “C” or better) is not required to take the placement test.
- Placement testing into ENGL 101 or ENGL 111 or completion of ENGL 100. Student who has college transfer credit for ENGL 101 is not required to take the placement test.
- Placement testing above the reading requirements or completion of DEV 044. Student who has college transfer credit for ENGL 101 is not required to take the placement test.

Course completion of the following:

- High school graduate or GED equivalency
- High school biology (grade of “C” or better) within the past five years or BIO 100 or BIO 101 (with a grade of “C” or better)

College course completion for (or successful completion of equivalent approved training):

- CHEM 113 with a grade of “C” or better
- NURC 101 Nurse-Aide Training Program
- NURC 102 Patient Care Skills I
- HIMT 121 Advanced Medical Terminology

Grade Point Average of 2.5 or better in courses related to the Sterile Processing ATS Program.

Upon acceptance into the Sterile Processing Technology ATS Program, the following additional items are required to be completed by the student before registration for Autumn Quarter will be allowed:

- MULT 102 Cardiopulmonary Resuscitation
- Completed Health Records on file at the Health Records Office, including drug testing and back-ground check.

Acceptance is conditional on submission and clearance of student background history by the Columbus State Community College Public Safety Department, and drug screening clearance by the Columbus State Community College Health Records Office. Prospective students can obtain additional information at program information sessions or by contacting Leslie Washington at (614) 287-3655 or lwashi01@csc.edu. Interested persons also can visit the Sterile Processing Technology Web site at www.csc.edu/Sterile Processing/.

### Statement Regarding Infectious Diseases

Students in this program perform clinical work on real people. Columbus State does not discriminate against students, faculty, or patients in any way, or based on color, creed, national origin, gender, disability or sexual preference. The patient populations with whom we work come from all walks of life,; thus students may be exposed to many types of communicable diseases. These are not limited to, but may include, Hepatitis (A, B, C or D), HIV/AIDS, TB, Measles, German measles, and Mumps.

All students are required to have appropriate immunizations after they are admitted to the program (information is given to all admitted students). Additionally, although all precautions are taken to minimize exposure and risk, there is always a slight possibility that precautions may fail or that a student may accidentally expose him/herself. All students entering the program must be aware of this slight, but real, potential. All students are encouraged to have personal health insurance in effect by the first day of class.

### Sterile Processing Technology Associate of Technical Studies

COURSE	CR
<b>Quarter 1</b>	
SPT 101 Sterile Processing Technology I .....	3
SPT 151 Sterile Processing Technology I Lab .....	4
BIO 215 General Microbiology .....	5
ENGL 101 Beginning Composition .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>15</b>
<b>Quarter 2</b>	
SPT 102 Sterile Processing Technology II .....	3
SPT 152 Sterile Processing Technology II Lab .....	4
BIO 261 Human Anatomy .....	5
ENGL 102 Essay & Research .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>15</b>
<b>Quarter 3</b>	
SPT 103 Sterile Processing Technology III .....	3
SPT 153 Sterile Processing Technology III Lab .....	4
BIO 262 Human Physiology .....	5
COMM 105 Speech or COMM 110 Group Discussion .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>15</b>
<b>Quarter 4</b>	
SURG 112 Surgical Technology I .....	3
SURG 152 Surgical Technology I Lab .....	4
SSCI XXX 100,101,102,,105 or GEOG 240 .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>12</b>
<b>Quarter 5</b>	
SURG 114 Surgical Technology II .....	3
SURG 154 Surgical Technology II Lab .....	4
HUM XXX Humanities 111, 112, 113 ,151, 152 or 224 .....	5
HIMT 141 Pharmacology .....	3

**TOTAL CREDIT HOURS** ..... **15**

<b>Quarter 6</b>	
SURG 212 Surgical Technology III .....	4
SURG 252 Surgical Technology III Lab .....	5
BIO 263 Human Pathophysiology .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>14</b>

<b>Quarter 7</b>	
SURG 214 Surgical Technology IV .....	4
SURG 254 Surgical Technology IV Lab .....	5
COMM XXX 200, 202 or 204 .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>12</b>
<b>TOTAL ATS CREDIT HOURS</b> .....	<b>98</b>

### Sterile Processing Technology Certificate

COURSE	CR
<b>Quarter 1</b>	
SPT 101 Sterile Processing Technology I .....	3
SPT 151 Sterile Processing Technology I LAB.....	4
ENGL 101 Beginning Composition .....	3
MATH 102 Beginning Algebra I .....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>14</b>
<b>Quarter 2</b>	
SPT 102 Sterile Processing Technology II .....	3
SPT 152 Sterile Processing Technology II LAB .....	4
BIO 100 Intro to Biological Sciences .....	4
ENGL 102 Essay and Research .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>14</b>
<b>Quarter 3</b>	
SPT 103 Sterile Processing Technology III .....	3
SPT 153 Sterile Processing Technology III LAB .....	4
COMM 105 Speech or COMM 110 Group Disc .....	3
CHEM 100 Intro to Chemistry .....	4
<b>TOTAL CREDIT HOURS</b> .....	<b>14</b>
<b>TOTAL CERTIFICATE CREDIT HOURS</b> .....	<b>42</b>

# Supply Chain Management

## Supply Chain Management Associate Degree International Commerce Major Strategic Procurement Major International Business Certificate International Commerce Certificate Strategic Procurement Certificate Supply Chain Management Certificate

Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. It also includes coordination and collaboration with channel partners, such as suppliers, intermediaries, third-party service providers, and customers. In essence, Supply Chain Management integrates supply and demand management within and across companies, both domestically and internationally. The Greater Columbus Metropolitan Area is home to many distribution operations including centers for Limited Brands, Spiegel, Eddie Bauer, JC Penney, Kraft, Consolidated Stores Corporation, EXCEL, Logistics and McGraw-Hill Companies, and it is home to the only “Free Trade Zone” with customs clearance in the state of Ohio.

Supply Chain Management graduates may expect entry-level, first-line management positions as supervisors and managers in such areas as traffic and transportation, inventory management, warehousing, export/import, purchasing, materials control, traffic and operations management.

Columbus State Community College is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the Associate of Arts, Associate of Science and Associate of Applied Science degrees.

Upon completion of the associate of applied science degree in Supply Chain Management, the graduate will be able to:

- Describe the various functions that comprise supply chain management and describe the interrelationship between them and other functional areas within a company.
- Be able to make channel-related decisions to satisfy industrial and consumer wants in both domestic and international markets.
- Demonstrate knowledge of supply chain management terminologies including inventory techniques, bar-coding systems, picking and delivery processes, and storage and sorting systems.
- Demonstrate knowledge of the function and operation of warehouses and distribution facilities.
- Explain the role of inventory control and management.
- Describe the traffic management function and its role in carrier selection, rate determination and rate negotiation.
- Demonstrate knowledge of state and federal laws that impact the distribution function, including knowledge of common carrier obligations.

- Participate in the development of an integrated plan of action consistent with established supply chain management goals.
- Understand the analytical tools useful in supply chain management particularly as they relate to measuring and analyzing productivity.
- Possess a basic understanding of industrial safety issues particularly as they relate to the development of a basic safety program.
- Understand the principles of interactive management and how they apply to managing worker performance, retention/hiring procedures, and developing collaborative action plans.
- Possess fundamental supervisory skills including setting performance objectives, coaching and feedback, and conducting formal performance reviews.

## International Commerce Major

As the sixth largest exporting state in the U.S., Ohio values international commerce. The state capital, Columbus, and its environs are a hub for international shipping and commerce: Columbus is the USA’s third largest port of entry for textiles; home to more than 40 freight forwarding companies and more than 132 internationally owned firms with over 27,000 employees. The International Commerce major is designed to respond to the need for an educated workforce at all levels of the career ladder within such organizations. Grounded in fundamental courses in supply chain management—transportation, global shipping, global marketing, etc.—this major also includes a three-quarter language sequence in Spanish or Chinese, as well as supplemental courses in business culture and economics to broaden and deepen student understanding of the complexities of international commerce. A travel-abroad component is part of the program.

In addition to mastering the Supply Chain Management competencies, an International Commerce graduate will be able to:

- Describe and discuss the nature of current globalization.
- Recognize the exponential growth of international trade and the economic impact of international logistics activities.
- Understand the importance of a country’s infrastructure to an international logistician.
- Identify the characteristics of the international transportation infrastructure.
- Understand how Incoterms are used to share responsibilities between exporters and importers.
- Understand the advantages/disadvantages of alternative terms of payment used in international commerce.
- Understand the risks that currency exchange rates pose for international traders.
- Identify and understand the purpose/function of various required documents common to international trade.
- Explain cultural, social, economic, and political factors that impact organizations.
- Describe the roles of verbal and nonverbal communication in cross-cultural encounters.
- Evaluate strategies for effective negotiation and training of global managers.
- Gain an awareness of the language of international marine insurance.
- Identify the types of air/ocean transportation services and aircraft/vessel sizes.
- Identify and understand the characteristics of intermodal

transportation and the functions of international transportation forwarders and brokers.

- Converse at a basic business level in Spanish or Chinese.
- Understand the significance and need for adequate packaging practices in international trade.

### Strategic Procurement Major

The Strategic Procurement major is designed to provide focused skills in purchasing and negotiation to students interested in this field. This major is built upon a solid foundation in current supply chain management theory and practice included in the Institute for Supply Management certification examination.

In addition to the Supply Chain Management competencies, a graduate in the Strategic Procurement major will be able to:

- Explain and implement a Lowest Total Cost plan.
- Explain and develop purchasing objectives.
- Explain how policies and procedures are utilized to affect purchasing plans.
- Explain how purchasing organizations should be utilized.
- Explain how use of specifications, descriptions and standards are utilized to help determine right quality.
- Explain how the industrial purchasing function operates.
- Explain how the not-for-profit purchasing function operates.
- Explain how and why “make vs. buy” and outsourcing decisions are made.
- Develop a supplier management plan that ensures development, evaluation, and selection of the right supplier.
- Explain pricing principles and what methods are best utilized for determining the right price.
- Explain the different types of contracts and under what conditions and situations each works best.
- Explain how negotiations can help resolve nonprice issues that help support the lowest total cost principle.
- Explain how, why, and when international purchasing is best.
- Develop and present a purchasing strategic and tactical plan.
- Develop and present a buying plan and inventory management plan that ensure right quantity/right time.
- Explain the ethical and legal issues that affect purchasing.
- Explain the what, why, and how of negotiation.
- Explain and develop negotiation objectives, strategies, and tactics.

### Supply Chain Management Certificates

Supply Chain Management certificates can be earned in **International Business, International Commerce, Strategic Procurement, and Supply Chain Management**. Each certificate can be completed totally in a distance learning format. Courses for these certificates follow the guidelines and cover the content established by the Council of Supply Chain Management Professions (CSCMP), the Institute for Supply Management (ISM) and The North American Small Business International Trade Educators (NASBITE) respectively, in their certification exams.

## Supply Chain Management Associate Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101	Beginning Composition .....3
MKTG 111	Marketing Principles .....5
LOGI 100	Principles of Supply Chain Management .....5
LEGL 264	Legal Environment of Business .....4
ECON 200	Principles of Microeconomics .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....22</b>
<b>Quarter 2</b>	
ENGL 102	Essay and Research .....3
ACCT 106	Financial Accounting .....5
LOGI 110	Transportation and Traffic Management .....4
COMM 105	Speech .....3
MATH 104	Intermediate Algebra .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....20</b>
<b>Quarter 3</b>	
LOGI 151	Foundations of Strategic Procurement I .....3
ACCT 107	Managerial Accounting .....5
HUM XXX	Humanities 111,112,113,151,152 or 224 .....5
MATH 135	Statistics .....5
<b>TOTAL CREDIT HOURS</b>	<b>.....18</b>
<b>Quarter 4</b>	
COMM 200	Business Communications .....3
LOGI 150	Information Technology in Logistics .....4
LOGI 210	Warehouse Management .....4
LOGI 229	International Transportation Regulatory Compliance .....3
LOGI XXX	Elective .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....17</b>
<b>Quarter 5</b>	
LOGI 211	Inventory Management .....4
MKTG 226	Customer Service Principles and Practices .....4
BMGT 257	Project Management <i>OR</i> CIT 130 MIS II: Project Management Fundamentals .....3
LOGI 219	International Business .....3
<b>TOTAL CREDIT HOURS</b>	<b>.....14</b>
<b>Quarter 6</b>	
LOGI 260	Performance Management for Logistics Managers .....4
SSCI 100	Globalization .....5
NSCI 101	Natural Science 1 .....5
LOGI 241	Logistics Practicum .....4
LOGI 242	Logistics Seminar .....1
<b>TOTAL CREDIT HOURS</b>	<b>.....19</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>.....110</b>
<b>Technical Electives</b>	
LOGI 152	Foundations of Strategic Procurement II .....3
LOGI 205	Freight Claims .....3
LOGI 225	International Shipping .....4
LOGI 226	Introduction to Export Administration Regulations .....4
LOGI 227	Electronic Import/Export Documentation .....2
LOGI 228	Importing .....4
LOGI 230	International Management .....4
LOGI 245	Transportation Rates/Pricing .....3
LOGI 246	Procurement Negotiation .....3
LOGI 256	Advanced Procurement Seminar .....3
LOGI 250	Transportation of Hazardous Materials .....3
LOGI 290	Certified Logistics Associate .....1
LOGI 291	Certified Logistics Technician .....1
LOGI 297	Special Topics in Logistics .....1-3
QUAL 240	Total Quality Management .....3
ENVR 252	Health and Safety Training for Hazardous Waste Operations 3

## International Commerce Major

COURSE		CR
<b>Quarter 1</b>		
ENGL 101	Beginning Composition .....	3
MKTG 111	Marketing Principles .....	5
LOGI 100	Principles of Supply Chain Management .....	5
LOGI 110	Transportation and Traffic Management.....	4
GEOG 200	World Regional Geography .....	5
<b>TOTAL CREDIT HOURS</b>		<b>22</b>
<b>Quarter 2</b>		
ENGL 102	Essay and Research .....	3
ECON 200	Principles of Microeconomics .....	5
LOGI 225	International Shipping .....	4
LOGI 219	International Business .....	3
MATH 104	Intermediate Algebra.....	5
<b>TOTAL CREDIT HOURS</b>		<b>20</b>
<b>Quarter 3</b>		
COMM 105	Speech.....	3
LOGI 226	Introduction to the Export Administration Regulations.....	4
HUM XXX	Humanities 111,112,113,151, 152 or 224 .....	5
MATH 135	Statistics .....	5
<b>TOTAL CREDIT HOURS</b>		<b>17</b>
<b>Quarter 4</b>		
COMM 200	Business Communications .....	3
NSCI 101	Natural Science I.....	5
LOGI 228	Importing .....	4
LOGI 211	Inventory Management.....	4
SPAN 101	Elementary Spanish I ( <i>or</i> ) .....	
CHIN 101	Elementary Chinese I .....	5
<b>TOTAL CREDIT HOURS</b>		<b>21</b>
<b>Quarter 5</b>		
LOGI 229	International Transportation Regulatory Compliance.....	3
LOGI 205	International Freight Claims .....	3
SSCI 100	Globalization.....	5
SPAN 102	Elementary Spanish II ( <i>or</i> ) .....	
CHIN 102	Elementary Chinese II.....	5
<b>TOTAL CREDIT HOURS</b>		<b>16</b>
<b>Quarter 6</b>		
MKTG 270	Global Marketing .....	5
SPAN 299	Special Topics in Spanish ( <i>or</i> ) .....	
CHIN 299	Special Topics in Chinese .....	4
LOGI 241	Logistics Practicum .....	4
LOGI 242	Logistics Seminar .....	1
<b>TOTAL CREDIT HOURS</b>		<b>14</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>110</b>

## Strategic Procurement Major

COURSE		CR
<b>Quarter 1</b>		
ENGL 101	Beginning Composition .....	3
MKTG 111	Marketing Principles .....	5
LOGI 100	Principles of Supply Chain Management .....	5
ECON 200	Principles of Microeconomics .....	5
<b>TOTAL CREDIT HOURS</b>		<b>18</b>
<b>Quarter 2</b>		
ENGL 102	Essay and Research .....	3
ACCT 106	Financial Accounting .....	5
LOGI 110	Transportation and Traffic Management .....	4
COMM 105	Speech .....	3
MATH 104	Intermediate Algebra.....	5
<b>TOTAL CREDIT HOURS</b>		<b>20</b>
<b>Quarter 3</b>		
MKTG 226	Customer Service Principles and Practices.....	4
ACCT 107	Managerial Accounting .....	5
HUM XXX	Humanities 111,112,113,151, 152 or 224 .....	5
MATH 135	Statistics .....	5
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

## Quarter 4

FMGT 201	Corporate Finance .....	5
COMM 200	Business Communications .....	3
LOGI 151	Foundations of Strategic Procurement I .....	3
LOGI 210	Warehouse Management .....	4
LOGI 211	Inventory Management .....	4
<b>TOTAL CREDIT HOURS</b>		<b>19</b>

## Quarter 5

LOGI 246	Procurement Negotiation .....	3
LOGI 225	International Shipping.....	4
LOGI 150	Information Technology in Logistics.....	4
LOGI 152	Foundations of Strategic Procurement II.....	3
LOGI 229	International Transportation Regulatory Compliance.....	3
<b>TOTAL CREDIT HOURS</b>		<b>17</b>

## Quarter 6

LOGI 256	Advanced Procurement Seminar .....	3
LOGI 241	Logistics Practicum .....	4
LOGI 242	Logistics Seminar .....	1
LOGI 260	Performance Management for Logistics Managers .....	4
NSCI 101	Natural Science I .....	5
<b>TOTAL CREDIT HOURS</b>		<b>17</b>
<b>TOTAL DEGREE CREDIT HOURS</b>		<b>110</b>

## International Business Certificate

COURSE		CR
<b>Quarter 1</b>		
FMGT 242	International Finance .....	4
LOGI 219	International Business.....	3
<b>TOTAL CREDIT HOURS</b>		<b>7</b>
<b>Quarter 2</b>		
LOGI 225	International Shipping.....	4
LOGI 230	International Management .....	4
<b>TOTAL CREDIT HOURS</b>		<b>8</b>
<b>Quarter 3</b>		
MKTG 270	Global Marketing.....	5
<b>TOTAL CREDIT HOURS</b>		<b>5</b>
<b>TOTAL CERTIFICATE CREDITS</b>		<b>20</b>

## International Commerce Certificate

COURSE		CR
<b>Quarter 1</b>		
LOGI 225	International Shipping.....	4
LOGI 219	International Business.....	3
<b>TOTAL CREDIT HOURS</b>		<b>7</b>

## Quarter 2

LOGI 226	Introduction to Export Administration Regulations.....	4
LOGI 228	Importing.....	4
LOGI 229	International Transportation Regulatory Compliance.....	3
<b>TOTAL CREDIT HOURS</b>		<b>11</b>

## Quarter 3

LOGI 227	Electronic Import/Export Documentation.....	2
MKTG 270	Global Marketing.....	5
<b>TOTAL CREDIT HOURS</b>		<b>7</b>
<b>TOTAL CERTIFICATE CREDITS</b>		<b>25</b>

## Strategic Procurement Certificate

COURSE		CR
<b>Quarter 1</b>		
LOGI 151	Foundations of Strategic Procurement I .....	3
LOGI 211	Inventory Management .....	4
<b>TOTAL CREDIT HOURS</b>		<b>7</b>

<b>Quarter 2</b>		
LOGI 150	Information Technology in Logistics.....	4
LOGI 152	Foundations of Strategic Procurement II.....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>7</b>

<b>Quarter 3</b>		
LOGI 246	Procurement Negotiation.....	3
LOGI 256	Advanced Procurement Seminar.....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>6</b>
<b>TOTAL CERTIFICATE CREDITS.....</b>		<b>20</b>

## Supply Chain Management Certificate

<b>COURSE</b>		<b>CR</b>
<b>Quarter 1</b>		
LOGI 151	Foundations of Strategic Procurement I.....	3
LOGI 210	Warehouse Management.....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>7</b>

<b>Quarter 2</b>		
LOGI 110	Transportation and Traffic Management.....	4
LOGI 211	Inventory Management.....	4
<b>TOTAL CREDIT HOURS .....</b>		<b>8</b>

<b>Quarter 3</b>		
LOGI 225	International Shipping.....	4
LOGI 229	International Transportation Regulatory Compliance.....	3
<b>TOTAL CREDIT HOURS .....</b>		<b>7</b>
<b>TOTAL CERTIFICATE CREDITS.....</b>		<b>22</b>

# Surgical Technology

## Surgical Technology Associate Degree Surgical Technology Certificate (See also Sterile Processing Technology)

Surgical Technology is a dynamic and exciting allied health profession. The surgical technologist is a vital member of the allied health field of professionals who work closely with surgeons, anesthesiologists, registered nurses, and other personnel delivering surgical patient care.

Columbus State Community College offers a four-quarter academic/laboratory/clinical Certificate Surgical Technology program concurrent with a six-quarter academic/laboratory/clinical Associate of Applied Science Degree program.

The Commission on Accreditation of Allied Health Education Programs (CAAHEP) accredits the certificate and associate degree programs. Graduates are eligible to obtain national certification as a Certified Surgical Technologist (CST) upon successful examination administered by the Liaison Council on Certification for the Surgical Technologist (LCC-ST).

Upon completion of the Surgical Technology Certificate, the student will be able to:

- Demonstrate knowledge and practice of basic patient care concepts.
- Demonstrate the application of the principles of asepsis in a knowledgeable manner that provides for optimal patient care in the operating room.
- Demonstrate basic surgical case preparation skills in the sterile processing role (STSP) and transportation/communication role (STTC).
- Demonstrate the ability to perform the role of first scrub (STSR) and second scrub (STSR2) on basic surgical cases.
- Demonstrate responsible behavior as a health care professional.

Upon completion of the associate degree in Surgical Technology, the graduate will be able to:

- Demonstrate all competencies required for the certified Surgical Technologist (CST).
- Demonstrate advanced knowledge and practice of patient care techniques.
- Demonstrate advanced knowledge of sterile and surgical techniques.
- Demonstrate advanced knowledge and practice in the role of the first scrub (STSR) and second scrub (STSR2).
- Demonstrate knowledge and practice of circulating skills and tasks (STAC).
- Demonstrate knowledge relating to operating room emergency situations.
- Demonstrate advanced organizational skills.
- Demonstrate advanced knowledge in one or two surgical specialty areas.
- Demonstrate a professional attitude.



## Specific Program Admission Information

Listed below are additional requirements for admission to the Surgical Technology program.

College placement testing

- Placement testing into MATH 104 or completion of MATH 103. A student who has college algebra transfer credit (grade of “C” or better) is not required to take the placement test.
- Placement testing into ENGL 101 or ENGL 111 or completion of ENGL 100. Student who has college transfer credit for ENGL 101 is not required to take the placement test.
- Placement testing above the reading requirements or completion of DEV 044. Student who has college transfer credit for ENGL 101 is not required to take the placement test.

Course completion of the following:

- High school graduate or GED equivalency
- High school biology (grade of “C” or better) within the past five years or BIO 100 or BIO 101 (with a grade of “C” or better)

College Course Completion for (or successful completion of equivalent approved training):

- CHEM 113 with a grade of “C” or better
- NURC 101 Nurse-Aide Training Program
- NURC 102 Patient Care Skills I
- HIMT 121 Advanced Medical Terminology

Grade Point Average of 2.5 or better in courses related to the Surgical Technology plan of study

Upon acceptance into the Surgical Technology, the following additional items are required to be completed by the student before registration for autumn quarter will be allowed:

- MULT 102 Cardiopulmonary Resuscitation
- Completed Health Record on file at the Health Records Office, including drug testing and back ground check.

*Acceptance is conditional on submission and clearance of student background history by the Columbus State Community College Public Safety Department, and drug screening clearance by the Columbus State Community College Health Records Office. Prospective students can obtain additional information at program information sessions or by contacting Leslie Washington at (614) 287-3655 or lwashi01@csc.edu. Interested persons also can visit the Surgical Technology Web site at [www.csc.edu/SurgTech/](http://www.csc.edu/SurgTech/).*

## Statement Regarding Infectious Diseases

Students in this program perform clinical work on real people. Columbus State does not discriminate against students, faculty, or patients in any way, or based on color, creed, national origin, gender, disability or sexual preference. The patient populations with whom we work come from all walks of life.; thus students may be exposed to many types of communicable diseases. These are not limited to, but may include, Hepatitis (A, B, C or D), HIV/AIDS, TB, Measles, German measles, and Mumps.

All students are required to have appropriate immunizations after they are admitted to the program (information is given to all admitted students). Additionally, although all precautions are taken to minimize exposure and risk, there is always a slight possibility that precautions may fail or that a student may accidentally expose him/herself. All students entering the program must be aware of

this slight, but real, potential risk. All students are encouraged to have personal health insurance in effect by the first day of class.

## Surgical Technology Associate Degree

COURSE	CR
<b>Quarter 1</b>	
SURG 112 Surgical Technology I .....	3
SURG 152 Surgical Technology I Lab .....	4
ENGL 101 Beginning Composition .....	3
BIO 261 Human Anatomy .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>

<b>Quarter 2</b>	
SURG 114 Surgical Technology II .....	3
SURG 154 Surgical Technology II Lab .....	4
BIO 262 Human Physiology .....	5
ENGL 102 Essay and Research .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>

<b>Quarter 3</b>	
SURG 212 Surgical Technology III .....	4
SURG 252 Surgical Technology III Lab .....	5
HIMT 141 Pharmacology .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>12</b>

<b>Quarter 4</b>	
SURG 214 Surgical Technology IV .....	4
SURG 254 Surgical Technology IV Lab .....	5
SSCI XXX Social Sciences 100, 101, 102, 105 or GEOG 240 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>14</b>

<b>Quarter 5</b>	
SURG 243 Surgical Technology V .....	3
SURG 253 Surgical Technology V Lab .....	4
BIO 215 General Microbiology .....	5
HUM XXX Humanities, 111,112, 113, 151, 152, or 224 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>17</b>

<b>Quarter 6</b>	
SURG 245 Surgical Technology VI .....	3
SURG 255 Surgical Technology VI Lab .....	4
BIO 263 Human Pathophysiology .....	5
COMM XXX 200 or 202 or 204 .....	3
COMM XXX 105 or 110 .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>18</b>
<b>TOTAL DEGREE CREDIT HOURS</b>	<b>91</b>

## Surgical Technology Certificate

COURSE	CR
<b>Quarter 1</b>	
SURG 112 Surgical Technology I .....	3
SURG 152 Surgical Technology I Lab .....	4
ENGL 101 Beginning Composition .....	3
BIO 261 Human Anatomy .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>

<b>Quarter 2</b>	
SURG 114 Surgical Technology II .....	3
SURG 154 Surgical Technology II Lab .....	4
BIO 262 Human Physiology .....	5
ENGL 102 Essay and Research .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>15</b>

<b>Quarter 3</b>	
SURG 212 Surgical Technology III .....	4
SURG 252 Surgical Technology III Lab .....	5
HIMT 141 Pharmacology .....	3
<b>TOTAL CREDIT HOURS .....</b>	<b>12</b>

<b>Quarter 4</b>	
SURG 214 Surgical Technology IV .....	4
SURG 254 Surgical Technology IV Lab .....	5
SSCI XXX Social Sciences 100, 101, 102, 105 or GEOG 240 .....	5
<b>TOTAL CREDIT HOURS .....</b>	<b>14</b>
<b>TOTAL CERTIFICATE CREDIT HOURS .....</b>	<b>56</b>

# Technical Communication

## Associate of Applied Science Degree

In business, industry, government, technology and health care, there is a need to communicate information of a technical nature to varied audiences. Technical Communication is the process of translating technical information into forms that different audiences can understand and use. Technical communicators are the translators. They write, edit, and perform page layout and design on user manuals, textbooks, training materials, press releases, memos, environmental impact statements, video scripts and online help files. They design Web pages, develop computer-based training (CBT) modules, prepare multimedia presentations, and develop material for delivery on CD, DVD and the Internet.

The Associate of Applied Science Degree in Technical Communication at Columbus State Community College is the only technical communication degree program in central Ohio. The program provides students with the practical, specific skills and technical knowledge needed to get entry-level jobs as technical communicators. All courses are taught in a state-of-the-art computer classroom with a variety of computer applications.

The program is designed to be completed within six quarters of full-time study. Students are required to take eleven courses in Technical Communication (TCO courses) and another 15-25 credits in a single cognate (specialization) area. The choice of the cognate area is up to the student in consultation with the Technical Communication advisor and the advisor in the cognate area. Currently, there are more than 20 approved cognates in areas such as accounting, aviation maintenance, computer programming, marketing, microcomputing and graphic communications. For a complete listing, contact the Technical Communication Program Coordinator.

A technical communicator should be able to discuss projects with a technical expert and know the best way to translate information so that the targeted audience will understand it. The cognate area enhances the knowledge and skills of the technical communicator and provides vocabulary and basic knowledge about the chosen field.

Upon completion of the Associate of Applied Science Degree in the Technical Communication, the graduate will be able to:

- Write in the forms most often required of a Technical Communicator: processes, procedures, reports, manuals, etc.
- Translate complex material into clear, concise, and easy-to-use language for specific targeted audiences.
- Participate in the entire technical writing cycle, both individually and collaboratively, including planning, researching, and coordinating projects; writing, revising, and editing documents; designing and placing graphics; and producing a final product.
- Prepare and deliver oral presentations both in formal and informal settings.
- Develop basic graphics and integrate them into text.
- Apply the principles learned in technical cognates to technical communication.
- Critically evaluate existing documentation for clarity, completeness, and effectiveness.

- Operate the word processing and desktop design packages most widely used in the technical communication field.
- Incorporate the basic concepts of multimedia production into professional technical presentations.
- Edit documents individually and collaboratively, using both hard copy and online methods.
- Carry out, prepare, and produce documented primary or secondary research.
- Demonstrate an understanding of concepts of time/project management both in individual and team projects.

## Technical Communication Associate of Applied Science Degree

COURSE	CR
<b>Quarter 1</b>	
ENGL 101	Beginning Composition .....3
TCO 101	Careers in Technical Communication .....2
CIT 101	PC Applications I .....3
*	Technical Cognate .....3-6
XXXX XXX	Math or Science Elective for Tech Cognate .....5
<b>TOTAL CREDIT HOURS .....16-19</b>	
<b>Quarter 2</b>	
ENGL 102	Essay and Research .....3
BOA 101	Business Grammar Usage .....3
HUM XXX	Humanities 111, 112, 113, 151, 152 or 224 .....5
TCO 102	Tools and Tips for Technical Communicators .....3
TCO 203	Introduction to Technical Communication .....3
<b>TOTAL CREDIT HOURS .....17</b>	

<b>Quarter 3</b>	
BOA 167	Desktop Publishing .....3
COMM 105	Speech .....3
NSCI 191	Natural Science I .....5
TCO 204	Introduction to Technical Editing .....3
*	Technical Cognate .....3-6
<b>TOTAL CREDIT HOURS .....17-20</b>	

<b>Quarter 4</b>	
COMM 200	Business Communications .....3
TCO 223	Advanced Technical Communication .....3
GRPH 251	Photoshop and Design I .....5
TCO 214	Document Design and Delivery Methods .....3
*	Technical Cognate .....3-6
<b>TOTAL CREDIT HOURS .....17-20</b>	

<b>Quarter 5</b>	
COMM 110	Conference and Group Discussion .....3
TCO 215	Online Documentation .....3
TCO 230	Technical Presentations .....3
XXX XXX	Technical Writing Elective .....3
*	Technical Cognate .....3-6
<b>TOTAL CREDIT HOURS .....15-18</b>	

<b>Quarter 6</b>	
SSCI 101	Cultural Diversity .....5
TCO 250	Capstone Project .....3
TCO 260	Career Development .....1
TCO 290	Industry Internship .....4
*	Technical Cognate .....3-6
<b>TOTAL CREDIT HOURS .....16-19</b>	

**TOTAL DEGREE CREDIT HOURS..... 98-113**

\*Between 15-25 hours must be completed in a Technical Cognate.

**Technical writing electives may be selected from the following courses:**

COMM 202	Writing for the Health and Human Services .....3
COMM 206	Governmental Communications .....3
COMM 207	Writing for the Web.....3
COMM 208	Communication for the Mass Media .....3
ENGL 215	Magazine Publication .....3
ENGL 280	Publishing Practicum .....2
TCO 221	Proposal Development .....3
TCO 222	Developing Software Documentation .....3
TCO 224	Advanced Technical Editing .....3
TCO 235	Instructional Design .....2
TCO 236	Computer-Based Training .....3
TCO 237	Digital Video Production for the Workplace.....3
TCO 245	HTML-Based Online Documentation.....5
TCO 297/298/299	Special Topics in Technical Communication..... 1-5

# Veterinary Technology

## Veterinary Technology Associate Degree

Veterinary technicians are registered, certified or licensed members of the veterinary health care team. They play an integral role in many areas of veterinary clinical practice, including medical, surgical, laboratory, and office procedures. All tasks are performed under the supervision of a licensed veterinarian. Compassion for animals is essential, because the main focus of individuals employed as veterinary technicians is the treatment and nursing of healthy and sick animals.

The American Veterinary Medical Association accredits Columbus State's Veterinary Technology program. The Associate of Applied Science Degree in Veterinary Technology provides students with both classroom and clinical experiences. Students have the opportunity to intern at The Ohio State University Veterinary Teaching Hospital. Students also will spend a portion of their clinical experience in various veterinary settings, including research centers, private clinical practices, veterinary emergency hospitals, veterinary diagnostic laboratories, and zoos. Columbus State Community College emphasizes safety and disease prevention because students and employees in health care professions may be exposed to infectious materials, communicable, and zoonotic diseases.

Columbus State Community College also offers an evening Veterinary Technology program designed for the working student. The evening program can be completed in nine quarters with courses starting no earlier than 5:00 p.m. When evening students are enrolled in the Clinical Experience A-D courses, daytime availability will be required in order to provide quality education and training in the veterinary health care field..

For students interested in equine health, a joint program has been developed between Columbus State's Veterinary Technology and Otterbein College's Department of Equine Science. Successful completion of these two programs will result in an Associate of Applied Science Degree in Veterinary Technology from Columbus State Community College, and the Bachelor of Arts Degree in Equine Health Technology from Otterbein College. For more information, contact Dr. Maria Calderone, [mcaldерone@otterbein.edu](mailto:mcaldерone@otterbein.edu).

For students interested in animal science, a joint program has been created between Columbus State's Veterinary Technology and The Ohio State University's Department of Animal Science. Successful completion of these two programs will result in an Associate of Applied Science Degree in Veterinary Technology from Columbus State Community College, and the Bachelor of Science Degree in Agriculture from The Ohio State University. For more information, please contact Mariette C. Benage, [benage.1@osu.edu](mailto:benage.1@osu.edu). Special advising with the program coordinator is necessary for students who wish to participate in these joint programs.

Please note that there may be changes to the Veterinary Technology program admission requirements and curriculum periodically. Any admission criteria or curriculum changes will be updated at the Veterinary Technology Mandatory Information Sessions.

Upon completion of the Associate of Applied Science Degree in Veterinary Technology, and under the supervision of a licensed veterinarian, the graduate will be able to:

- Perform patient assessment techniques, obtain thorough patient history, and maintain medical records for patient animals in a veterinary health care setting.
- Effectively communicate preventative medicine, treatment protocols, dental health, and medical and surgical procedures to veterinary clients.
- Prepare and dispense medications according to a prescription, perform drug dosage calculations and maintain controlled drug records.
- Administer and understand the effects of treatments and/or medications delivered either orally or parenterally.
- Apply and manage wound dressings, bandages, and splints.
- Properly collect, prepare and handle diagnostic specimens for laboratory analysis.
- Perform clinical laboratory procedures, including complete blood counts, serum chemistries, microbiology, immunologic testing, urinalysis, and cytology.
- Identify internal, external, and blood parasites of domestic animal species.
- Safely handle and perform routine procedures on common laboratory animals used in research settings.
- Prepare equipment, instruments, animals, and medications for surgical, diagnostic, and anesthetic procedures.
- Administer and effectively monitor anesthesia, including anesthetic induction, maintenance, and recovery by inhalation and/or parenteral routes.
- Assist in diagnostic, medical, and surgical procedures, including post-operative management, pain control, and skin closure.
- Perform complete routine dental prophylaxis.
- Administer and monitor basic and/or intensive nursing care, including fluid therapy and nutritional management.
- Perform diagnostic imaging procedures using appropriate safety measures.
- Comprehend the approach to providing safe and effective care for avian, exotic and small mammal species.

Graduates register with the Ohio Veterinary Medical Licensing Board to become Registered Veterinary Technicians in the State of Ohio. Graduates are eligible to take the Veterinary Technician National Exam (VTNE) that is recognized in more than 40 states to certify veterinary technicians. Students must successfully pass the VTNE to be eligible for licensure in the State of Ohio.

### Specific Program Admissions Information

Prospective students are required to attend an information session where they will receive the separate admission application for the Veterinary Technology program. Detailed admission criteria, plans of study, and career opportunities are also discussed. These sessions, held periodically throughout the year, are very helpful in answering the prospective students' questions. General information packets and information session dates and times may be obtained by contacting the office associate at (614) 287-5511 or by sending an e-mail request to [kfannin@csc.edu](mailto:kfannin@csc.edu).

The yearly deadline for application and completion of admission requirements is March 23 for admission beginning the following

summer quarter (evening plan of study) or the following autumn quarter (day plans of study), based on space availability. Students must meet all admission requirements before being considered for admission into the Veterinary Technology.

**Listed below are additional requirements for admission to the Veterinary Technology:**

- High school graduate or GED equivalency.
- Required high school (or equivalent) courses in Biology (grade of “C” or better within the past five years) or BIO 100 or 101 (grade of “C” or better) and Chemistry (grade of “C” or better within the past three years) or CHEM 100 (grade of “C” or better).
- Placement into ENGL 101 Beginning Composition.
- Placement into “No Reading Required” (students with college transfer credit for ENGL 101 or ENGL 111 are not required to take the placement test).
- Completion of MATH 103 Beginning Algebra II with a grade of “C” or better.
- Attendance at a Veterinary Technology Mandatory Information Session (Applicants will receive a separate admission application for the Veterinary Technology program at these sessions. Applicants will not be considered for admission until an information session has been attended).
- Computer literacy (high school, work-related or completion of CIT 101).
- Grade point average of 2.5 or better (most recently completed coursework).

Upon acceptance into the Veterinary Technology, the student will be required to complete the following Health Related Technology Requirements:

- Complete a Health Statement declaring all allergies, medications, and physical limitations or restrictions.
- Tuberculin Testing (Mantoux) within the past year.
- Tetanus Booster (Td) within the past eight years.
- The student must obtain health insurance coverage and keep the coverage on a continual basis while attending CSCC as a Veterinary Technology student.
- Rabies vaccination or signed waiver.
- Drug Test.
- Background Check.

Acceptance is conditional on the submission and clearance of student background history by Columbus State Community College’s Public Safety Department and drug screening clearance by the Columbus State Community College’s Health Records Office. You can obtain additional information at the program information sessions or by contacting Kelly Fannin at (614) 287-5511.

**Veterinary Technology Associate Degree**

COURSE	CR
<b>Quarter 1</b>	
BIO 261 Human Anatomy .....	5
RAD 190 Radiation Protection for the General Machine Operator .....	2
MATH 100 Calculations and Dosages .....	2
VET 101 Animal Nutrition .....	3
VET 102 Laboratory Animal Medicine .....	2
VET 114 Client Relations .....	2
<b>TOTAL CREDIT HOURS</b> .....	<b>16</b>

<b>Quarter 2</b>	
BIO 262 Human Physiology .....	5
VET 122 Veterinary Parasitology .....	3
VET 126 Principles of Veterinary Anesthesia .....	4
HIMT 121 Advanced Medical Terminology .....	3
VET 124 Principles of Veterinary Radiology .....	2
<b>TOTAL CREDIT HOURS</b> .....	<b>17</b>

<b>Quarter 3</b>	
VET 131 Veterinary Anatomy and Physiology .....	3
VET 138 Veterinary Surgical Tech .....	3
VET 136 Animal Health and Disease I .....	3
VET 133 Clinical Application I .....	3
ENGL 101 Beginning Composition .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>15</b>

<b>Quarter 4</b>	
ENGL 102 Essay and Research .....	3
SSCI XXX Social Science 100, 101, 102, 105 or GEOG 240 .....	5
VET 135 Veterinary Hematology .....	5
CHEM 113 Organic and Biochemistry .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>18</b>

<b>Quarter 5</b>	
COMM 105 Speech ( <i>or</i> ) .....	3
COMM 110 Conference and Group Discussion .....	3
VET 291 Clinical Experience I .....	6
VET 254 Clinical Seminar I .....	2
COMM 200 Business Communications .....	3
VET 266 Animal Health and Disease II .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>17</b>

<b>Quarter 6</b>	
VET 262 Vet. Pharmacology .....	3
VET 267 Vet. Urinalysis and Clinical Chemistry .....	4
VET 269 Vet. Microbiology .....	4
VET 263 Clinical Application II .....	3
<b>TOTAL CREDIT HOURS</b> .....	<b>14</b>

<b>Quarter 7</b>	
VET 293 Clinical Experience II .....	6
VET 274 Clinical Seminar II .....	2
HUM XXX Humanities 111, 112, 113, 151, 152 or 224 .....	5
<b>TOTAL CREDIT HOURS</b> .....	<b>13</b>
<b>TOTAL DEGREE CREDIT HOURS</b> .....	<b>110</b>

# Course Descriptions

## The College's Course Numbering System

No two courses at Columbus State have the same course number. The three- or four-letter alpha identifier indicates the department, and the three numbers indicate the specific course within each department.

Listed below are the various departments in alphabetical order. Refer to this chart to find the department in which a given course can be found. For example, ACCT 106 Introduction to Accounting would be found in the Course Descriptions section under Accounting (ACCT).

Accounting.....ACCT	Health Information
Anthropology.....ANTH	Management Technology.....HIMT
Appraisal.....APPR	Heating, Ventilating and Air
Arabic.....ARAB	Conditioning Technology.....HAC
Architecture.....ARCH	History.....HIST
Art.....ART	Hospitality Management.....HOSP
Arts and Sciences.....ASC	Human Resources Mgmt.....HRM
Astronomy.....ASTR	Humanities.....HUM
Automotive Technology.....AUTO	Interactive Media.....IMMT
Aviation Maintenance	Interpreting/ASL Education.....ITT
Technology.....AMT	Italian.....ITAL
Biology.....BIO	Japanese.....JAPN
Business Management.....BMGT	Landscape Design/Build.....LAND
Business Office Applications....BOA	Latin.....LATN
Chemistry.....CHEM	Law Enforcement.....LAWE
Chinese.....CHIN	Marketing.....MKTG
Civil Engineering	Massage Therapy.....MASS
Technology.....CIVL	Mathematics.....MATH
Clinical Laboratory Assisting...CLA	Mechanical Engineering
Communication.....COMM	Technology.....MECH
Computer Information	Medical Assisting.....MAT
Technology.....CIT	Medical Laboratory
Construction Management.....CMGT	Technology.....MLT
Dance.....DANC	Mental Health/Addiction Studies/
Dental Hygiene.....DHY	Developmental
Dental Laboratory Technology/	Disabilities.....MHAD
Small Business Management...DENT	Multi-Competency Health.....MULT
Developmental Education.....DEV	Music.....MUS
Dietary Manager.....DMGR	Natural Science.....NSCI
(See Hospitality Management)	Nuclear Medicine Tech.....NUC
Dietetic Technician.....DIET	Nursing.....NURS
(See Hospitality Management)	Nursing Certificate Programs.NURC
Digital Design and Graphics...GRPH	Paralegal Studies.....LEGL
Digital Photography.....FOTO	Philosophy.....PHIL
Early Childhood Development .ECD	Physics.....PHYS
Economics.....ECON	Political Science.....POLS
Education.....EDUC	Practical Nursing.....PNUR
Electro-Mechanical	Psychology.....PSY
Engineering Technology.....EMEC	Quality Assurance Tech.....QUAL
Electronic Engineering	Radiography.....RAD
Technology.....EET	Real Estate.....REAL
Emergency Medical Services	Respiratory Care.....RESP
Technology.....EMS	Skilled Trades.....SKTR
Engineering Technology.....ENGT	School Foodservice Manager...SMGR
English.....ENGL	(See Hospitality Management)
English as a Second Language...ESL	Social Sciences.....SSCI
Environmental Science, Safety	Sociology.....SOC
and Health.....ENVR	Spanish.....SPAN
Facility Management.....FAC	Speech and Hearing.....SHS
Finance.....FMGT	Sport and Exercise Studies.....SES
Fire Science.....FIRE	Sterile Processing Technology...SPT
Ford ASSET.....FORD	Supply Chain Management.....LOGI
French.....FREN	Surgical Technology.....SURG
Geographic Info Systems.....GIS	Surveying.....SURV
Geography.....GEOG	Technical Communication.....TCO
Geology.....GEOG	Theater.....THEA
German.....GERM	Toyota.....TOYO
	Veterinary Technology.....VET

## Explanation of Course Description Codes

**Department** | **Specific Course** | **Quarters Offered** | **Also available via distance learning**

**ACCT 232 Federal Taxation I (A, W, SP, SU, DL) 4 credits**  
 ACCT 232 covers individual income taxes, returns, income exemptions, deductions, gains and losses, rates, adjustments, and credits. Also explores problems of proprietorship, partnerships, corporations, inventories, depreciation accounting, installment and deferred sales treatment. Filing requirements, payments, refunds, claims, and tax planning techniques are discussed. **Lecture: 5 hours** **Lab: 0 hours**  
 Prerequisite: ACCT 106 Lab fee: \$2.00

**Class hours** | **Lab hours**

**Course Number**—The three- or four-letter alpha identifier indicates the department; the three numbers that follow identify the specific course. Three of four letters followed by XXX indicate an elective requirement for which only the department is specified; here the student may choose the specific course, subject to approval of his/her advisor. Where no alphabetical or numerical characters appear, the elective may come from more than one department.

**Quarter Offered**—Indicates which quarter or quarters the course is offered: A(Autumn), W(Winter), SP(Spring), SU(Summer).

**Prerequisite**—Any coursework that must be completed before the student is eligible to enroll for the course. For example, if ENGL 101 were listed as a prerequisite for a course, then only students who have completed ENGL 101 would be eligible to register for the course.

**Corequisite**—Any coursework that must be completed during the same quarter as the course in which you are enrolling. For example, if course ACCT 271 is a corequisite with course ACCT 272, both courses must be taken during the same quarter.

**Class Hours**—The number of hours per week a particular course meets in a lecture classroom.

**Lab Hours**—The number of hours per week a particular class meets in a laboratory situation. This is usually in addition to class hours.

**Credits**—The number of credits to be awarded to students who successfully complete the course.

**Distance Learning (DL)**—Designates course is also available in a distance learning format. Courses taken in the distance learning format may be subject to a different lab fee.

**Lab Fee**—Fee required of students registering in certain courses that is used to offset the cost of consumable materials, technology, and printing in classrooms or laboratory situations.

**Module**—A modular course is defined as a part of the main course that can stand alone. The topics are related, and, when combined with all parts, become the entire course. Modular courses usually do not exist without the main course. Modules may have various methods of instructional delivery, i.e., faculty lectures, Web, self-paced, etc. Modular courses may run on a term basis or be flexibly scheduled. Modular courses are designated as having an alpha letter after the course number, i.e., BOA 189A, BOA 189B. These examples are two modules of the whole main course BOA 189.

# Accounting (ACCT)

## **ACCT 106 Financial Accounting (A, W, SP, SU, DL) 5 credits**

ACCT 106 offers an introduction to accounting, emphasizing how general purpose financial statements communicate information about the business corporation's performance and position for users external to management. Approximately one-third of the course emphasizes how the accountant processes and presents the information and includes exposure to recording transactions, adjusting balances, and preparing financial statements for service and merchandising firms according to established rules and procedures. The balance of the course examines major elements of the statements such as cash, receivables, inventory, long-lived assets, depreciation, current and long-term liabilities, and capital stock transactions. The Income Statement, Owner's Equity Statement, Cash Flow Statement, and Balance Sheet are also covered.

Lecture: 5 hours – Lab: 0 hours

Concurrent: ACCT 106 and ACCT 107 can be taken concurrently

Lab fee: \$2.00

## **ACCT 107 Managerial Accounting (A, W, SP, SU, DL) 5 credits**

Course is a continuation of ACCT 106 with special emphasis on the uses of financial measurements, calculations, and reports used by an organization to make a variety of management decisions. Specific uses discussed are methods for costing of products and services, decision analysis, budgeting and control.

Lecture: 5 hours Lab fee: \$2.00

Concurrent: ACCT 106 and ACCT 107 can be taken concurrently

## **ACCT 108 Intermed. Preparedness (A, W, SP, SU, DL) 4 credits**

This is a follow-up course to ACCT 106 and ACCT 107 that develops the mechanical phase of theoretical concepts. This course is oriented toward the accounting major to enable the student to apply double entry accounting methods toward the daily maintenance of accounting records and the preparation of basic financial statements.

Lecture: 4 hours

Prerequisite: None Lab fee: \$2.00

## **ACCT 121 Data Processing for Accountants (DL) 4 credits**

As applied to the accounting world, in-depth practice in the varied practical applications of Microsoft Excel electronic spreadsheet.

Lecture: 4 hours

Prerequisite: ACCT 106 Lab fee: \$1.00

## **ACCT 126 Accounting Systems (A, W, SP, SU, DL) 4 credits**

ACCT 126 studies current practices and computer technologies used to design, utilize, and manage accounting information systems. Transaction process cycles, general ledgers, and subsidiary ledgers are analyzed. Internal controls, information security, and fraud detection are also examined. Students will prepare flowcharts and practice on accounting system software.

Lecture: 4 hours

Prerequisite: ACCT 106 and ACCT 107 Lab fee: \$5.00

## **ACCT 131 Cost Estimating (On Demand) 4 credits**

This course is a study of how to identify and estimate the various project cost elements such as labor, materials, and overhead. The cost behavior of variable, fixed, and mixed costs will be analyzed. Job order costing will also be covered.

Lecture: 4 hours

Lab fee: \$1.00

## **ACCT 211 Cost Accounting (SP, DL) 4 credits**

ACCT 211 offers a study of the field of job order cost accounting; the cost cycle methods of handling materials, labor costs, and manufacturing overhead expenditures (controllable and uncontrollable); process cost accounting; byproducts and joint product costing; fundamental cost-volume-profit relationships (break-even analysis); static and flexible budgeting;

activity-based costing and management.

Lecture: 4 hours

Prerequisite: ACCT 107 Lab fee: \$2.00

## **ACCT 231 State and Local Taxation (SP, SU, DL) 4 credits**

ACCT 231 covers payroll taxes (withholding and reports), unemployment taxes, Worker's Compensation, franchise taxes, personal property taxes, municipal income taxes, Ohio personal taxes, sales and use taxes, real estate taxes, and vehicle and other taxes.

Lecture: 4 hours

Prerequisite: ACCT 106 Lab fee: \$5.00

## **ACCT 232 Federal Taxation I (A, SP, DL) 4 credits**

ACCT 232 covers individual income taxes, returns, income exemptions, deductions, gains and losses, rates, adjustments, and credits. Also explores problems of proprietorship, partnerships, corporations, inventories, depreciation accounting, installment and deferred sales treatment. Filing requirements, payments, refunds, claims, and tax planning techniques are discussed.

Lecture: 4 hours

Prerequisite: ACCT 106 Lab fee: \$5.00

## **ACCT 236 Federal Taxation II (W, DL) 4 credits**

A continuation of ACCT 232, this course deals with nonliquidating distributions, earning and profits, and complete liquidations and corporate reorganization. Sub-chapter S corporations and partnerships are also covered, including reporting income, distributions, and liquidations. Estate and gift taxation are introduced.

Lecture: 4 hours

Prerequisite: ACCT 232 Lab fee: \$5.00

## **ACCT 239 Advanced Taxation (A, DL) 4 credits**

A continuation of ACCT 236, this course covers fiduciaries, trusts, estates, gifts, tax exempt entities, foreign tax and special situations.

Lecture: 4 hours

Prerequisite: ACCT 236 Lab fee: \$5.00

## **ACCT 240 Tax Practice (A, DL) 4 credits**

An advanced tax course covering the administrative aspects of practice before the IRS including rules, penalties, procedures, and ethics for client representation as a CPA, EA, or general tax preparer.

Lecture: 4 hours

Prerequisite: ACCT 236 Lab fee: \$5.00

## **ACCT 241 Auditing I: Principles (W, DL) 3 credits**

This is a course concerned with the identification of professional qualifications and responsibilities of an auditor and the study of auditing concepts utilized in the investigation and appraisal of economic information. Topics of study will include the role of the auditor in society, professional ethics, auditing standards, professional liability, audit objectives, relationship of risk and materiality to audit strategies, planning and accepting an engagement, an auditor's concern with internal control and evidence gathering and analysis techniques for all audit cycles: revenue, expenditure, personnel services, productive, investing, and financing and cash.

Lecture: 3 hours

Prerequisite: ACCT 250 Lab fee: \$2.00

## **ACCT 242 Auditing II: Applications (SP, DL) 3 credits**

ACCT 242 is concerned with the practical application of professional qualifications and responsibilities of an auditor utilized in the investigation and appraisal of economic information. Evidence gathering and analysis techniques will be applied in a simulated audit case. Topics of study include audit sampling and auditor liability as well as the audit report and other special reports.

Lecture: 3 hours

Prerequisite: ACCT 241 Lab fee: \$2.00

**ACCT 243 Professional Standards and Ethics for Accountants (On Demand) 1 credit**

This course will provide the student with an understanding of the American Institute of Certified Public Accountants' Code of Professional Conduct and Rules of Conduct. Students will study real-world situations and follow the required rules to make ethical decisions.

Lecture: 1 hour Lab fee: \$1.00

**ACCT 250 Intermediate Accounting I (A, W, SP, SU, DL) 4 credits**

This course presents a continuation of accounting theory. Topics explored include an in-depth study of the accounting process and accounting records; the nature and content of accounting statements: balance sheet, income statement, and retained earnings statement; analysis of working capital; analysis and methods of valuation and statement presentation of the following items: cash and receivables, and inventories.

Lecture: 4 hours

Prerequisite: ACCT 108 with a "C" or better and placement into, or completion of, MATH 103 Lab fee: \$1.00

**ACCT 252 Intermediate Accounting II (A, SU, DL) 4 credits**

This course offers a continuation of ACCT 250 including analysis and methods of valuation and statement presentation of the following items: current liabilities, and contingent items, intangible assets, deferred charges and long-term liabilities, investments, stockholders equity, and earnings per share.

Lecture: 4 hours

Prerequisite: ACCT 250 Lab fee: \$1.00

**ACCT 253 Intermediate Accounting III (A, W, DL) 4 credits**

ACCT 253 is a continuation of ACCT 252 with a study of accounting for taxes, leases, pensions, cash flow statements, error analysis, and full disclosure in financial reporting.

Lecture: 4 hours

Prerequisite: ACCT 252 Lab Fee: \$1.00

**ACCT 258 Advanced Accounting (SP, DL) 4 credits**

ACCT 258 is the study of financial accounting theory and practice relating to accounting for business combinations, consolidated financial statements, partnerships, segment and interim reports, and foreign operations.

Lecture: 4 hours

Prerequisite: ACCT 253 Lab fee: \$1.00

**ACCT 266 Public Admin./Fund Accounting (SP, SU, DL) 4 credits**

ACCT 266 deals with the principles and applications of fund accounting as it relates to state and local governments. It includes budgeting, accounting, reporting, and auditing for federal government, colleges, universities and hospitals.

Lecture: 4 hours

Prerequisite: ACCT 250 Lab fee: \$1.00

**ACCT 269 Foundations of Accounting (DL) 5 credits**

ACCT 269 is a survey course concerned with the foundations of both financial and managerial accounting. This course covers the accounting for assets, liabilities, and owner's equity, financial statements and analysis, and managerial accounting. This course is not open to students with credit for ACCT 106 or ACCT 107. ACCT 269 is intended to meet the requirements of pre-MBA students.

Lecture: 5 hours

Prerequisite: None Lab fee: \$1.00

**ACCT 271 Accounting Practicum (A, W, SP, SU) 3 credits**

ACCT 271 offers a structured employment situation in which the student is introduced into an actual accounting office. The student is expected to perform many of the accounting procedures studied in conjunction with their other classes (i.e., bank reconciliations, payroll, journal entries, etc.) and to gain relevant experience and a limited work record. Weekly supervision of the intern is used to solve any job-related problems and to attempt to develop a sense of responsibility and a professional attitude

within the student/intern. The job must be at least 21 hours a week in accounting work.

Practicum: 21 hours

Prerequisite: ACCT 250 Corequisite: ACCT 272

**ACCT 272 Accounting Seminar (A, W, SP, SU) 2 credits**

ACCT 272 offers a practical work experience in which the student is expected to perform several operational auditing procedures (i.e., flow-charts, organization charts, analysis of existing internal control, recommendations, etc.) related to an accounting internship position. Emphasis is placed upon analyzing and further understanding the student's working environment.

Lecture: 2 hours

Prerequisite: ACCT 250 Corequisite: ACCT 271

**ACCT 275 Fraud Examination I (On Demand) 2 credits**

This course is designed as:

- An elective course for the accounting major.
- A useful course for business executives interested in acquiring additional information about fraud detection, investigation and prevention.
- An interesting course for individuals in need of related continuing education credit. (Please verify that this course qualifies for continuing education credit with your certifying organization.)

Lecture: 2 hours Lab fee: \$1.00

**ACCT 276 Fraud Examination II (On Demand) 2 credits**

This course is designed as:

- An elective course for the accounting major.
- A useful course for business executives interested in acquiring additional information about fraud detection, investigation and prevention.
- An interesting course for individuals in need of related continuing education credit. (Please verify that this course qualifies for continuing education credit with your certifying organization.)

Lecture: 2 hours

Prerequisite: ACCT 275 Lab fee: \$1.00

**ACCT 277 Fraud and Legal Environment (On Demand) 4 credits**

This course provides an overview of the legal system as it relates to fraud and fraud examination. The topics covered include basic business law, civil court system, criminal law, and the criminal court system. Other topics covered are law enforcement agencies, burden of proof, subpoenas, search warrants, charges, arrests, working papers, reports, testimony, and the legal rights of suspects.

Lecture: 4 hours

Lab fee: \$1.00

**ACCT 278 Fraud and Investigative Procedures (On Demand) 4 credits**

This course provides background information about fraud rationale from a social and behavioral science perspective. It also covers appropriate investigative procedures such as interviews of witnesses and suspects, and interrogations.

Lecture: 4 hours

Lab fee: \$1.00

**ACCT 281 Sarbanes-Oxley Act I (On Demand) 2 credits**

This course is designed as:

- An elective course for the accounting major.
- A useful course for business executives interested in acquiring additional information about the Sarbanes Oxley Act.
- An interesting course for individuals in need of related continuing education credit. (Please verify that this course qualifies for continuing education credit with your certifying organization.)

Lecture: 2 hours

Lab fee: \$1.00

**ACCT 282 Sarbanes-Oxley Act II (On Demand) 2 credits**

This course is designed as:

- An elective course for the accounting major.
- A valuable course for business executives interested in acquiring additional information about the Sarbanes Oxley Act.
- An interesting course for individuals in need of related continuing education credit. (Please verify that this course qualifies for continuing education credit with your certifying organization.)

Lecture: 2 hours

Prerequisite: ACCT 281 Lab fee: \$1.00

**ACCT 285 CPA Exam Preparation: Auditing and Attestation (On Demand) 3 credits**

This course covers the accounting implications of business planning, measurement, information technology, legal entities, and economic concepts using the MDS method. Course presumes that student has background knowledge in this area such as would have been obtained through previous coursework in Economics, Auditing, Information Systems, and the like.

Lecture: 3 hours

Lab fee: \$350.00 (The lab fee includes all course materials and is nonrefundable after their distribution).

Prerequisite: Students should have completed or be in their last quarter of their required courses to qualify to sit for the Certified Public Accountant Exam (CPA).

**ACCT 286 CPA Exam Preparation: Business Environment (On Demand) 3 credits**

This course covers the accounting implications of business planning measurement, information technology, legal entities, and economic concepts using the MDS method. Course presumes that student has background knowledge in this area such as would have been obtained through previous coursework in economics, cost accounting, information systems, and the like.

Lecture: 3 hours

Lab fee: \$350.00 (The lab fee includes all course materials and is nonrefundable after their distribution).

Prerequisite: Students should have completed or be in their last quarter of their required courses to qualify to sit for the Certified Public Accountant Exam (CPA).

**ACCT 287 CPA Exam Preparation: Financial Accounting and Reporting (On Demand) 3 credits**

This course covers the accounting principles generally accepted in the United States (GAAP) that affect business organizations, not-for-profit organizations, and governmental entities using the MDS method. This course presumes that the student has background knowledge in this area as would have been obtained through previous coursework such as intermediate accounting.

Lecture: 3 hours

Lab fee: \$350.00 (The lab fee includes all course materials and is nonrefundable after their distribution).

Prerequisite: Students should have completed or be in their last quarter of their required courses to qualify to sit for the Certified Public Accountant Exam (CPA).

**ACCT 288 CPA Exam Preparation: Regulation (On Demand) 4 credits**

This course covers the federal taxation, ethics, professional responsibilities, legal responsibilities, and business law using the MDS method. This course presumes that the student has background knowledge in this area such as would have been obtained through previous coursework in the areas of Federal Tax, Business Law, and Ethics.

Lecture: 4 hours

Lab fee: \$450.00 (The lab fee includes all course materials and is nonrefundable after their distribution).

Prerequisite: Students should have completed or be in their last quarter of their required courses to qualify to sit for the Certified Public Accountant Exam (CPA).

**ACCT 291 Internal Audit I (On Demand) 2 credits**

This course is designed as:

- An elective course for the accounting major.
- An interesting course for individuals in need of related continuing education credit. (Please verify that this course qualifies for continuing education credit with your certifying organization.)

Lecture: 2 hours

Lab fee: \$1.00

**ACCT 292 Internal Audit II (On Demand) 2 credits**

This course is designed as:

- An elective course for the accounting major.
- An interesting course for individuals in need of related continuing education credit. (Please verify that this course qualifies for continuing education credit with your certifying organization.)

Lecture: 2 hours

Prerequisite: ACCT 291 Lab fee: \$1.00

**ACCT 293 Operational Auditing (On Demand) 2 credits**

This course is designed as:

- An elective course for the accounting major.
- A useful course for business executives interested in acquiring additional information about fraud detection, investigation, and prevention.
- An interesting course for individuals in need of related continuing education credit. (Please verify that this course qualifies for continuing education credit with your certifying organization.)

Lecture: 2 hours

Lab fee: \$1.00

**ACCT 294 Internal Audit: Special Topics (On Demand) 2 credits**

This course is designed as:

- An elective course for the accounting major.
- An interesting course for individuals in need of related continuing education credit. (Please verify that this course qualifies for continuing education credit with your certifying organization.)

Lecture: 2 hours

Lab fee: \$1.00

**ACCT 295 – 299 Studies in Contemporary Accounting (On Demand) 1–5 credits**

These are specially designed courses offering to meet the needs of the constantly changing accounting community and student population.

Prerequisite: Permission of Instructor

## Anthropology (ANTH)

**ANTH 200 Introduction to Physical Anthropology (A, W, SP, SU, DL) 5 credits**

This course introduces students to the basic concepts of biological anthropology. It discusses anthropology's relationship with other biological and social sciences, surveys nonhuman primates, examines some aspects and examples of nonhuman behavior in depth, covers topics in current human diversity, and looks at human evolutionary history. A distance learning (DL) version of Introduction to Physical Anthropology is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

**ANTH 201 World Prehistory (A, W, SP, SU, DL) 5 credits**

This course is an overview of world prehistory. Since the majority of human existence occurred long before written records and historical documents were available, this course introduces students to the fundamentals of prehistoric archaeology. The course surveys human origins,



investigates the emergence of domestication and agriculture, and explores the rise of settlements and civilization. A global perspective is taken in the study of the prehistoric human past. A distance learning (DL) version of World Prehistory is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **ANTH 202 Intro to Cultural Anthropology (A, W, SP, SU) 5 credits**

Cultural anthropology focuses on understanding human cultural diversity, using research techniques such as participant observation to explore the lifeways of groups. Topics include cross-cultural treatments of social systems such as politics, economics, family and marriage, and kinship. General theories of cultural interpretation and change are discussed in a broad geographical context. Students apply concepts and complete a “mini-project” using anthropological research techniques.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **ANTH 240 Intro to Forensic Anthropology (A, W, SP) 5 credits**

This course introduces students to the field of forensic anthropology. Forensic sciences use methods and applications from anthropology in the investigation and detection of crime, the processing of mass disasters, the recovery of war dead and missing persons, and in international human rights investigations. The course covers the development of forensic anthropology, examines the theoretical and methodological bases of forensic anthropology, and considers present applications as well as future directions in this relatively new subfield of anthropology.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ANTH 200 or BIO 261 or LAWE 111 Lab fee: \$4.00

### **ANTH 293 Independent Study in Anthropology (On Demand)**

**1–5 credits**

ANTH 293 is an individual, student-structured course that examines a selected topic in anthropology through intensive reading or research. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisite: Permission of the Instructor and the Chairperson and one course in Anthropology Lab fee: \$3.00

### **ANTH 299 Special Topics in Anthropology (On Demand)**

**1–5 credits**

ANTH 299 allows students to examine selected topics of interest in anthropology in detail.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisite: Varies Lab fee: \$4.00

## **Appraisal (APPR)**

### **APPR 101 Principles of Appraisal (A, W, SP, SU) 3 credits**

This is the introductory course to appraisal, establishing a firm foundation for principles, concepts, and procedures for implementation of the valuation process. Coverage includes attributes and necessary skills for the professional appraisal, identification of centers for employment opportunities or establishing individual, independent appraisal practices, the nature of value, basic appraisal principles, federal reserve system, money and capital markets, real estate markets, valuation process, data collection and analysis, neighborhood description, site and improvement description, requirements for Ohio appraiser licensing or certification, and professional appraisal designations.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$2.00

### **APPR 102 Procedures of Appraisal (A, W, SP, SU) 3 credits**

This course covers the entire spectrum of the valuation process, centering on detailed implementation of the three approaches to valuation and correlating to a final conclusion of value. Coverage includes review of valuation process, appraisal mathematics and use of financial calculator, methods of site valuation, cost approach, sales comparison approach, income approach, reconciliation, and final conclusion of value.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: APPR 101 Lab fee: \$2.00

### **APPR 115 Report Writing with Case Studies (A) 2 credits**

This course covers techniques in writing both form and narrative appraisal reports. Course covers the logic progression appraisal format as well as writing techniques. Students will be expected to write narrative style descriptions, while applying USPAP to report writing and formatting techniques. Students will exam case studies and analyze for errors and logic consistencies.

Lecture: 1 hour – Lab: 0 hours

Prerequisites: APPR 101 and APPR 102 Lab fee: \$2.00

### **APPR 211 Litigation Support and Expert Testimony (SP) 3 credits**

This course demonstrates the numerous opportunities available for the appraiser to offer appraisal services in litigation matters involving real estate taxes, contamination, condemnation, fraud, divorces, construction defects, etc. Coverage includes litigation opportunities, role of the appraiser, role of the attorney, compliance with USPAP, pretrial conference, witness demeanor and effective communication, direct examination, cross examination, and depositions.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: APPR 101 Lab fee: \$2.00

### **APPR 235 Residential Market Analysis/Highest and Best Use (SU)**

**2 credits**

Course provides a look at the relationship between market analysis and highest and best use. Students will examine the market by reviewing census data, government reports, demographics, rent studies and other real estate studies to learn how to measure demand. Students will also explore the four tests for highest and best use and the proper support for each conclusion.

Lecture: 2 hours – Lab 0 hours

Prerequisite: APPR 101 and APPR 102 Lab Fee: \$3.00

### **APPR 240 Residential Site Valuation and Cost Approach (A)**

**2 credits**

Course will focus on the valuation of vacant land parcels and the development of the cost approach. The valuation of land is explored by looking at all of the different techniques used in the market. This course will explore the methods used to establish replacement cost and reproduction costs of structures as well as a discussion of depreciation and the methods used to measure depreciation in the marketplace.

Lecture: 2 hours – Lab: 0 hours

Prerequisites: APPR 101 and APPR 102 Lab Fee: \$3.00

### **APPR 250 Residential Sales Comparison and Income Approaches (W) 3 credits**

Course provides the student with the techniques necessary for completing the sales comparison and income capitalization approaches of the valuation process. The course explores paired sales analysis as a tool to support adjustments and the selection of appropriate capitalization rates for use in the income approach.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: APPR 101 and APPR 102 Lab Fee: \$3.00

### **APPR 260 Advanced Residential Applications (SP) 2 credits**

This course will apply advanced residential methodologies involving a complex residential case study appraisal assignment. This case study will inter-relate site valuation, the cost approach, the sales comparison approach and the income approach to value. Students will correlate to a final conclu-

sion of value of their own choosing and learn to support that conclusion.

Lecture: 2 hours – Lab: 0 hours

Prerequisites: APPR 101 and APPR 102 Lab Fee: \$3.00

### **APPR 284 USPAP and Fair Housing 2 credits**

Course users will learn to apply the standards of the industry to the instruments of appraisal process. This course covers the requirements for ethical and competent appraiser performance as set out in materials developed and issued by the Appraisal Foundation. Coverage includes history of the Appraisal Foundation, functions of Appraisal Standards Board and the Appraisal Qualifications Board, rules of USPAP, and standards of USPAP. This course will also cover the Federal, State and Municipal Fair Housing requirements for appraisers.

Lecture: 2 hours

Prerequisites: None Lab fee: \$2.00

### **APPR 296 Appraisal Practicum/Seminar (A, W, SP, SU) 2 credits**

This course will introduce students to the appraisal work environment, appraisal skills, real property research, and application of previously learned theories. The course will provide a foundation of the appraisal process and an opportunity for students to apply classroom skills in an appraisal environment.

Seminar: 1 Hour – Practicum: 7 Hours

Prerequisites: By instructor permission only. Lab Fee - None

### **Home Inspection Course (A, SP) Noncredit**

This 45-hour, noncredit course includes everything needed to become a self-employed home inspector in Ohio. Students use their accumulated skills, experience and knowledge to reinvent themselves as home inspectors. Learn what it takes to start a home inspection business by networking with other students, performing actual home inspections, and submitting inspection reports.

## **Arabic (ARAB)**

### **ARAB 101 Elementary Arabic I (On Demand) 5 credits**

ARAB 101 presents an introduction to the fundamentals of the Arabic language with practice in listening, reading, speaking and writing. Course includes studies in Arabic culture. ARAB 101 meets elective requirements in the Associate of Arts degree program and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$6.00

### **ARAB 102 Elementary Arabic II (On Demand) 5 credits**

ARAB 102 is a continuation of ARAB 101 with further development of listening, reading, speaking and writing skills and further study of Arabic culture. ARAB 102 meets elective requirements in the Associate of Arts degree program and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ARAB 101 with a grade of “C” or better Lab fee: \$6.00

## **Architecture (ARCH)**

### **ARCH 100 Introduction to the History of Architecture (A, W, SP) 5 credits**

This course studies the fundamental elements of architecture, its development, and its meaning to various cultures throughout western history. Architecture is viewed from the perspectives of form, function, interior and exterior space, technological development, and landscape. ARCH 100 meets elective requirements in the Associate of Arts and Associate

of Science degree programs.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 101 Lab fee: \$9.00

### **ARCH 110 Construction Drafting: Manual I (A, W, SP, SU) 2 credits**

This course presents basic concepts and fundamentals of drafting especially for the building construction industry and covers the use of drawing instruments, lettering practices, basic line work, dimension procedures and an introduction to orthographic projection.

Lecture: 1 hour – Lab: 3 hours Lab fee: \$15.00

### **ARCH 111 Architectural Drafting: Manual II (A, W, SP) 4 credits**

This course is intended to develop the skills of drafting especially for building construction and covers the use of lettering practices, line quality and weights, dimension procedures, orthographic projection, and the drawing of plans, sections and elevations.

Lecture: 2 hours – Lab: 6 hours

Prerequisite: ARCH 110 Lab fee: \$15.00

### **ARCH 112 Construction Drafting: CAD I (A, W, SP, SU) 2 credits**

This course is an introduction to the basic features of AutoCAD. Emphasis is placed on the basic display, drawing, editing, dimensioning, and text commands required for the elementary use of AutoCAD. Lectures, in-class demonstrations, and hands on work sessions are employed as teaching tools during the course. The course uses the current release of AutoCAD.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: ARCH 110 or permission of instructor Lab fee: \$15.00

### **ARCH 113 Architectural Drafting: CAD II (A, W, SP, SU) 2 credits**

This course introduces students to the intermediate features of AutoCAD and builds upon the basics learned in ARCH 112. Emphasis is placed on advanced dimensioning features, hatching, attributes, external references and paper/model space. Several small projects will be created utilizing these features. Lectures, in-class demonstrations, and hands-on work sessions are employed as teaching tools during the course. The course uses current release of AutoCAD.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: ARCH 112 Lab fee: \$15.00

### **ARCH 114 Architectural Drafting: CAD III (A, W, SP, SU) 2 credits**

This course introduces students to the advanced features of AutoCAD and builds upon ARCH 113. Emphasis is placed the use of additional two-dimensional drafting commands. The student will learn the tools necessary to create a set of working drawings for a residential project. Lectures, in-class demonstrations, and hands-on work sessions are employed as teaching tools during the course. The course uses current release of AutoCAD.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: ARCH 113 Lab fee: \$15.00

### **ARCH 115 MicroStation CAD Drafting I (W) 3 credits**

This course is to provide training in the use of basic display, drawing, manipulation, dimensioning, text, cell, reference files and plotting commands required to the elementary use of Bentley MicroStation. After mastering system basics, students will be given individual projects.

Lecture: 1 hour – Lab: 5 hours

Prerequisite: ARCH 110 or permission of instructor Lab fee: \$15.00

### **ARCH 155 Residential Construction/Wood Structures (A, SP) 3 credits**

This course outlines the various phases of residential construction for site analysis to finish material installations, including conventional wood framing, floor and roof truss framing, heavy timber/post and beam construction, and various plywood panel construction techniques. Additional topics discussed include the design and use of floor joist span charts, simple beam and footing design, as well as roof and foundation design. This course concludes with the choice of building a structural/framing model or preparing a PowerPoint presentation of a residential construction task.

Lecture: 1 hour – Lab: 5 hours  
Prerequisite: CIVL 120 Lab fee: \$12.00

**ARCH 161 Presentation Drawings (A, SP) 3 credits**

ARCH 161 is a manual drafting course that is designed to serve as a basis for presentation drawings by hand or using the computer. Problems are designed to strengthen the student's understanding of 3D drawing principles, and to use those principles in order to solve drawing and design issues.

Lecture: 1 hour – Lab: 6 hours  
Prerequisite: ARCH 111 Lab fee: \$15.00

**ARCH 214 Electricity (W, SU) 2 credits**

This course studies the electrical code, electrical systems, standards, conventional symbols, nomenclature, layouts and fixture and equipment schedules. Coordination of electrical work with the elements of the building is emphasized.

Lecture: 1 hour – Lab: 2 hours  
Prerequisite: CMGT 121 Lab fee: \$6.00

**ARCH 215 Lighting (W, SU) 2 credits**

This course deals with the fundamentals of lighting within buildings. The appropriate quantity of lighting is calculated and the appropriate selection and placement of lighting within a space is studied.

Lecture: 1 hour – Lab: 3 hours  
Prerequisite: CMGT121 Lab fee: \$6.00

**ARCH 221 Design Studio I (W) 3 credits**

This course is built around the design process and design logic and will also include an emphasis on working either alone or as part of a team. The design theme may include emphasis on sustainable architecture as the primary design goal. When sustainable architecture is the framework of the course, lectures and research assignments will include lessons on solar energy, conservation practices, building materials, and other aspects of sustainability.

Lecture: 2 hours – Lab: 6 hours  
Prerequisite: ARCH 111 and ARCH 114 or permission of instructor  
Lab fee: \$20.00

**ARCH 223 Design Studio II (SP) 3 credits**

This course is built on the foundations laid by ARCH 221 and includes discussions of design principles. Students will develop a work on various design projects including a small and complex architectural project.

Lecture: 1 hour – Lab: 6 hours  
Prerequisite: ARCH 221 or permission of instructor Lab fee: \$20.00

**ARCH 232 Building Construction Standards (A, SP) 3 credits**

This course focuses primarily on building and zoning codes. Emphasis is placed on the OBBC (Ohio Basic Building Code) and the Columbus, Ohio zoning code. Other areas of study include the influence of professional associations, manufacturers, and testing laboratories in design and construction documents; CSI specifications, their organization, content and relationship to other contract documents; and professional practice in architecture.

Lecture: 1 hour – Lab: 5 hours  
Prerequisite: CMGT 121 Lab fee: \$12.00

**ARCH 237 Structures: Steel, Concrete and Masonry (W, SU) 4 credits**

This course presents basic conceptual and practical structural design concepts. Steel, concrete and masonry structures are studied and evaluated mathematically. The student will learn how to evaluate and design beams and columns in both steel and concrete. Other topics include bearing plate/base plate design, bolted and welded connections, concrete and masonry wall design. Drafting projects require the use of CAD and will focus on structural elements.

Lecture: 2 hours – Lab: 6 hours  
Prerequisite: MATH 148, ARCH 114 and MECH 242 Lab fee: \$12.00

**ARCH 240 3D Modeling and Rendering: AutoCAD (On Demand) 3 credits**

Course is an introduction to presentation drawing techniques using computer applications. The course will focus on three-dimensional modeling, rendering and other applications useful to the profession.

Lecture: 1 hour – Lab: 5 hours  
Prerequisite: ARCH 113 and ARCH 161 Lab fee: \$12.00

**ARCH 242 3D Visualization: form•Z I (A) 4 credits**

This course is an introduction to three-dimensional computer modeling using form•Z. Basic modeling functions, lighting, material applications and rendering will be studied. This course focuses on techniques and methods applicable to architects, interior designers and other building related professions.

Lecture: 1 hour – Lab: 7 hours  
Prerequisite: Associate degree or higher or 50 completed hours within Architecture program, or permission of instructor Lab fee: \$15.00

**ARCH 243 3D Visualization: form•Z II (W) 4 credits**

This course builds upon the fundamentals learned in ARCH 242 and focuses on more advanced techniques. Emphasis is placed on advanced modeling techniques, the mapping of realistic finishes, and the replication of real-world interior and exterior lighting conditions. The fundamentals of architectural animation are also studied.

Lecture: 1 hour – Lab: 7 hours  
Prerequisite: ARCH 242 Lab fee: \$15.00

**ARCH 246 3D Visualization: 3ds Max I (SP) 4 credits**

This course is an introduction to three-dimensional computer modeling using 3ds Max. Basic modeling functions, lighting, material applications and rendering will be studied. This course focuses on techniques and methods applicable to architects, interior designers and other building related professions.

Lecture: 1 hour – Lab: 7 hours  
Prerequisite: Associate degree or higher or 50 completed hours within Architecture program, or permission of instructor Lab fee: \$15.00

**ARCH 247 3D Visualization: 3ds Max II (SU) 4 credits**

This course builds upon the fundamentals learned in ARCH 246 and will focus on more advanced techniques. Emphasis is placed on advanced modeling techniques, the mapping of realistic finishes, and the replication of real-world interior and exterior lighting conditions. The fundamentals of architectural animation are also studied.

Lecture: 1 hour – Lab: 7 hours  
Prerequisite: ARCH 246 Lab fee: \$15.00

**ARCH 250 Building Enclosure Materials (A, SP) 3 credits**

This course is designed to expand on the knowledge gained in CIVL 120, with the study of how such materials and others are combined to form the building shell. The course focuses on the separation between exterior and interior environments. Topics covered include roofing, glass, windows and doors, walls, foundations, and interior finishes, vertical transportation and acoustics.

Lecture: 2 hours – Lab: 3 hours  
Prerequisite: CIVL 120 Lab fee: \$12.00

**ARCH 252 Post Production (On Demand) 3 credits**

This course presents the fundamentals of post-editing computer renderings. Emphasis is placed upon adding people and trees, correcting the lighting levels and applying different filter effects.

Lecture: 2 hours – Lab: 2 hours  
Prerequisite: ARCH 242 or ARCH 246 Lab fee: 15.00

**ARCH 266 Working Drawings (W, SU) 5 credits**

This course both introduces the student to the practice of working drawings and integrates knowledge based on all prior architectural courses. Part of the course focuses on individual tasks, such as the generation of details, schedules, and plans, while another part of the course will focus

on work generated in a group setting, simulating a team effort common to a modern architectural office.

Lecture: 2 hour – Lab: 6 hours

Prerequisite: ARCH 114, ARCH 232 and ARCH 250 Lab fee: \$20.00

### **ARCH 270 Professional Practice and Management (A, SP) 3 credits**

Students learn about planning projects, defining project scope and translating physical needs into building area, developing alternative solutions, preparing schedules and estimates, coordinating work efforts, and other practical factors. The student must consider physical constraints, code implications, costs, bidding, construction sequencing and practices, design goals, and working with consultants.

Lecture: 1 hour – Lab: 5 hours

Prerequisite: ARCH 250 or permission of instructor Lab fee: \$10.00

### **ARCH 274 Revit Architecture (On Demand) 3 credits**

Revit Architecture focuses on the first fully parametric architectural design software, which allows buildings to be designed and drawn “virtually”, instead of being developed with conventional 2D drawings. Users examine their designs from any direction in order to better visualize them. Once created, the Building Information Model (BIM) can be tested, analyzed, and quantified. Basic concepts of REVIT Architecture will be explored in this course to design, change, and document a building using this revolutionary new parametric building modeler software.

Lecture: 1 hour – Lab: 5 hours

Prerequisite: ARCH 111 and ARCH 112 or permission of instructor

Lab fee: \$15.00

### **ARCH 276 SketchUp (A, SP) 2 credits**

To introduce the student to SketchUp V.5, a software package developed for the conceptual stages of design. SketchUp V.5 is a deceptively simple, amazingly powerful tool for creating, viewing, and modifying 3D ideas quickly and easily. SketchUp was developed to combine the elegance and spontaneity of pencil sketching and the flexibility of today’s digital media.

Lecture: 1 hour – Lab: 2 hours Lab fee: \$10.00

### **ARCH 282 Sustainable Design Strategies (SP) 3 credits**

ARCH 282 will introduce the student to the issues and concepts related to sustainable design. The impact of the building’s site, energy efficiency, the use of renewable forms of energy, including solar energy, will be studied as it relates to building design. Projects will be assigned on a regular basis and will be adaptable to the varied backgrounds of students.

Lecture: 3 hours

Prerequisite: ENVR 282 or permission of instructor Lab Fee: \$10.00

### **ARCH 283 Sustainable Energy Performance (SU) 3 credits**

Students become familiar with the concept of thermal transfer, the energy characteristics of various building energy systems and components, and learn how to compare the projected performance characteristics of one building model against another. The object is to learn an approach that enables well-informed decisions to be made that will affect sustainability.

Lecture: 3 hours

Prerequisite: ENVR 282 or permission of instructor Lab fee: \$10.00

### **ARCH 291 Field Experience (SU) 3 credits**

Off-campus work experience in architecture, consulting engineering, or construction-related paid employment that augments formal education received in the technology, with actual work conditions and job experience. “N” credit will not be allowed for this course.

Lecture: 0 hours – Lab: 36 hours Lab fee: \$0.00

### **ARCH 299 Special Topics in Architecture (On Demand) 1-5 credits**

ARCH 299 provides an opportunity for detailed examination of selected topics in Architecture.

Lecture and Lab hours: Vary depending upon topic

Prerequisite: Varies based upon topic Lab fee: \$10.00

## **Art (ART)**

### **ART 101 History of Western Art (A, W, SP, SU) 5 credits**

A survey of artistic expression in the Western World from the earliest times to the present, including the types of media used and their limitations, the role of patronage in artistic development, the relationship of art and the artist to developments in society, and a consideration of the attributes of “great” art in any time or age. ART 101 meets elective requirements in the Associate of Arts degree program and distributive transfer requirements in Humanities and the Arts.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$2.00

### **ART 121 Beginning Drawing (A, W, SP, SU) 5 credits**

ART 121 is an introduction to the basic techniques of freehand drawing. Emphasis is on media, concepts, drawing from observation and development of technique. Course meets elective requirements in the Associate of Arts degree program and distributive transfer requirements in the Arts.

Lecture: 0 hours – Lab: 10 hours Lab fee: \$2.00

### **ART 122 Two-Dimensional Design (A, W, SP, SU) 5 credits**

ART 122 is an introduction to the basic concepts of two-dimensional design: line, shape, space, hue, value and texture. Course covers the use of various media in a variety of problem-solving projects leading toward an awareness of the principles of visual organization.

Lecture: 0 hours – Lab: 10 hours Lab fee: \$2.00

### **ART 123 Beginning Painting (On Demand) 5 credits**

ART 123 introduces studio painting fundamentals utilizing varied subject matter and media.

Lecture: 0 hours – Lab: 10 hours Lab fee: \$2.00

### **ART 131 Three-Dimensional Design (On Demand) 5 credits**

ART 131 is aimed at developing the student’s basic understanding of three-dimensional visual communication through the exploration of three-dimensional principles. Students learn through the process of solving visual art problems. Solutions to these problems are achieved through the fabrication of three-dimensional art objects. Various techniques and media that are common to this area of study are systematically addressed.

Lecture: 0 hours – Lab: 10 hours

Prerequisite: ART 122 or permission of instructor Lab fee: \$2.00

### **ART 221 Life Drawing 5 credits**

The Life Drawing course emphasizes figure drawing with a foundation in anatomical study. The student will concentrate on proportion and design to further their understanding of the human figure as a complicated three-dimensional form and its metaphoric or literal interpretation through various drawing media. In addition, students will be able to develop a more advanced and informed interpretation of life drawing within historic and cultural contexts.

Lecture: 1 hour – Studio 8 hours

Prerequisite: ART 121 Lab fee: \$20.00

### **ART 230 Color Composition (A, SP) 5 credits**

This course examines the theory and artistic application of basic color principles through student projects and lecture. Topics such as color mixing, interaction and organization are presented.

Lecture: 0 hours – Lab: 10 hours

Prerequisite: ART 122 or permission of instructor Lab fee: \$2.00

### **ART 242 World Cinema (A) 5 credits**

ART 242 is a course exploring the history of world cinema through analysis of the content and structure of selected major historic examples in the genre, from the beginnings of film in the late 19th century to the present. Special attention will be given to the work of important filmmakers from around the world and to the social and philosophical context in which they worked.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$2.00

## HUM 245 Art and Music Since 1945 (see HUM 245)

### ART 299 Special Topics in Art (On Demand) 1–5 credits

Student pursues a detailed examination of selected topics of art.

Lecture: Varies – Lab: Varies

Prerequisite: Permission of Instructor Lab fee: \$2.00

## Arts and Sciences (ASC)

### ASC 150 Individual Learning and Motivation: Strategies for Success in College (A, W, SP, SU) 3 credits

This course examines theory and practice about learning strategies, motivation and thinking, focusing on the application of four major learning strategies to success in college. Course is taught in a computer environment to engage students in active learning. This course has been proven to increase grade point averages and retention rate of college students. Open to all students. ASC 150 may be used as a substitute for ASC 190 for AA/AS students.

Lecture: 1 hour – Computer Lab: 4 hours

Prerequisite: Admission to ENGL 101 Lab fee: \$4.00

### ASC 190 Freshman Seminar (A, W, SP, SU) 2 credits

The Freshman Seminar is designed to familiarize first time Arts and Science students at Columbus State with the academic environment. Students will use various support systems, set personal academic goals and map their course of study at Columbus State to meet these goals. The course is designed to enhance critical reading and thinking skills through selected reading of primary materials. ASC 190 is optional for students having completed ESL 100; ASC 190 is required for all Associate of Arts and Associate of Science degree-seeking students. Students are advised to take this course in conjunction with ENGL 101 or ENGL 111.

Lecture: 2 hours – Lab: 2 hours

Prerequisites: AS or AA major, ENGL 100

### ASC 299 Special Topics in Arts and Sciences (On Demand) 1–5 credits

This course explores special topics in Arts and Sciences and is designed to meet specific needs.

Lecture hours: Vary – Lab hours: Vary

Prerequisites: Vary

## Astronomy (ASTR)

### ASTR 161 The Solar System (A, W, SP, SU) 5 credits

This course offers an introduction to astronomy focusing on the solar system. Topics include the night sky, seasons, phases, eclipses, gravity, light, astronomical tools, solar system origin, terrestrial planets, giant planets, moons, rings, comets, asteroids, exoplanets and astrobiology. Simulations and demonstrations related to subject matter are included. This class may require additional time outside of the scheduled class hours.

Lecture: 5 hours

Prerequisite: MATH 104 Lab fee: \$ 6.00

### ASTR 162 Stars and Galaxies (A, W, SP, SU) 5 credits

This course explores stars and galaxies. Topics include gravity, light, the Sun, stellar properties, stellar structure and evolution, the interstellar medium, supernovae, black holes, galaxies, and the structure, history, and future of the universe. Simulations and demonstrations related to subject matter are included. This class may require time outside of the scheduled class hours.

Lecture: 5 hours

Prerequisite: MATH 104 Lab fee: \$6.00

### ASTR 166 Astronomy Laboratory (A, W, SP, SU) 1 credit

ASTR 166 is laboratory investigations of light and matter, Earth's astronomical environment, and analysis of astronomical data. This course is intended to give students laboratory experience in astronomy. It can be taken concurrently with either of the existing astronomy courses, ASTR 161 or ASTR 162 or after one or both courses.

Lab: 2 hours

Prerequisite: Math 104 Lab fee: \$5.00

## Automotive Technology (AUTO)

### AUTO 061 Basic Automotive Systems and Theories of Operation (A, W, SP, SU) 4 credits

This course covers automotive basic systems and theories of operation. Class includes the physical, hydraulic, and electrical theoretical basics, as applied to cars and light trucks. This course and AUTO 062 are prerequisites for all other automotive courses. Credit for this course can be obtained by satisfactory completion of the course, documented previous training and/or experience, or by satisfactory results of a proficiency exam administered by the department.

Lecture: 3 hours – Lab: 3 hours

Concurrent: It is recommended that this course be taken the same quarter as AUTO 062. Lab fee: \$25.00

### AUTO 062 Auto Shop Orientation and Service (A, W, SP, SU) 4 credits

This course covers the operation of an automotive shop. It includes the use of hand and power tools and basic maintenance operations on cars and light trucks. This course and AUTO 061 are prerequisites for all other automotive courses. Credit can be obtained by satisfactory completion of the course, documented previous training and/or experience, or by satisfactory results of a proficiency exam administered by the department.

Lecture: 3 hours – Lab: 3 hours

Prerequisite: AUTO 061

Concurrent: It is recommended that this course be taken the same quarter as AUTO 061. Lab fee: \$25.00

### AUTO 101 Auto Care (On Demand) 3 credits

This course is designed for the nonautomotive student who is interested in obtaining a familiarity with the fundamentals of automotive systems and preventative maintenance. Also included is information on choosing a repair shop, tips and techniques for dealing with minor breakdowns, and vehicle purchasing strategies.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$30.00

### AUTO 110 Engine Operation and Overhaul (A, SU) 4 credits

AUTO 110 is a basic course in automotive engines and the theory behind their operation. All engine mechanical systems are explored during teardown and assembly of a current automotive engine. Common in-car repairs are covered. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: AUTO 061 and AUTO 062

Concurrent: It is recommended that this course be taken the same quarter as AUTO 115. Lab fee: \$30.00

### AUTO 115 Engine Diagnosis and In-Car Repair (A, SU) 3 credits

This is an advanced engine course including minor cylinder head and valve machining, component service, and engine removal and installation. AUTO 115 prepares student to achieve national ASE certification in engine repair.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 110

Concurrent: It is recommended that this course be taken the same quarter

as AUTO 110. Lab fee: \$30.00

**AUTO 120 Automatic Transmissions: Operation and Overhaul (W, SP) 4 credits**

This is a basic course exploring the theory of operation behind today's automatic transmission. Hydraulic and electrical systems are emphasized during a complete teardown and assembly. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: AUTO 061 and AUTO 062

Concurrent: It is recommended that this course be taken the same quarter as AUTO 125. Lab fee: \$25.00

**AUTO 125 Automatic Transmissions: Diagnosis and In-Car Repair (W, SP) 3 credits**

This is an advanced course in automatic transmission and transaxle service and diagnostics. Emphasis is on field diagnostics and repairs. AUTO 125 prepares student to achieve national ASE certification in automatic transmissions.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 120

Concurrent: It is recommended that this course be taken the same quarter as AUTO 120. Lab fee: \$25.00

**AUTO 130 Manual Transmissions/Driveline: Operation and Overhaul (A, SU) 4 credits**

This course provides a working knowledge of manual transmissions, transaxles, and differentials. Repair and diagnostics are covered during complete teardown and assembly. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: AUTO 061 and AUTO 062

Concurrent: It is recommended that this course be taken the same quarter as AUTO 135. Lab fee: \$15.00

**AUTO 135 Manual Transmissions: Diagnosis and In-Car Repair (A, SU) 3 credits**

This is an advanced course in clutch, manual transmission, transaxle, and differential diagnostics. Class includes clutch and transmission removal and installation. AUTO 135 prepares student to achieve national ASE certification in manual transmissions.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 130

Concurrent: It is recommended that this course be taken the same quarter as AUTO 130. Lab fee: \$15.00

**AUTO 140 Suspension and Steering: Theory and Operation (SP, SU) 4 credits**

This course provides a working knowledge of the diagnosis and repair of wheels, tires, suspension systems, steering systems, and wheel alignment diagnosis and adjustment. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: AUTO 061 and AUTO 062 Lab fee: \$25.00

**AUTO 145 Suspension and Steering: Diagnosis and Repair (A, W) 3 credits**

This is an advanced course covering detailed diagnostics and service of suspension components. It includes instruction on both two-wheel and four-wheel alignment. AUTO 145 prepares student to achieve national ASE certification in suspension and steering.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 140 Lab fee: \$25.00

**AUTO 150 Brake Systems: Theory and Operation (W, SP) 4 credits**

This course provides a working knowledge of the diagnosis and repair of the hydraulic system, drum brake systems, disc brake systems, power assist units, and associated systems including wheel bearings, parking brakes and related electrical circuits. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: AUTO 061 and AUTO 062 Lab fee: \$30.00

**AUTO 155 Brake Systems: Diagnosis and Repair (SP) 3 credits**

This is an advanced course covering detailed diagnostics and repair of automotive brake systems including anti-lock systems. It prepares student to achieve national ASE certification in brake systems.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 150 Lab fee: \$25.00

**AUTO 160 Electrical Systems: Theory and Operation (W, SU) 4 credits**

This course provides a working knowledge of the diagnosis and repair of general electrical systems, including the battery, starting, charging and lighting systems. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department.

Lecture: 3 hours – Lab: 3 hours

Prerequisite: AUTO 061 and AUTO 062 Lab fee: \$25.00

**AUTO 165 Electrical/Electronic: Diagnosis and Repair (A, SP) 3 credits**

AUTO 165 is an advanced course designed to provide the knowledge necessary to diagnosis and repair automotive electrical systems, including the diagnosis and service of supplemental inflatable restraint systems and other electronically controlled accessories. It prepares student to achieve national ASE certification in electrical systems.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 160 Lab fee: \$25.00

**AUTO 170 Heating and Air Conditioning Systems: Theory and Operation (SP) 4 credits**

This course provides a working knowledge of the diagnosis and repair of air conditioning systems, refrigeration systems, heating and engine cooling systems, and control units. Credit for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: AUTO 061 and AUTO 062 Lab fee: \$25.00

**AUTO 175 Heating and Air Conditioning: Diagnosis and Repair (SP, SU) 3 credits**

This is an advanced course designed to provide the knowledge necessary to diagnose and repair automotive air conditioning systems, including the diagnosis and repair of automatic temperature controls and related electronic systems. AUTO 175 prepares student to achieve national ASE certification in heating and air conditioning systems.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 170 Lab fee: \$30.00

**AUTO 180 Engine Performance: Theory and Operation (A, SP) 4 credits**

This course provides the opportunity to gain a working knowledge of engine performance diagnostics. It includes diagnosis and repair of the ignition system, fuel and exhaust systems, emission control systems, and an introduction to engine electrical and computer control systems. Credit

for this course can be obtained by satisfactory completion of the course, ASE certification in this area, or by satisfactory results of a proficiency exam administered by the department. It is strongly recommended that students complete AUTO 110 and AUTO 160 prior to registering for this course.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: AUTO 160 Lab fee: \$25.00

**AUTO 181 Fundamentals of Alternative Fuel Systems (On Demand) 3 credits**

This course provides a working knowledge of predominate alternative fuel systems currently in use in automotive applications. These include CNG, LNG, propane, ethanol, methanol, electric, oxygenated gasoline, and gasohol. The unique characteristics of each fuel, along with the systems used to adapt automobiles to its use, are explored, along with the federal legislation that is mandating and controlling this technology.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 180 Lab fee: \$20.00

**AUTO182 Hybrid Vehicles: Theory and Operation (On Demand) 3 credits**

This is an informative course designed to provide a general overview and knowledge of hybrid vehicle theory and operation necessary for technicians to safely service the basic systems on hybrid vehicles. Alternative Fuels and Advanced Technology will also be discussed. Credit for this course can be obtained by satisfactory completion of this course,

Lecture: 2 hours – Lab: 2 hours

Prerequisites: AUTO 061 and AUTO 062 Lab Fee: \$20.00

**AUTO 185 Computerized Engine Performance (W, SU) 3 credits**

The course is designed to provide students with a working knowledge of advanced engine diagnostics. Emphasis is placed on the diagnosis and repair of computerized engine control systems. AUTO 185 prepares student to achieve national ASE certification in engine performance.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 180 Lab fee: \$25.00

**AUTO 186 Advan. Alternative Fuel Systems (On Demand) 3 credits**

This is an advanced course designed to provide students with background knowledge and experience on current alternate fuel conversion systems and proper installation procedures. Symptom analysis, diagnosis, and repair of alternate fuel related engine performance problems are covered. AUTO 186 prepares student to achieve national ASE certification in alternate fuels.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 181 and 185 Lab fee: \$20.00

**AUTO 190 Automotive Business Management (On Demand)3 credits**

This is an introduction to automotive management principles. Topics covered include systems approach to management, management styles, financial measures, MBO and quality, time management, customer and employee relations, marketing and the legal environments.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 061 and AUTO 062 Lab fee: \$10.00

**AUTO 191 Service Advising (On Demand) 3 credits**

Course covers, in depth, the primary responsibilities of a service advisor, including writing a proper repair order, scheduling, selling maintenance and customer relations. Estimating, repair order tracking and time management skills are also presented.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 190 Lab fee: \$10.00

**AUTO 192 Automotive Service Management (On Demand) 3 credits**

This course covers the variety of duties of the service manager. Principles presented in AUTO 190 are further developed along with practical implementation strategies. Facilities and equipment planning and management

along with financial management and analysis are covered.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 190 Lab fee: \$10.00

**AUTO 193 Automotive Service Merchandising (On Demand) 3 credits**

AUTO 193 explores the principles of marketing, merchandising, and advertising and their application in the automotive repair industry. Upon completion of this course, the student will be able to demonstrate the ability to develop specific merchandising and advertising items and to develop a departmental marketing plan.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 190 Lab fee: \$10.00

**AUTO 195 Auto Parts: Sales (On Demand) 2 credits**

The duties and responsibilities of a parts department counter person are covered in this course. Also included are using catalogs and locator systems, as well as outside sales.

Lecture: 1 hours– Lab: 2 hours

Prerequisite: AUTO 190 Lab fee: \$10.00

**AUTO 196 Auto Parts: Inventory Control (On Demand) 2 credits**

This course covers the various inventory control systems that are commonly used in automotive parts departments and stores. Determining inventory levels is an integral part of this course.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: AUTO 190 Lab fee: \$10.00

**AUTO 197 Auto Parts: Management (On Demand) 3 credits**

This course covers the various management duties of a parts department manager. Pricing, inventory merchandising, forecasting, and purchasing are included.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 190 Lab fee: \$10.00

**AUTO 210 Current Trends in Engine Repair (On Demand) 2 credits**

The content of this course reflects very recent technological advances and changes in engine design and repair made by the automobile industry.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: AUTO 115 Lab fee: \$15.00

**AUTO 220 Current Trends in Automatic Transmissions (On Demand) 2 credits**

The content of this course reflects the most recent technological advances and changes in automatic transmission design and repair made by the automobile industry.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: AUTO 125 Lab fee: \$15.00

**AUTO 230 Current Trends in Manual Transmissions (On Demand) 2 credits**

The content of this course reflects the most recent technological advances and changes in manual transmission design and repair made by the automobile industry.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: AUTO 135 Lab fee: \$15.00

**AUTO 240 Current Trends in Suspension, Steering (On Demand) 2 credits**

The content of this course reflects the most recent technological advances and changes in steering and suspension system design and repair made by the automobile industry.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: AUTO 145 Lab fee: \$15.00

**AUTO 245 Steering, Suspension and Brakes: Diagnosis and Evaluation (On Demand) 3 credits**

This course prepares students to service and repair Ford steering, suspension, and brake systems and pass the written and hands-on evaluations required to earn Ford STST General Brakes Certification and Base Steering and Suspension Certification.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 140 and AUTO 150 Lab fee: \$25.00

#### **AUTO 250 Current Trends in Brake Systems (On Demand) 2 credits**

The content of this course reflects the most recent technological advances and changes in brake system design and repair made by the automobile industry.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: AUTO 155 Lab fee: \$15.00

#### **AUTO 260 Current Trends in Electrical Systems (On Demand) 2 credits**

The content of this course reflects the most recent technological advances and changes in electrical system design and repair made by the automobile industry.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: AUTO 165 Lab fee: \$15.00

#### **AUTO 265 Electrical Diagnosis and Evaluation (On Demand) 3 credits**

This course prepares students to service and repair Ford electrical systems and pass the written and hands-on evaluations for the Ford STST Basic Electrical Certification.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 160 Lab fee: \$22.00

#### **AUTO 270 Current Trends in A/C Systems (On Demand) 2 credits**

The content of this course reflects the most recent technological advances and changes in heating/air conditioning system design and repair made by the automobile industry.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: AUTO 175 Lab fee: \$15.00

#### **AUTO 280 Current Trends in Engine Systems (On Demand) 2 credits**

The content of this course reflects the most recent technological advances and changes in engine control system design and repair made by the automobile industry.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: AUTO 185 Lab fee: \$15.00

#### **AUTO 297 Special Topics in Automotive Technology (On Demand) 1 credit**

This is an advanced level course elective that will address current issues in the automotive industry.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: AUTO 061 and AUTO 062 Lab fee: \$15.00

#### **AUTO 298 Special Topics in Automotive Technology (On Demand) 2 credits**

This is an advanced level course elective which will address current issues in the automotive industry.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: AUTO 061 and AUTO 062 Lab fee: \$15.00

#### **AUTO 299 Special Topics in Automotive Technology (On Demand) 3 credits**

This is an advanced level course elective that will address current issues in the automotive industry.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: AUTO 061 and AUTO 062 Lab fee: \$15.00

#### **AUTO 300 Shop Experience (SP) 4 credits**

This course is taken during a student's final quarter. It includes a final assessment of skills and knowledge. Skills are measured in a shop condition with the students performing diagnostics and repairs. A review of the eight

ASE areas is also included.

Lecture: 1 hour – Lab: 8 hours

Prerequisite: Permission of instructor Lab fee: \$35.00

## **Aviation Maintenance Technology (AMT)**

#### **AMT 101 Introduction to Aviation (A, SP) 4 credits**

Aircraft maintenance differs from other types of maintenance because aircraft operate in an environment where the degradation of an essential system or catastrophic failure can have grave results for people in the air or on the ground. Any maintenance technician must know how a particular machine should work in a given environment; for AMTs that knowledge starts with an understanding of the basic science involved in flight. In this course, students receive an introduction to aerodynamics and the physics of flight. Focus will be on principles of simple machines, sound, fluid dynamics, heat, and pressure as they pertain to fixed and rotary winged aircraft, aircraft powerplants, and propellers. Students will also learn the principles of primary and secondary flight controls and aircraft nomenclature.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: Placement into MATH 102 and ENGL 101 Lab fee: \$12.00

#### **AMT 110 AMT Regulations, Privileges and Documentation (A, SP) 4 credits**

A critical part of an AMT's job is to make sure that all work performed on an aircraft is in accordance with the manufacturer's technical data and applicable government regulations. The technician needs extensive reference skills to know where to acquire this information and background in the regulations pertaining to aircraft maintenance. This course is an in-depth study of Title 14 of the Code of Federal Regulations, Aeronautics and Space, as they pertain to the Aviation Maintenance Technician. Focus will be on history of the FAR's, certification of mechanics, certification of aircraft, engines and propellers. In addition, students study the regulatory maintenance requirements of aircraft and regulatory requirements of aircraft records. The format of FAA and manufacturer's publications is studied with emphasis on aircraft technical publication research.

Lecture: 3 hour – Lab: 2 hours

Prerequisite: Placement into MATH 102 and ENGL 101 Lab fee: \$12.00

#### **AMT 115 Aircraft DC Electricity (A, SP) 5 credits**

With the sophisticated aircraft manufactured today, an understanding of basic DC concepts is essential for the modern aircraft maintenance technician. In this course, students will develop a fundamental understanding of basic DC electrical circuits with an emphasis on airborne installations. Electrical theory and practical application will be accomplished and proven through extensive experimentation and practice. Aircraft maintenance practices as they relate to batteries and power calculations, as well as, the relationship of voltage, current, and resistance will be examined, and precision measurement of these values will be made on operational circuits.

Lecture: 3 hours – Lab: 5 hours

Prerequisite: Placement into MATH 102 and ENGL 101 Lab fee: \$20.00

#### **AMT 130 Aircraft Ground Handling and Safety (W, SU) 2 credits**

Aircraft maintenance cannot be performed safely without a full understanding of the hazards and handling procedures involved with aircraft in a hangar, shop, or outdoor ramp environment. In this class, students will study and engage in practices involving aircraft in these situations. Emphasis will be placed on accomplishment of tasks while preserving a safe environment for personnel and equipment. Students will become proficient at performing various aircraft maintenance responsibilities that involve shop safety, tie-down procedures, aircraft jacking and hoisting, and aircraft cleaning.



Lecture: 1 hour – Lab: 2 hours

Prerequisite: Placement into MATH 102 and ENGL 101 Lab fee: \$16.00

**AMT 140 Aircraft Tools, Hardware and Materials (W, SU) 5 credits**

This course helps students acquire the foundational and practical skills pertaining to the identification, proper use, and safe handling of the tools, hardware, and materials used while performing aircraft maintenance. Students will also receive instruction and apply techniques associated with methods of safety wiring hardware, welding, inspection of welds, and heat-treatment of metals.

Lecture: 3 hours – Lab: 6 hours

Prerequisite: Placement into MATH 102 and ENGL 101 Lab fee: \$26.00

**AMT 145 Aircraft AC Electricity (W, SU) 5 credits**

In this class, the basics of AC power will be discussed, along with its uses on aircraft avionics and passenger comfort systems. How the electron is controlled and manipulated will be examined. Elementary logic functions and their operators will be discussed and put to practical use. Basic troubleshooting techniques with the use of wiring diagrams, schematics, and other useful tools will be emphasized.

Lecture: 3 hours – Lab: 4 hours

Prerequisite: AMT 115 Lab fee: \$20.00

**AMT 150 Basic Aircraft Inspection Systems (W, SU) 2 credits**

One of the most important roles of the aircraft maintenance technician is the inspection of aircraft and their components. Superior skills in this area are essential in determining airworthiness. Students need to start practicing proper inspection techniques early and need to understand the personal barriers that can affect the inspection process. In this course, students will begin to learn inspection skills with an introduction to basic aircraft inspection methodology, an introduction to aircraft conformity research practices, applied techniques of visual and functional defect recognition, and an introduction to nondestructive inspection and testing procedures. Maintenance record management and the human factors involved with the performance of these tasks will also be presented.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: AMT 110 Lab fee: \$12.00

**AMT 160 Aircraft Reciprocating Engine Maint. 1 (A, SP) 4 credits**

The vast majority of general aviation aircraft in service today are powered by reciprocating (piston) engines. An aviation maintenance technician needs a broad understanding of these power plants to provide safe aircraft for flight. The focus of this course is the horizontally opposed reciprocating aircraft engine. Areas studied include theory of operation, engine construction features, maintenance and overhaul. Radial engine design, inspection and repair are also addressed. Reciprocating engine lubrication system design and maintenance for both radial and opposed engine are examined. Students learn the proper techniques for ground operational checks of reciprocating engines.

Lecture: 2 hours – Lab: 5 hours

Prerequisites: AMT 110, AMT 140 Lab fee: \$20.00

**AMT 162 Aircraft Reciprocating Engine Maintenance 2 (A, SP) 5 credits**

As with any type of heat engine, an aircraft reciprocating engine has certain requirements beyond the integrity of its own components for operation. It needs delivery systems for air and fuel and some means to ignite this mixture. These subsystems can vary from simple to very complex. This course covers the reciprocating engine ignition, fuel metering, and induction systems. Students study magnetos, float carburetors, fuel injection systems, supercharging and turbo-supercharging. Emphasis is placed on the theory of operation, inspection, maintenance practices, and troubleshooting of each system.

Lecture: 3 hours – Lab: 5 hours

Prerequisites: AMT 110, AMT 115, AMT 140 Lab fee: \$20.00

**AMT 165 Aircraft Propellers (A, SP) 3 credits**

To produce thrust and remain aloft, most general aviation (and a limited number of commuter and corporate aircraft) utilize engine-driven propellers. Aircraft propeller systems range from the relatively simple to extremely complex machines. In this course, the principles of operation, governing systems, and ice control will be covered for all types of aircraft propellers. Focus will be placed on propeller inspection, lubrication, service, repair, removal, and installation.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: AMT 140 Lab fee: \$20.00

**AMT 175 Aircraft Electrical Systems 1 (A, SP) 3 credits**

With aircraft electrical system integrity becoming a major factor in the operation of complex aircraft today, the need for understanding on-board power sources is essential to the technician. In this course, the design and theory behind some of the most common DC and AC power supply systems and their controls are covered, with emphasis placed on maintenance practices and troubleshooting procedures. Extensive hands-on practical study of wire terminations and connector contact techniques, including crimping and soldering, is also accomplished in this course.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: AMT 145 Lab fee: \$20.00

**AMT 180 Aircraft Turbine Engine Maintenance 1 (W, SU) 5 credits**

Since the dawn of jet propulsion, turbine powered aircraft have gained in popularity and played a pivotal role in the expansion of the aviation industry. A thorough understanding of turbine engine theory and operation is vital to an aircraft maintenance technician. In this course, the theory and operation of aircraft turbine engines, the study of turbine engine construction and design, and principles of turbine engine maintenance, inspection, repair, and trouble-shooting will be presented. Application of procedures to remove, install, rig, and operationally test turbine engines will be accomplished along with the identification and repair of lubrication systems and components.

Lecture: 3 hours – Lab: 5 hours

Prerequisites: AMT 110, AMT 140 Lab fee: \$20.00

**AMT 182 Aircraft Turbine Engine Maintenance 2 (W, SU) 5 credits**

To maintain turbine engines, the technician must be familiar with the sub-systems needed to operate the engine. A broad understanding of engine ignition, fuel, air bleed, temperature regulation, and starting systems is essential for proper maintenance to be performed. This course deals with the study of electrical principles of turbine engine ignition systems, principles of operating turbine engine electrical and pneumatic starting systems, and the theory of operation of turbine engine fuel systems, fuel metering systems, and subsystems. A study of applied techniques to inspect, maintain, troubleshoot, repair and adjust the respective systems including airflow, temperature control, and thrust reverser systems will be undertaken. Principles of unducted fan systems will be examined as well.

Lecture: 3 hours – Lab: 5 hours

Prerequisites: AMT 110, AMT 115, AMT 140 Lab fee: \$20.00

**AMT 190 Aircraft Ice/Rain Protection Systems (W, SU) 2 credits**

Ice formation can add sufficient weight and drag to prevent safe flight. Aircraft flying into known icing conditions must utilize some means of preventing ice formation or removing ice. This course will familiarize students with anti-ice, de-ice, ice detection, and rain protection systems used on the airframe, engine, and propeller installations. Emphasis also will be placed on troubleshooting and repair of the systems and associated servicing and inspection techniques.

Lecture: 1 hour – Lab: 2 hours

Prerequisites: AMT 145, AMT 165 Lab fee: \$12.00

**AMT 195 Aircraft Electrical Systems 2 (W, SU) 4 credits**

A broad understanding of various aircraft electrical systems is imperative to a technician. Many other on-board systems depend on electrical system integrity to function properly. This course deals with complete DC and

AC electrical systems overview including control and monitoring systems. Troubleshooting, inspection and maintenance techniques related to these systems are put to practical use with a high level of expectation.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: AMT 175 Lab fee: \$24.00

**AMT 210 Aircraft Sheet Metal Structures (A, SP) 5 credits**

The primary structures of most aircraft today are made of some form of metal. An understanding of the techniques involved in forming and fabricating various components for metal structures is essential for the technician to maintain and repair airframes for continued service and reliability. In this course, students will study properties of aircraft metals, fabrication of aircraft repairs by complex bending, riveting, and use of structural adhesives. Students will design and layout repairs of metal aircraft. Students will also learn to detect, prevent, and correct corrosion of metals used in the aviation industry.

Lecture: 2 hours – Lab: 8 hours

Prerequisites: MECH 120, AMT 140 Lab fee: \$28.00

**AMT 212 Aircraft Wood, Dope and Fabric (A, SP) 3 credits**

Although most modern aircraft structures are primarily metal or composite materials, many homebuilt and new light sport aircraft are reviving the use of fabric and wood that was common in the past. This course is an introduction to aircraft structures constructed using wood and doped fabric materials. The students will become familiar with inspection and repair techniques of wood structures. Students will also study the types of aircraft fabric covering with a focus on inspection and repair of polyester based covering.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: AMT 140 Lab fee: \$26.00

**AMT 215 Aircraft Environmental Controls (A, SP) 3 credits**

Aircraft fly at different times of the year, at high altitudes, and in areas of the world where the climate could be hot, cold or temperate. To compensate, they carry on-board environmental control systems. In this class, students discover how pilots and passengers remain comfortable through heating, air conditioning, pressurization, and supplemental oxygen systems and how the technician maintains them. Maintenance practices of on-board smoke, carbon monoxide, and fire detection and suppression systems are also covered.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: AMT 145, AMT 182 Lab fee: \$20.00

**AMT 220 Aircraft Fuel Systems (A, SP) 3 credits**

Fuel supply and delivery systems play one of the most important roles in the operation of aircraft engines and various airframe mounted heating and auxiliary power units. Proper installation and maintenance of these systems is essential to the safety of flight as it relates to consistent power production for propulsion and hazards associated with system failures. In this course, students will develop an understanding of aviation maintenance procedures and the tools used by the aircraft technician in the practice of fabrication and installing fluid lines and fittings and the knowledge the aircraft mechanic needs to properly inspect, service, troubleshoot and repair aircraft fuel systems associated components, and related systems and subsystems.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: AMT 140, AMT 145 Lab fee: \$26.00

**AMT 235 Aircraft Instrumentation (W, SU) 4 credits**

Aircraft instruments provide an essential part of overall cockpit situational awareness, and the information presented from instruments can sometimes be more reliable than a pilot's senses. Technicians need a broad understanding of how the instrument systems function and the maintenance required to achieve the high reliability necessary for the pilot's peace of mind and the safety of flight. In this course, students will study instrument systems for monitoring flight envelope, airframe systems, environment, and engine parameters. Analog and electronic display systems are covered. Practi-

cal application of troubleshooting procedures and maintenance practices associated with these devices will be accomplished with a high level of achievement expected. Lecture: 3 hours – Lab: 2 hours

Prerequisites: AMT 145, AMT 162, AMT 182 Lab fee: \$26.00

**AMT 240 Aircraft Composite Structures (W, SU) 3 credits**

For many reasons, the use of composite materials is an intelligent choice for multiple components on large aircraft as well as for the entire structure of some smaller airplanes. With the increased use of these materials today, aircraft maintenance technicians need to become familiar with the unique processes involved in fabrication and repairing composites. In this course, students will discover the principles of composites aircraft structures. The focus will be on basic composite nomenclature, inspection, and repair of nonmetallic structures. Students will learn the basic core materials, types of materials used, and repair procedures. This course will also cover maintenance practices related to windows, doors and interior furnishings.

Lecture: 1 hour – Lab: 4 hours

Prerequisites: AMT 140, AMT 150 Lab fee: \$26.00

**AMT 245 Aircraft Landing Gear and Fluid Power Systems (W, SU) 6 credits**

The landing gear system is one of the most stressed components on any aircraft. It has to support the weight of the entire aircraft, absorb the forces of impact during landing and taxiing, and survive the tremendous localized heat produced during rollout by the brakes. For these reasons, and due to the complexity of retractable gear and nose steering systems, the maintenance technician needs to possess extensive knowledge of landing gear and associated systems. This course will include heavy focus on hydraulic and pneumatic principles, inspection and repair of air/oil struts, wheels, brakes, tires, and the landing gear system in relation to the aircraft. Students will also learn the principles of inspection, repair, and replacement of hydraulic and pneumatic rigid and nonrigid lines.

Lecture: 4 hours – Lab: 6 hours

Prerequisites: AMT 140, AMT 150 Lab fee: \$20.00

**AMT 250 Advanced Nondestructive Inspection for Aircraft (W, SU) 3 credits**

Constant inspection of aircraft and components is essential to providing aircraft that are safe for flight. In most cases, it is not cost effective or practical to damage or destroy a component in order to determine the useable life remaining. Also, operational environments vary widely so it may not be realistic to rely on the manufacturer's original tests to establish time between failures. Consequently, it is necessary to devise ways of testing and inspecting components without the technician having to replace them at each inspection. In this course, students will be engaged in an advanced study of applied techniques for selecting and performing nondestructive inspection processes involved in the aviation industry. Techniques involving the use of sophisticated test equipment will be utilized with a high degree of practical application.

Lecture: 2 hours – Lab: 3

Prerequisites: AMT 140, AMT 150 Lab fee: \$20.00

**AMT 255 Aircraft Navigation and Communication Systems (A, SP) 4 credits**

The use of airborne radio equipment is essential to modern day air travel. Without it, the ability to fly to a desired destination in varying weather conditions, while avoiding other aircraft doing the same, would be an impossible task. A technician's familiarity with aircraft warning, communication, and navigation systems is vital to safe air travel. This course will examine these systems and allow students to gain practical experience in the testing, troubleshooting, and required inspections associated with them.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: AMT 145 Lab fee: \$22.00

**AMT 260 Aircraft Rigging and Assembly (A, SP) 3 credits**

Large and small aircraft utilize rigged cables or electro-hydraulic actuators to transmit the pilot's desired maneuvers to the aircraft's flight controls. Also, complex devices such as entry doors, landing gear systems, and lift augmentation devices can require elaborate rigging techniques in order to function properly. In this course, students will begin with a review of the basic sciences for the aviation maintenance technician, including aerodynamics, flight stability, and theory of flight for fixed wing aircraft. In addition, advanced principles and techniques of aircraft rigging, assembly and structure alignment will be studied and put to practical use.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: AMT 110, AMT 140 Lab fee: \$24.00

**AMT 262 Fundamentals of Helicopter Maintenance (A, SP) 3 credits**

Rotary-wing aircraft have many distinct characteristics, which make their maintenance different from conventional fixed-wing airplanes. The popularity and widespread use of helicopters has created a need to train technicians in maintenance practices specific to rotary wing aircraft. In this course, students will start with a review of the basic sciences for the aviation maintenance technician, including aerodynamics, flight stability, and the theory of flight for rotary wing aircraft. Upon completion of this review, application of advanced principles and techniques specific to rigging rotary aircraft will be accomplished

Lecture: 2 hours – Lab: 3 hours

Prerequisites: AMT 110, AMT 140 Lab fee: \$20.00

**AMT 270 Aircraft Conformity Inspections (A, SP) 5 credits**

A crucial role of the Aviation Maintenance Technician is to determine "airworthiness"-- whether an aircraft (and its components) conforms to the original type design or properly altered condition and is safe for flight. In this course, aviation maintenance students will hone their critical inspection skills by studying the application of Federal Aviation Regulations pertinent to aircraft maintenance or the aircraft technician and, with the help of aircraft specific technical data, perform an examination of the disposition of the required maintenance records, use proper inspection equipment and aids, and complete a thorough inspection of an airframe and powerplant along with all its related systems. Students will also learn the proper procedures for returning an aircraft to service after maintenance or inspection.

Lecture: 3 hours – Lab: 7 hours

Prerequisite: AMT 150, AMT 160, AMT 165, AMT 180, and AMT 210  
Lab fee: \$24.00

**AMT 280 Advanced Aircraft Mainten. Practices (W, SU) 6 credits**

Once students finish this program and complete the FAA certification process, they will be expected to enter the workforce and master the trade through experience and further training. Starting this journey can seem overwhelming to the new technician. By placing students into real-life situations within a controlled environment, valuable experience can be gained as well as insight into future expectations. In this course, students will first complete the cooling and exhaust portion of their powerplant training. They will then be subjected to work place scenarios in the hangar. Assignments will include tasks requiring them to research procedures, perform repairs, and create proper documentation.

Lecture: 4 hours – Lab: 6 hours

Prerequisites: AMT 160, AMT 165, AMT 180, AMT 195, AMT 210, and AMT 260 Lab fee: \$24.00

**AMT 285 Aircraft Weight and Balance (W, SU) 3 credits**

Changes to equipment and the accumulation of debris while an aircraft is in service can result in compromising changes to its weight and balance. If the weight of an aircraft or the distribution of weight is not held to stringent boundaries, the safety of the aircraft, and perhaps its ability to take off, is compromised. In this course, there will be an in depth look at aircraft and helicopter weight and balance. Students will study the principles of computing weight and balance, computing and correction of adverse load conditions, and the basics of computing weight and balance for transport category aircraft. Procedures for weighing aircraft

and documentation of weight and balance data are emphasized.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: AMT 101, AMT 130 Lab fee: \$12.00

**AMT 290 Human Factors in Aviation Maintenance (W, SU) 4 credits**

Awareness of how the individual technician or the people around him/her perform the tasks as expected, understanding the caveats surrounding these tasks, and identifying areas where mistakes can be made during the process are all a very important part of modern aircraft maintenance. Continual improvement in the detection and perception by individuals can dramatically reduce the errors that occur in the performance of aircraft maintenance. In this course, students will examine the major human causative agent in aircraft accidents: the human being.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: AMT 110, AMT 150 Lab fee: \$12.00

**AMT 295 Aircraft Systems Review (W, SU) 3 credits**

As a student progresses through the AMT program, an overwhelming amount of information spanning a multitude of diverse subject matter is presented. It would be unrealistic to expect the student to retain all this information for such a long time before becoming eligible for formal FAA certificate testing. This course prepares the graduate to take the FAA National Knowledge exam. A series of practice tests are used to determine competency of all subject areas tested. Areas of weakness are also reviewed. To successfully complete the course and be given permission to take the FAA exams, an average score of 80% must be achieved in all three areas of testing: General, Airframe and Powerplant.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: AMT 270 Lab fee: \$12.00

## Biology (BIO)

**A mandatory safety lesson (normally given in the laboratory) must be completed before the student is admitted to certain biology laboratory sessions. Approved safety glasses are required for some laboratory sessions and may be purchased through the bookstore. Attendance during the first week of class is mandatory and may affect a student's continuation in these classes. Students must complete 60% of the laboratories in a course to receive credit. Courses in this area may require additional hours outside of the scheduled class times. Prerequisite for all biology courses above BIO 100 is high school biology completed within the last 5 years or completion of BIO 100, BIO 111, or previous college credit in biology within the last 5 years. Students enrolled in distance versions of these courses may be required to come to campus for an orientation meeting, completion of certain exams, and laboratories. Laboratories in distance learning courses are generally done on an every other week basis on campus.**

**BIO 100 Intro to Biological Sciences (A, W, SP, SU, DL) 4 credits**

BIO 100 is a general biology course in which basic principles of the characteristics of life, biochemistry, cell reproduction and genetics are explored. Students who enroll in the distance version of this course will be required to come to campus for exams and orientation meetings.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: Placement into English 100 or higher. Not open to students with credit for Biology 111, 112, 121, 125, 126, 174, 261, Natural Science 101, or subsequent course that this list serves as course prerequisites.  
Lab fee: \$3.00

**BIO 101 Introduction to Anatomy and Physiology (A, W, SP, SU, DL) 3 credits**

BIO 101 is a general overview of normal human anatomy and physiology. Topics include the cell, tissues, and the musculoskeletal, nervous, cardiovascular, genitourinary, digestive, respiratory, and endocrine systems.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Placement into English 100 or higher. Not open to students with credit for Biology 121, 122, 261, 262, 211 or 212.

Lab fee: \$3.00

**BIO 104 Introduction to Marine Science (SP, SU) 4 credits**

BIO 104 is an introductory course in the principles of marine science. This course is designed to introduce major concepts in physics, chemistry, geology and biology as they relate to the oceans and marine life. Shore and ocean environments, as well as diversity of marine life, will be emphasized. This course and BIO 105 fulfill the science requirement for the A.A.S. degree where Natural Science 101 is required.

Lecture: 3 hours – Lab: 3 hours

Prerequisite: Placement into English 101 Lab fee: \$27.00

**BIO 105 Field Experiences in Marine Science (SP, SU) 2 credits**

BIO 105 is an introductory course providing laboratory experiences in marine science. This course will be instructed at a marine science laboratory such as Discovery Bay or Port Royal in Jamaica, West Indies. Students will spend 7 to 10 days at a marine laboratory engaged in an intense introduction to coral reefs, coastal environments and marine life. Course will be offered over quarter breaks. Cultural and ecological experiences of the region will be included. Students will be given both snorkeling and diving instruction and thus should be strong swimmers and comfortable in the ocean. Accommodation fees at the marine lab and travel expenses will vary.

Lecture: 0 hours – Lab: 4 hours

Corequisite: BIO 104 Lab fee: \$80.00

**BIO 111 Introductory Biology I (A, W, SP, SU, DL) 5 credits**

BIO 111 offers an introduction to the biological sciences for the nonmajor. Topics included are cell structure and function, bioenergetics, DNA structure and function, cell reproduction, biodiversity, ecology and evolution. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting, completion of certain exams and laboratories. Laboratories are generally done on an every other week basis on campus.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: Placement into English 101, high school biology or BIO 100. Not open to students with credit for BIO 174 or 175.

Lab fee: \$19.00

**BIO 112 Introductory Biology II: Human Biology (A, W, SP, SU, DL) 5 credits**

BIO 112 presents an introduction to the study of human biology. Topics included are human evolution, human reproduction, human growth and development, homeostasis, the human brain and the environmental impact of humans on earth. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting, completion of certain exams and laboratories. Laboratories are generally done on an every other week basis on campus.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: High school biology or BIO 100 or BIO 111

Lab fee: \$19.00

**BIO 121 Anatomy and Physiology I (A, W, SP, SU, DL) 5 credits**

BIO 121 is an integrated organ systems approach to the anatomy, physiology and pathology of the human body. Topics include biological chemistry cell biology, histology, the integumentary, skeletal, muscular, endocrine and nervous systems. Laboratory organ dissection and cadaver pro-section study is required. Computer access to on-line materials and quizzes is required.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: High school biology and chemistry, or BIO 100 and CHEM 100, or NSCI 103 and placement into ENGL101. Not open to students with credit for BIO 261, BIO 262, BIO 211 or BIO 212. Lab fee: \$30.00

**BIO 122 Anatomy and Physiology II (A, W, SP, SU, DL) 5 credits**

This course is a continuation of BIO 121. Topics include glucose and electrolyte regulation hematology, respiratory system, cardiovascular system, lymphatic system, metabolism, gastrointestinal system, thermal regulation, and renal and reproductive systems, and acid base balance. Laboratory organ dissection and cadaver pro-section study is required. Computer access to on-line materials and quizzes is required.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: BIO 121 Lab fee: \$30.00

**BIO 124 Human Genetics (On Demand) 3 credits**

Mendelian and classical genetics are presented. Emphasis placed on the discovery of the DNA molecule and its structure, genetic mutations and diseases, as well as genetic engineering and its implications.

Prerequisites: High school biology, or BIO 100, or NSCI 103 and ENGL 101 Lab fee: \$3.00

**BIO 125 General Botany (W) 5 credits**

This course covers the biology of the major plant groups. Topics include diversity, physiology, reproduction, ecology and economic significance.

Lecture: 4 hours – Lab: 3 hours

Prerequisites: Placement into ENGL 101, high school chemistry and biology, or CHEM 100 and BIO 100, or NSCI 103 Lab fee: \$18.00

**BIO 126 Introduction to Ecology (On Demand) 5 credits**

This course provides an introduction to ecology. Topics include population dynamics, distribution of species and energetics.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: BIO 111 or BIO 174, high school chemistry, CHEM 100, or NSCI 103 Lab fee: \$16.00

**BIO 127 Environmental Science (On Demand) 5 credits**

This course provides a survey of current issues in the study of environmental science. Topics include scientific principles and concepts, human population dynamics, resources and resource management, pollution, world problems and environment and society. Emphasis will be placed on how individual actions and economic and political policies can affect the environment. Proposed solutions to environmental problems will be considered.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: Placement into ENGL 101, high school biology, or BIO 100 Lab fee: \$19.00

**BIO 174 Biological Sciences I (A, W, SP, SU, DL) 5 credits**

Designed for biology majors, this course provides in-depth coverage of cell biology, genetics and embryology. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting, completion of certain exams and laboratories. Laboratories are generally done on a weekly basis on campus. This course and BIO 175 provide a two-quarter sequence in biological science that will fulfill the elective requirement for the Associate of Science degree.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: High school chemistry or CHEM 100, high school biology or BIO 100, or BIO 111

Corequisite: CHEM 171 Lab fee: \$26.00.

**BIO 175 Biological Sciences II (A, W, SP, SU, DL) 5 credits**

This course is a continuation of BIO 174. Designed for biology majors, BIO 175 provides an in-depth coverage of evolution, diversity of life, animal behavior and ecology.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: BIO 174 Lab fee: \$25.00

**BIO 201 General Zoology: Animal Diversity and Systematics (On Demand) 5 credits**

This course offers a survey of the diversity of organisms in the animal kingdom. Emphasis is placed on evolutionary interrelationships, locomotory, nutritional and reproductive strategies of the major groups. This course

will fulfill the elective requirement for the Associate of Science degree.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: BIO 174 Lab fee: \$26.00

**BIO 205 Introduction to Biotechnology (On Demand) 4 credits**

This is a molecular biology course designed to introduce major concepts in DNA structure and function, gene expression, recombinant DNA, biotechnology, techniques and applications of genetic engineering, medical biotechnology (gene therapy), forensics and DNA profiling, and the impact and potential of the human genome project.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: BIO 111 or BIO 215 or BIO 124 Lab fee: \$5.00

**BIO 206 Introduction to Biotechnology Lab (On Demand) 1 credit**

This is a general laboratory course designed to introduce students to the principles of biotechnology. Topics include sterile techniques; DNA isolation and purification; bacterial culture techniques; transformation, purification and isolation of plasmid DNA; DNA restriction analysis; Gel electrophoresis, PCR and RFLP analysis; and animal cell and plant tissue culture techniques. This course may require additional hours outside of scheduled times.

Lecture: 0 hours – Lab: 4 hours

Prerequisite: BIO 205 Lab fee: \$27.00

**BIO 211 Princ. of Human Physiology I (On Demand) 5 credits**

This is the first course of a two-quarter sequence which presents a detailed, in-depth exploration of neuromuscular physiology, brain and special senses, and the cardiovascular, circulatory and respiratory systems. This class and BIO 212 are suitable as transfer prerequisites for BS Nursing/ Allied Health and pre-professional programs.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: BIO 261 or equivalent, CHEM 111 and CHEM 112 and placement into ENGL 101. Not open to students with credit for BIO 121 or BIO 262. Lab fee: \$6.00

**BIO 212 Principles of Human Physiology II (On Demand) 5 credits**

This is the second course of a two-quarter sequence (continuation of Biology 211) offering a detailed, in-depth exploration of renal, endocrine, reproductive and digestive physiology, thermal regulation and metabolism.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: BIO 211 Lab fee: \$6.00

**BIO 215 General Microbiology (A, W, SP, SU, DL) 5 credits**

BIO 215 is a general microbiology course for biology majors (non-microbiology majors). Topics covered include taxonomy, morphology and staining, culture techniques, bacterial metabolism, and physical and chemical methods for microbial control. General concepts in immunology, including host defense mechanisms and hypersensitivity, are also covered. Related laboratory is required, including identification of unknown bacteria. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting, completion of certain exams and laboratories. Laboratories are generally done on an every other week basis on campus.

Lecture: 3 hours – Lab: 4 hours

Prerequisite: High school chemistry and biology, or CHEM 100 and BIO 100, or NSCI 103 and placement into ENGL 101 Lab fee: \$26.00

**BIO 216 Microbial Diseases (On Demand) 3 credits**

This course presents a basic study of the concepts of microbial disease. Topics covered are host-parasite interactions and resistance and immunity to disease, including the development of the immune system and mechanics of antigen-antibody reactions. Additional topics for detailed discussion are human airborne, foodborne, or waterborne infections and human contact diseases.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: BIO 215, ENGL 101 Lab fee: \$3.00

**BIO 250 General Genetics (On Demand) 5 credits**

BIO 250 covers the principles of genetics, including molecular genetics, transmission genetics of prokaryotes and eukaryotes, developmental and nonchromosomal genetics, and the genetics and evolution of populations.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: CHEM 252 or equivalent and BIO 111 or BIO 174, plus 5 additional hours in biology Lab fee: \$5.00

**BIO 253 Fundamentals of Human Nutrition (SU, W) 5 credits**

BIO 253 presents the nutrient and food energy needs of human biological systems throughout the life cycle with consideration of socio-psychological factors. Consideration also is given to the role of nutrition in preventive health care and various alterations in health and disease states.

Lecture: 5 hours

Prerequisite: CHEM 112 or CHEM 113 or CHEM 253 or CHEM 261

Lab fee: \$3.00

**BIO 261 Human Anatomy (A, W, SP, SU, DL) 5 credits**

The gross anatomy of the human body is presented in detail. Course offers a thorough study of the head and neck, thorax, abdomen, pelvis, upper and lower limbs and back regions. The laboratory study includes an in-depth study of a human cadaver.

Lecture: 3 hours – Lab: 4 hours

Prerequisite: High school biology or BIO 100 or BIO 101 or BIO 111 or equivalent Lab fee: \$26.00

**BIO 262 Human Physiology (A, W, SP, SU, DL) 5 credits**

An introductory course in human physiology designed to cover the normal physiology of all organ systems. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting, completion of certain exams and laboratories. Laboratories are generally done on an every other week basis on campus.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: BIO 261 or equivalent, placement into ENGL 101. Not open to students with credit for BIO 122, Bio 211 or BIO 212

Lab fee: \$13.00

**BIO 263 Human Pathophysiology (A, W, SP, SU, DL) 5 credits**

This course deals with the disordered functioning of the human body as a result of disease. It is designed for students or practitioners in nursing or other allied health professions who wish to increase their understanding of the changes occurring in physiology due to an abnormality.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: BIO 262 or BIO 211 and 212 or equivalent, CHEM 112 or CHEM 113 or equivalent, or permission of instructor Lab fee: \$3.00

**BIO 293 Independent Study in Biology (On Demand) 1–5 credits**

Independent study course allows for a detailed examination of selected topics of interest in biology.

Lecture: 1 to 5 hours – Lab: 0 to 6 hours

Prerequisite: Permission of instructor

**BIO 299 Special Topics in Biology (On Demand) 1–5 credits**

BIO 299 is an opportunity for a detailed examination of selected topics of interest in biology.

Lecture: 1 to 5 hours – Lab: 0 to 6 hours

Prerequisite: Permission of the instructor

## **Business Management (BMGT)**

**BMGT 101 Principles of Business (A, W, SP, SU, DL) 5 credits**

A discussion of all significant activities in the field of business including the interaction of business with internal and external forces, ownership, management, marketing, production, human resources, finance and con-

trol. These areas are discussed as they relate to the basic principles of management and economics.

Lecture: 5 hours – Lab: 0 hours Lab fee: \$5.00

### **BMGT 102 Managing Interpersonal Skills I**

(A, W, SP, SU, DL)

**3 credits**

This course introduces the student to management themes and the five primary skill sets required to be a successful manager. The course provides opportunities for students to begin to learn, develop, and apply managerial skills through personal assessment and an introduction to various skill concepts and behavior models.

Lecture: 1 hour – Lab: 4 hours Lab fee: \$6.00

### **BMGT 103 Managing Interpersonal Skills II (W, SP) 3 credits**

This course builds upon BMGT 102 and expands the students understanding of Temperament and Type theory. Students also learn the basics of Emotional Intelligence and how to apply these management tools to motivate and improve performance.

Lecture: 1 hour – Lab: 4 hours

Prerequisite: BMGT 102 Lab fee: \$5.00

### **BMGT 108 21<sup>st</sup> Century Workplace Skills (A, W, SP) 4 credits**

This course is designed to equip students with contemporary skills needed to effectively compete in a rapidly changing global workplace environment. This course will provide students with the skills needed by employers including skills in communication, conflict resolution, teamwork, problem solving, ethics, professional development, leadership and personal finance.

Lecture: 4 hours Lab fee: \$5.00

### **BMGT 111 Management (A, W, SP, SU, DL) 5 credits**

The basic management functions of planning, organizing, leading, controlling and staffing business organizations are covered. The organization is viewed as a system of interdependent parts which interacts with the outside environment. Topics include leadership, motivation, communication and problem solving.

Lecture: 5 hours – Lab: 0 hours Lab fee: \$5.00

### **BMGT 123 Risk Management (A, W, SP, SU) 3 credits**

Risk Management provides the students with an understanding of the various elements of risk, and how to manage it. The course will review the use of Risk Management, a core management skill, in contemporary business.

Lecture: 2 hours – Lab: 2 hours

### **BMGT 150 Principles of Public Adminstr. (A, W, SP, SU) 3 credits**

This course provides an overview of the management of public programs. Emphasis will be placed on understanding in detail, the institutions, processes, and techniques required for work in the public and nonprofit sectors. Topics include appropriate competence in leadership style, managerial role, budgeting, personnel relationships, legal, decision making, and communication.

Lecture: 2 hours – Lab: 2 hours

Prerequisites: BMGT 111 and BMGT 102

### **BMGT 201 Creative Problem Solving (A, SP) 3 credits**

This course provides an exploration of the foundations of creativity skills and methods for application in an organizational environment. The application to problem solving, decision-making, and planning will be taught through various models and best practices currently utilized in organizations. Case studies and various creativity methodologies will be explored and practiced during class sessions.

Lecture: 1 hour – Lab: 4 hours Lab fee: \$3.00

### **BMGT 205 Public Safety Management (A, W, SP, SU) 3 credits**

This course reviews the considerations required for planning and administration of services that enhance the safety of citizens. Students will learn service plans and procedures that include fire, police, and security

agencies. The course will include methods and plans for implementing strategies and tactical operations.

Lecture: 2 hours – Lab: 2 hours

### **BMGT 206 Seminar Topics in Public Administration**

(A, W, SP, SU)

**3 credits**

This course will provide students an advanced discussion of advanced contemporary issues facing public administrators. Students learn more distinctions between administrators in the public and private sector. Topics for the course include privatization and contracting – out of government services, the accountability and discretion of public decision makers, role of public administrators in budgeting, and the ethics of public employees, Students will choose topics to research and develop positions about public agencies. Students will gain and understanding of the complexity and diversity of different types of bureaucracies and constructive means to improve them.

Lecture: 2 hours – Lab: 2 hours

### **BMGT 207 Capstone in Public Adminstr. (A, W, SP, SU) 4 credits**

This course gives students an opportunity to examine, in detail special topics of interest in public administration. Students will be exposed to lecture, discussion, seminar, and research of educational experiences all in support of role management in the public and government environment. Students will work individually and in teams to solve problems of research, technical writing, editing, and presentation on the study and implementation of projects in public administration. NOTE: BMGT 207 can only be taken during the final quarter prior to graduation.

Lecture: 3 hours – Lab: 2 hours

### **BMGT 208 Organizational Communication (A, SP, DL) 3 credits**

The Organizational Communication course provides students with the knowledge and skills necessary to pursue careers dependent on human interaction in business, industry or government. Bridging the gap between the classroom and the workplace is an objective of the organizational communication course. Emphasis will be placed on communication structure and process within organizations and the need for individual and group communication skill development.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$3.00

### **BMGT 211 Organizational Behavior (A, W, SP, SU, DL) 4 credits**

This course provides an introduction to fundamental concepts and applications of individual, group, and organizational behavior in the workplace. Topics include foundations of organizational behavior, perception and individual decision making, values, attitudes, the foundations of group behavior, understanding work teams, and organizational dynamics.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: BMGT 111 Lab fee: \$5.00

### **BMGT 216 Ethics and Leadership (A, W, SP, SU, DL) 4 credits**

BMGT 216 offers a comprehensive and practical study of the principles of ethics combined with a study of the fundamentals of leadership. The course develops a framework for determining what is right and wrong within an organizational context. Expected ethical conduct on both a personal and organizational level is reviewed. Additionally, this course provides an in-depth study of leadership styles, skills and roles, as well as the functions and impact of leaders in organizations. The course integrates writings from the humanities, military leaders, political leaders, religious leaders, and business leaders with basic leadership and ethical principles. Students will explore their ethical philosophy and leadership styles to develop or improve ethical leadership skills.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$5.00

### **BMGT 218 Management Training for Supervisors**

(A, W, SP, SU, DL)

**5 credits**

This course presents a comprehensive examination of management functions, techniques and the role of a supervisor. BMGT 218 will increase awareness of the supervisory role and present proven methods and techniques to improve performance. Major areas covered include setting objectives, problem identification techniques, decision-making, time

management, management styles, motivation, training subordinates, performance evaluation, verbal and nonverbal communications, interviewing techniques, and a look at the challenge of leadership in an organizational setting. Emphasis is placed on actual on-the-job problems.

Lecture: 5 hours – Lab: 0 hours Lab fee: \$3.00

**BMGT 230 Organizational Development and Change Management (A, SP, DL) 5 credits**

This course explores contemporary organizational development which is defined as the application of knowledge, skills, and tools to improve organizational performance, enhance organizational functioning, and maximize human potential. This course adopts a strategic perspective and provides concepts and tools related to diagnosing an organization's problems or intentions, designing interventions to help them overcome obstacles and/or achieve their goals, leading and managing the resulting change process, and evaluating and institutionalizing new organizational strategies.

Lecture: 5 hours – Lab: 0 hours

**BMGT 231 Entrepreneurship I (A, W, SP, SU, DL) 4 credits**

This is the first of a two-quarter sequence that introduces the fundamental considerations in planning and executing the start-up of a new small business venture. The course focuses on planning selected critical aspects of a business plan in the areas of orientation to small business, strategic planning, financial considerations, location, layout and beginning inventory.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$5.00

**BMGT 232 Entrepreneurship II (A, W, SP, SU, DL) 4 credits**

This course is a sequel to BMGT 231 and completes the basic instruction necessary for competence in managing a small business enterprise. Topics covered will include effective operation of an established business with emphasis on strategic planning, market analysis, pricing, inventory control and credit collections.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$5.00

**BMGT 238 Entrepreneurship Practicum (A, W, SP, SU) 3 credits**

The practicum provides a supervised, cooperative work experience with on-the-job application of knowledge and skills acquired in the classroom.

Practicum: 21 hours

Prerequisite: Permission of instructor

Corequisite: BMGT 239 Lab fee: \$1.00

**BMGT 239 Entrepreneurship Seminar (A, W, SP, SU) 2 credits**

On-campus seminar which allows students to report on small business management knowledge gained in specific areas of the internship. The course may include a market research survey, case reports, or other special projects.

Seminar: 2 hours

Prerequisite: Permission of instructor

Corequisite: BMGT 238 Lab fee: \$1.00

**BMGT 245 Intro to Nonprofit Management (A, DL) 5 credits**

This course traces the history, philosophy, and societal role of nonprofits in the United States, and how social sector organizations today compare organizationally to public and private sector organizations. Additionally, this course explores the characteristics of effective and ethical management and leadership in nonprofit organizations. More specifically, it explores the fundamental challenges to effective leadership including defining and articulating the organization's mission, formulating relevant organizational strategy, crafting an aligned organizational structure, identifying and understanding the multiple "customers" served, and identifying and prioritizing the critical strategic managerial tasks that must be successfully executed. As such, it examines the roles of the executive director, the board, staff and volunteers.

Lecture: 5 hours – Lab: 0 hours Lab fee: \$5.00

**BMGT 246 Operational Management of Nonprofit Organizations (W, DL) 5 credits**

This course focuses on the "tactics" of strategy implementation in a nonprofit organization. It answers the question: "Now that we have determined our mission and strategic goals, what do we have to do to get there?" Course explores human resource development and supervision, program planning, managing volunteers, outcome assessment and measurement, board and committee development, and risk management.

Lecture: 5 hours – Lab: 0 hours Lab fee: \$5.00

**BMGT 247 Legal and Financial Issues in Nonprofit Management (SP, DL) 5 credits**

This course introduces the legal and financial issues relevant to managing a 501 (c) (3) nonprofit organization. Issues to be addressed include organizing the entity, qualifying for and maintaining nonprofit status, principles of fundraising, and strategic marketing. Financial areas covered include the principles of fiscal responsibility for nonprofits, as well as cost accounting, budgeting, the presentation of financial statements, proposed development, and in-kind resources

Lecture: 5 hours – Lab: 0 hours Lab fee: \$4.00

**BMGT 248 Leadership Seminar in Nonprofit Management (SU, DL) 5 credits**

This course is a project-based capstone learning experience that will facilitate the application of knowledge acquired in BMGT 245, 246, and 247 to a contemporary problem or initiative in a nonprofit organization. Leadership strategies relevant to a nonprofit organizational context and an exploration of professional motivation and commitment will also be explored.

Lecture: 4 hours – Field Experience: 7 hours Lab fee: \$4.00

**BMGT 250 Project Management Methodologies (A, W, SP, SU) 5 credits**

Students will develop their personal project methodology that can be customized to any field of interest. It will include activities in all project phases and processes such as project charters, communication plans, requirements validation, change management, risk/issue management, testing and quality assurance.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: BMGT 254 BMGT 257

**BMGT 253 The Art and Science of Managing Conflict (A, W, SP, SU, DL) 4 credits**

This course provides students with a basis and a context for effectively managing conflict. The course covers fundamentals of emotional intelligence and emotional intelligence competencies, a critical thinking model, various models of conflict management, dealing with disruptive and antagonistic behaviors, and the eight elements of effective conflict management. The course focuses on theory and practical application and is designed to equip managers with both the basic theoretical knowledge and initial practical experience needed to manage conflict effectively.

Lecture: 3 hours – Lab: 2 hours Lab fee: \$5.00

**BMGT 254 Project Management Techniques (A, W, SP, SU) 5 credits**

Students will learn to use a variety of Project Management tools, such as breakdown structures, resource and time estimating, resources allocation, GANTT charts, earned value, PERT charts, and critical path analysis.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: BMGT 257

**BMGT 257 Project Management Principles (A, SP, DL) 3 credits**

This course introduces students to the basic concepts of project management. Students learn to define the scope of a project; minimize change of scope; establish goals; define dependency networks; communicate the project plan; use Program Evaluation and Review Techniques (PERT) charts and Critical Path Management; schedule projects; establish tasks, sub tasks, and milestones; and assign resources to tasks. Students use

matrix management principles and tools as a way to facilitate project planning and monitoring. Students are required to plan a project from inception to completion.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$5.00

**BMGT 258 Enterprise Planning and Analysis (A, SP) 4 credits**

This course provides students with a review of operations, including service and manufacturing. It includes a review of tools, techniques, and methodologies that enhance organizational problem-solving, planning, and process analysis and improvement. Students will become familiar with application of these tools and learn which is best suited to a particular organizational challenge.

Lecture: 3 hours Lab: 2 hours

Prerequisites: BMGT 101 or BMGT 111 and MATH 102

**BMGT 259 Project Management Capstone Course (A, W, SP, SU) 5 credits**

In this capstone course for the project management certification program, students use the knowledge they gained from BMGT 257, BMGT 254 and BMGT 250 to manage his/her own project. The project can be real or a case study.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: BMGT 250, BMGT 254, BMGT 257 .

**BMGT 260 Business Management Seminar (A, W, SP, SU) 2 credits**

On-campus seminar which allows students to report on small business management knowledge gained in specific areas of the internship. The course may include a market research survey, case reports, or other special projects.

Seminar: 2 hours

Prerequisite: BMGT 280, and Permission of Instructor

Coresquisite: BMGT 261

**BMGT 261 Business Managmt. Practicum (A, W, SP, SU) 3 credits**

The practicum provides a supervised, cooperative work experience with on-the-job application of knowledge and skills acquired in the classroom.

Practicum: 21 hours

Prerequisite: BMGT 280, and Permission of Instructor

Coresquisite: BMGT 260

**BMGT 272 Case Studies in Strategic Management (A, W, SP, SU, DL) 4 credits**

This case studies seminar is designed as a capstone course for graduating Business Management students and Accounting majors to allow students to inter-relate various functional disciplines to which they have been exposed during their preceding business coursework. Using case studies, students are provided an opportunity to apply various decision-making and problem-solving principles and practices in a course that will provide an integrative view and reinforce understanding of strategy.

Lecture: 3 hours – Lab: 2 hours Lab Fee: \$10.00

Prerequisites: ACCT 107, ECON 200, FMGT 201 HRM 121, and MKTG 111.

Note: Course is open to Business Management majors in their last quarter of study, only after all course prerequisites have been met. Registration requires prior approval by the Business Management Technology Program Coordinator.

**BMGT 280 Business Professional Development (A, W, SP, SU, DL) 3 credits**

Business Professional Development will provide students with an opportunity to examine their career development and build a professional portfolio. Students will be exposed to all facets of the job search cycle and evaluate their competencies in relation to their chosen career field. Students will prepare a professional resume, sixty second elevator speech, and professional references. Students will learn about different interviewing techniques, analyzing social capital, networking and political skills as well as proper business etiquette. Other course activities will include

researching companies, shadowing professionals on the job, attending business networking functions, learning how to use Internet sites for job searches and networking on-line, negotiating job offers, and legal issues associated with employment. The culmination of these activities will lead students to the final course product; creating an electronic portfolio. Students will have an immediate competitive advantage in the workplace to begin their career.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$1.00

**BMGT 281-285 Studies in Contemporary Business 1-5 credits**

Studies in Contemporary Business is a specially designed course offering to meet the needs of the constantly changing business community and student population.

Lecture hours: May vary Lab hours: May vary

Prerequisite: Permission of Instructor

## Business Office Applications (BOA)

**BOA 101 Business Grammar (A, W, SP, SU, DL) 3 credits**

This course is a structured program reviewing the parts of speech in detail. In addition, it is designed to help students become skillful in sentence analysis, word choice, punctuation, vocabulary, capitalization, number expression, and spelling. Any DEV classes needed are to be taken before scheduling this challenging review course. It is recommended that students take BOA 101 prior to ENGL 101. Business Office Applications majors must earn a “C” grade or better in BOA 101.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$2.00

**BOA 105 Desktop and Document Management (A, W, SP, SU, DL) 1 credit**

This is a foundation course preparing students to manage the computer desktop and documents. Students will learn to create and manage document folders, download and upload documents and folders, download and use utility software to view PDF files, videos, and multimedia presentations, condense and extract zipped files and folders.

Lecture: 0 hours – Lab: 2 hours Lab fee: \$5.00

**BOA 106 Internet Research (A, W, SP, SU, DL) 1 credit**

This course prepares students to use the Internet effectively for research in a business and workplace environment. Students will learn how to perform basic and complex Internet searches, use search engines and subject guides effectively, evaluate and cite online resources, and utilize specialized research tools, including newsgroups and intelligent search agents. Students will also learn about copyright issues and when it is appropriate to download and use media from the Internet, and when it is necessary to obtain permission. Computer and Internet experience is recommended.

Lab: 2 hours Lab fee: \$3.00

**BOA 111 Bookkeeping Basics I (A, W, SP, SU, DL) 4 credits**

This course is designed to provide students with a basic understanding of bookkeeping principles and procedures including analysis of business transactions, journalizing, posting, adjusting and closing entries, and financial statement preparation. Also included are transactions involving payroll accounting, bank accounts, and cash funds. Any DEV math classes needed are to be taken before scheduling this course. Recommended: Students should complete BOA 172 Excel before taking this course.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$5.00

**BOA 112 Bookkeeping Basics II (A, W, SP, SU, DL) 4 credits**

This course is a continuation of BOA 111 Bookkeeping Basics I. The course is designed to provide students with a strong basic knowledge of accounting and bookkeeping terminology, concepts, and procedures. Topics include combined journals, payroll accounting, special journals,



and the full accounting cycle for a merchandising firm.  
Lecture: 4 hours – Lab: 0 hours  
Prerequisite: BOA 111 with “C” grade or higher Lab fee: \$5.00

**BOA 113 QuickBooks I (A, W, SP, SU, DL) 1 credit**  
This is an introductory course for QuickBooks accounting software in which students learn to keep a set of computerized books for a small company. Any DEV math classes needed are to be taken before scheduling BOA 113. Recommended: Students should complete BOA 111 Bookkeeping Basics I before taking this course.  
Lecture: 0 hours - Lab: 2 hours Lab fee: \$3.00

**BOA 114 QuickBooks II (A, W, SP, SU, DL) 1 credit**  
This is an intermediate course in which students will gain additional knowledge in the use of QuickBooks software. Adjustment of company inventory, payroll processing, and banking transactions are covered along with other selected topics.  
Lecture: 0 hours – Lab: 2 hours  
Prerequisite: BOA 113 Lab fee: \$3.00

**BOA 115 Computer Bookkeeping with Peachtree® (A, W, SP, SU, DL) 3 credits**  
This course contains basic accounting procedures using computerized accounting software Peachtree® 2007. The course covers how to create a company file, run accounts payable, manage inventory and payroll, track inventory and fixed assets, maintain ledgers and journals, and create reports.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisite: BOA 111 Lab fee: \$3.00

**BOA 116 Adjusting Entries and Error Corrections (A, W, SP, SU, DL) 2 credits**  
Students will learn to set up the trial balance, compute and record all end-of-period adjustments, and present the adjusted trial balance. Also included in this course is how to do the monthly bank reconciliation, correcting errors in the trial balance and in the accruals and deferrals.  
Lecture: 2 hours  
Prerequisites: BOA 111 Lab fee: \$3.00

**BOA 117 Payroll (A, W, SP, SU, DL) 2 credits**  
This course examines paying wages, withholding, depositing, and reporting taxes, as well as the correct use of government forms. In this course, students will learn who gets overtime pay and who does not; how to process a W-4 and complete the 941, 940, W-2 and W-3; how and when to deposit withheld taxes using actual forms.  
Lecture: 2 hours  
Prerequisite: BOA 111 Lab fee: \$3.00

**BOA 118 Inventory and Depreciation (A, W, SP, SU, DL) 2 credits**  
Students will learn the perpetual and periodic methods of recording inventory. Find out how to cost out inventory and record cost of goods sold using weighted and moving average, FIFO, LIFO, and lower of cost or market (LCM). Students will also learn to compute and record depreciation for book and tax purposes; the 4 major methods of GAAP depreciation; MACRS depreciation for tax purposes, including Section 179 deductions; and tax depreciation of cars, SUVs and other vehicles.  
Lecture: 2 hours  
Prerequisite: BOA 111 Lab fee: \$3.00

**BOA 119 Internal Controls and Fraud Prevention (A, W, SP, SU, DL) 2 credits**  
This course examines internal controls and their role in the prevention of fraud. This is a core course in the Bookkeeping Certificate program.  
Lecture: 2 hours  
Prerequisite: BOA 111 Lab fee: \$3.00

**BOA 121 Records Management (A, W, SP) 3 credits**  
This course is designed to provide knowledge of efficient management of electronic and manual business records, ARMA filing methods and systems, and principles for the selection of records systems and supplies. Any DEV classes needed should be taken before scheduling BOA 121.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisites: BOA 189 Access Modules 1 and 2 Lab fee: \$5.00

**BOA 125 Outlook (A, SP, DL) 3 credits**  
This course is a desktop information management application using Microsoft Outlook software. Students will learn problem-solving techniques to organize and manage a variety of tasks, such as file management, calendar, e-mail, contacts, tasks, and journals. The goal of this course is to promote independent problem-solving proficiency while working simultaneously as a member of an office team. Prior computer experience is strongly recommended.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisites: BOA 105 & BOA 191 (or BOA 191A & BOA 191B)  
Lab fee: \$3.00

**BOA 131 Introduction to Keyboarding (A, W, SP, SU, DL) 3 credits**  
BOA 131 is an introductory interactive system of keyboarding, teaching the “touch” system of typing. Development of basic keyboarding skills is measured in words per minute and accuracy of one error per minute. To receive credit for this course, students must complete all keyboarding lessons in assigned text and demonstrate ability to key at least two different two-minute timings, each with a minimum speed of 25 words a minute (“D” grade) and accuracy of two or fewer errors. Students must earn a “C” grade or better as a prerequisite for BOA 132 Document Formatting and Skill Building I.  
Lecture: 2 hours – Lab: 2 hours  
Lab fee: \$3.00

**BOA 132 Document Formatting and Skill Building I (A, W, SP, SU, DL) 3 credits**  
BOA 132 presents an intermediate interactive system reinforcing keyboarding skills by touch. Applications using Microsoft Word are designed to teach formats for business correspondence, tabulations, and manuscripts with emphasis on correct techniques, proofreading, decision-making skills, and accuracy; further development of keyboarding speed measured in words per minute and accuracy of one error per minute on three-minute timings. To receive credit for this course students must demonstrate assigned formatting skills and be able to key at least two different three-minute timings, each demonstrating a minimum speed of 35 words a minute (“D” grade) with accuracy of three or fewer errors. Students must earn a “C” grade or better as a prerequisite for BOA 133 Document Formatting and Skill Building II.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisite: “C” grade or better in BOA 131 or proficiency exam  
Lab fee: \$3.00

**BOA 133 Document Formatting and Skill Building II (A, W, SP, SU, DL) 3 credits**  
BOA 133 presents an advanced interactive system reinforcing keyboarding skills by touch. Applications using Microsoft Word software are designed to continue instruction of business correspondence, tabulations, manuscripts, reports, and various business forms with emphasis on correct techniques, proofreading, decision-making skills, and accuracy; further development of keyboarding speed measured in words per minute and accuracy of one error per minute on five-minute timings. To receive credit for this course, students must demonstrate assigned formatting skills and be able to key at least two different five-minute timings, each demonstrating a minimum speed of 45 words per minute (“D” grade) with accuracy of five or fewer errors. A grade of “C” or better is required in BOA 133 in order to graduate from the BOA program.

Lecture: 2 hours – Lab: 2 hours  
Prerequisite: “C” grade or better in BOA 132 Lab fee: \$3.00

**BOA 138 Computer Transcription (SP) 3 credits**

This course is designed to develop skill in the use of machine transcription equipment. Final form copy is the goal in transcribing audio tapes of business correspondence, technical reports, drafts, and other business communications in a broad range of business formats. Emphasis on the fundamentals of English in grammar, spelling, and vocabulary will reinforce transcription skills. Recommended: Students should complete BOA 101 before taking this course.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: BOA 132

Corequisite: BOA 133 Lab fee: \$5.00

**BOA 139 Keyboarding Improvement (A, W, SP, SU, DL) 1 credit**

This elective course is designed to provide students with increased skill in the use of the keyboard by touch. Students need to be able to key by touch from text at least 40 wpm with reasonable accuracy, using correct finger placement. The emphasis will be on speed and accuracy using straight-copy material, time writings, and drills. The grading system is Satisfactory or Unsatisfactory.

Lab: 2 hours

Prerequisite: BOA 132 or Permission from Instructor Lab fee \$3.00

**BOA 150 Office Procedures I (A, SP) 3 credits**

This foundation course will provide continuity and integration with all BOA courses by focusing on the essential knowledge, skills, abilities, qualities, and attitudes that are critical for success in an office environment. In addition to soft skills, students will learn to plan business meetings and travel as well as organizing a workplace environment. The third component of this course will introduce students to development of an electronic portfolio. This electronic portfolio will be integrated into all courses in the curriculum.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$5.00

**BOA 151 Office Procedures II (W, SU) 3 credits**

As a continuation of BOA 150 Office Procedures I, this course covers additional topics essential to the success of an office employee and will continue to provide continuity and integration with all BOA courses and curriculum. This course will emphasize business information and financial systems, managing office records, preparing and delivering presentations, teamwork in the workplace, planning and advancing your career, and professional development.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: BOA 150 Lab fee: \$5.00

**BOA 167 Desktop Publishing (A, SP) 3 credits**

This course utilizes a desktop publishing software program widely used to design sophisticated publications. This course begins with the basics and builds upon this knowledge to demonstrate how to work with text frames and layers, format text, apply styles, add graphics, and much more. Recommendations: 35 words per minute keyboarding skill, computer experience and skills in word processing software.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$5.00

**BOA 172 Excel (Modules 1 and 2) (A, W, SP, SU) 2 credits**

This is a foundation course using Microsoft Excel software. Students will explore Excel features and functions used in business applications. Students will learn to plan and create worksheets, modify and maintain worksheets, insert formulas, create charts, and enhance the display of workbooks. Recommended: Keyboarding and computer experience.

Lecture: 1 hour – Lab: 3 hours Lab fee: \$5.00

**BOA 172A Excel Module 1 (A, W, SP, SU, DL) 1 credit**

This is an introductory course in Microsoft Excel spreadsheet software. Students will learn to create a worksheet, modify worksheets, and create formulas. Recommended: Keyboarding and computer experience.

Lecture: 0 hours – Lab: 2 hours Lab fee: \$2.00

**BOA 172B Excel Module 2 (A, W, SP, SU, DL) 1 credit**

This is a continuation of introductory and intermediate skills using Microsoft Excel spreadsheet software. Students will learn to move data within and between workbooks, maintain workbooks, create charts in Excel, and enhance the display of workbooks.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: BOA 172A Lab fee: \$5.00

**BOA 173A Excel Module 3 (A, SP, DL) 1 credit**

This is a course using intermediate features/functions of Microsoft Excel spreadsheet software. Students will learn to format worksheets using advanced formatting techniques, work with templates and workbooks, use advanced features for financial, math, statistical, and logical functions. Students are responsible for the software in this distance-learning course.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: BOA 172B Lab fee: \$5.00

**BOA 173B Excel Module 4 (A, SP, DL) 1 credit**

This is a course using intermediate and advanced features/functions of Microsoft Excel spreadsheet software. Students will learn to use Excel’s analysis tools, manage and audit worksheets, collaborate with workgroups, and use data from the Internet and other sources. Students are responsible for the software in this distance-learning course.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: BOA 173A Lab fee: \$5.00

**BOA 188 PowerPoint (Modules 1 and 2) (A, W, SP, SU) 2 credits**

This is a foundation course using Microsoft PowerPoint presentation graphics software. Students will learn to create and enhance slide presentations using clipart, charts, photographs, videos, and sound. More advanced visual elements and animation are also incorporated in this course. Recommended: Keyboarding and computer experience.

Lecture: 1 hour – Lab: 3 hours Lab fee: \$5.00

**BOA 188A PowerPoint Module 1 (A, W, SP, SU, DL) 1 credit**

This is an introductory course to Microsoft PowerPoint presentation graphics software. Students will learn the fundamentals of creating and enhancing a presentation using clip art, charts, photographs, videos, and sound. Recommended: Keyboarding and computer experience.

Lecture: 0 hours – Lab: 2 hours Lab fee: \$2.00

**BOA 188B PowerPoint Module 2 (A, W, SP, SU, DL) 1 credit**

This course is a continuation of introductory features/functions using Microsoft PowerPoint presentation software. Students will learn to add visual appeal, animation, and visual elements to PowerPoint presentations. Recommended: Keyboarding and computer experience.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: BOA 188A Lab fee: \$5.00

**BOA 189 Access (Modules 1 and 2) (A, W, SP, SU) 2 credits**

This is a foundation course using Microsoft Access database software. Students will learn to create and modify database tables, create data forms and queries, generate reports, and use database wizards. Recommended: Keyboarding and computer experience.

Lecture: 1 hour – Lab: 3 hours Lab fee: \$5.00

**BOA 189A Access Module 1 (A, W, SP, SU, DL) 1 credit**

This is an introductory course in Microsoft Access database software. Students will learn to create, modify, and enhance tables in a database. Recommended: Keyboarding and computer experience.

Lecture: 0 hours – Lab: 2 hours Lab fee: \$2.00

**BOA 189B Access Module 2 (A, W, SP, SU, DL) 1 credit**

This is a continuation of Microsoft Access database software features and functions. Students will learn to modify tables, create forms, create

reports, and use database wizards.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: BOA 189A Lab fee: \$5.00

**BOA 190A Access Module 3 (A, W, SP, SU, DL) 1 credit**

This is a course using intermediate features/functions of Microsoft Access database software. Students will learn to create and modify advanced tables, create and modify forms, refine queries, and use advanced report features.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: BOA 189B Lab fee: \$5.00

**BOA 190B Access Module 4 (A, WI, SP, SU, DL) 1 credit**

This is a course using intermediate and advanced features/functions of Microsoft Access database software. Students will learn to use Access tools, create database applications, and use data from the Internet and other sources.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: BOA 190A Lab fee: \$5.00

**BOA 191 Word I (Modules 1 and 2) (A, W, SP, SU) 2 credits**

This is a foundation course using Microsoft Word software. Students will learn to create, modify and maintain documents, format and customize documents, create tables and charts, and enhance documents with special features. Students must earn a “C” grade or better in BOA 191 as a prerequisite for BOA 192 Word II. Recommended: Keyboarding skill of at least 35 words per minute and computer experience.

Lecture: 1 hour – Lab: 3 hours Lab fee: \$5.00

**BOA 191A Word Module 1 (A, W, SP, SU, DL) 1 credit**

This is an introductory course using Microsoft Word software. Students will learn to create and edit a document, format documents, arrange text, and use simple graphics. Recommended: Keyboarding and computer experience.

Lecture: 0 hours – Lab: 2 hours Lab fee: \$2.00

**BOA 191B Word Module 2 (A, W, SP, SU, DL) 1 credit**

This is a continuation of features and functions using Microsoft Word software. Students will learn to modify and maintain documents, customize documents, create tables and charts, and enhance documents with special features. Recommended: Keyboarding and computer experience.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: BOA 191A Lab fee: \$5.00

**BOA 192 Word II (Modules 3 and 4) (A, W, SP, SU) 2 credits**

Provides additional skills and refines techniques presented in BOA 191. This is an intermediate and advanced level course using Microsoft Word software. Students will learn to merge documents, sort and select data, format with special features, add visual elements, and format using macros and styles. Students will learn how to work with shared documents, share data, and create specialized tables and indexes. Recommended: Keyboarding skill of at least 35 words per minute and computer experience.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: “C” grade or better in BOA 191 Lab fee: \$5.00

**BOA 192A Word Module 3 (A, W, SP, SU, DL) 1 credit**

This is an intermediate course using Microsoft Word software. Students will learn to customize paragraphs and pages, sort and insert Building Blocks, format with special features, add visual elements, and format using macros and styles.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: BOA 191B Lab fee: \$5.00

**BOA 192B Word Module 4 (A, W, SP, SU, DL) 1 credit**

This is an intermediate/advanced course using Microsoft Word software. Students will learn how to work with shared documents, share data, create specialized tables and indexes, and use XML in Word.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: BOA 192A Lab fee: \$5.00

**BOA 193 Word III (A, W, SP, SU, DL) 3 credits**

This is an advanced level course using Microsoft Word software. Reinforcement of important design concepts such as consistency, focus, balance, directional flow, contrast, color, proportion, legibility, and readability will be emphasized. Students will learn to create professional-looking business documents in the form of letterheads, business cards, calendars, certificates, newsletters, brochures, booklets, and forms.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: “C” grade or better in BOA 192 Lab fee: \$5.00

**BOA 195 Office Integration I (A, W, SP, SU, DL) 1 credit**

This course offers intermediate and advanced features to integrate Word, Excel, PowerPoint, Access, and Outlook applications. Students will learn to join office applications that work together.

Lecture: 0 hours – Lab: 2 hours

Prerequisites: BOA 192A, 173A, 188B, 189B Lab fee: \$3.00

**BOA 196 Office Specialist Review I (A, SP, DL) 1 credit**

This course is designed for students who have completed Word, Excel, PowerPoint, and Access modules 1 and 2. The course will provide students with a structured review and hands-on practice using Word, Excel, PowerPoint, and Access features and functions in preparation for office systems certification.

Lecture: 0 hours – Lab: 2 hours

Prerequisites: BOA 191B, BOA 172B, BOA 188B, BOA 189B

Lab fee \$3.00

**BOA 197 Office Specialist Review II (A, SP, DL) 1 credit**

This course is designed for students who have completed Word, Excel, and Access modules 1 through 3, PowerPoint modules 1 and 2, and Outlook. The course will provide students with a structured review and hands-on practice using Word, Excel, PowerPoint, and Access, and Outlook intermediate and advanced features in preparation for office systems certification.

Lecture: 0 hours – Lab: 2 hours

Prerequisites: BOA 196 Lab fee: \$3.00

**BOA 250 Capstone (A, SP) 4 credits**

This capstone course provides a hands-on application environment where students work in teams to plan, develop, implement, and present automated business and financial office applications. Students will also complete an electronic portfolio and participate in a community service project related to the program of study.

Students must earn a “C” grade or better in BOA 250 in order to graduate from the BOA program.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: BOA 101, BOA 111, BOA 121, BOA 133, BOA 151, BOA 195, Lab fee: \$3.00

**BOA 270 Business Office Applications Practicum (A, SP) 2 credits**

The practicum is a professional field experience program designed to provide the student with an opportunity to work in a professional office environment. This opportunity allows students to integrate the theory and knowledge of course content with the application of principles and practices in a work environment.

Lecture: 0 hours – Lab: 14 hours

Prerequisites: BOA 151, BOA 195, BOA 101, BOA 121, BOA 133

Corequisite: BOA 271 Lab fee: \$5.00

**BOA 271 Business Office Applications Practicum Seminar (A, SP) 2 credits**

This seminar provides opportunities for discussion and activities related to a business office environment. Students will discuss the work experience and demonstration of ability to transfer program skills and technology to an office environment. Students will prepare weekly reports and complete work-related projects and assignments. This course must be taken as a corequisite with BOA 270 Business Office Applications Practicum.

Lecture: 2 hours – Lab: 0 hours

Corequisite: BOA 270

Prerequisites: BOA 151, BOA 195, BOA 101, BOA 111, BOA 121, BOA 133 Lab fee: \$5.00

**BOA 297 Special Topics in Business Office Applications (On Demand) 1–3 credits**

BOA 297 provides an opportunity for detailed examination of selected topics of interest in office applications and administration.

Lecture: Varies – Lab: Varies

Prerequisite: Varies Lab fee: \$20.0

## Chemistry (CHEM)

**A mandatory safety lesson must be completed before the student is admitted to any other chemistry laboratory sessions. Approved Chemical Splash Resistant goggles are required and may be purchased through the bookstore. Certain clothing restrictions exist and will be explained by the instructor. Attendance during the first week of class is mandatory and may affect a student's continued enrollment in these classes. Students must earn at least 60% of the total laboratory points in a course to receive a passing grade for the course. Courses in this area may require additional hours outside of scheduled class times. High school chemistry must have been completed within the last 3 years, or the student must have completed CHEM 100 or CHEM 111 in order to meet the prerequisite requirement.**

**CHEM 100 Intro to Chemistry (A, W, SP, SU, DL) 4 credits**

This is a preparatory chemistry course covering the basic concepts of chemistry with emphasis on the physical and chemical properties of matter, problem-solving, and an introduction to chemical reactions. Related laboratory work and demonstrations are included. Safety training and goggles are required for laboratory sessions. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting and completion of certain exams and laboratories. Laboratories in distance learning course are generally done on an every other week basis on campus.

Lecture: 3 hours – Lab: 3 hours

Prerequisites: MATH 102 or higher and placement into ENGL 100 or higher. Not open to students with credit for CHEM 111, 112, 113, 171, 172, or 173. Lab fee: \$13.00

**CHEM 110 Chemistry and Society (A, W, SP, SU) 5 credits**

CHEM 110 is a course for nonscience majors intended to a) acquaint students with the science of chemistry as it relates to modern technological society, and b) help students learn about chemistry in the context of their everyday lives. This course will also help students realize the interconnection between chemistry and other disciplines in the natural sciences. The material in the course focuses on the practical significance of basic chemistry in the context of social, political and economic issues that affect our world. In addition, this course will provide students with an interactive laboratory experience. Safety training and goggles are required for participation in laboratory sessions.

Lecture: 4 hours – Lab: 3 hours

Prerequisites: Placement into Math 102 or higher and placement into ENGL 101. Not open to students with credit for CHEM 111 or higher. Lab fee: \$19.00

**CHEM 111 Elementary Chemistry I (A, W, SP, SU, DL) 5 credits**

This is an introductory course in fundamental chemical concepts and laboratory techniques. Topics include atomic structure, periodic classification of elements, stoichiometry, solutions, acids and bases, pH and buffers, the gas laws, chemical equilibrium and nuclear chemistry. Safety training

and goggles are required for laboratory sessions. This course and CHEM 112 provide a two-quarter sequence in physical science that will fulfill the elective requirement for the Associate of Science Degree. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting and completion of certain exams and laboratories. Laboratories in distance learning course are generally done on an every other week basis on campus

Lecture: 4 hours – Lab: 3 hours

Prerequisites: MATH 102 or higher and placement into ENGL 101. Not open to students with credit for CHEM 171, 172 or 173

Lab fee: \$19.00

**CHEM 112 Elementary Chemistry II (A, W, SP, SU, DL) 5 credits**

CHEM 112 is an introductory course in fundamental organic chemistry, biochemistry and laboratory techniques. Course covers the study of carbon compounds organized according to functional groups including carbohydrates, lipids, proteins, enzymes and vitamins. Emphasis is placed on physiological function. Safety training and goggles are required for laboratory sessions. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting and completion of certain exams and laboratories. Laboratories in distance learning course are generally done on an every other week basis on campus.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: CHEM 111; not open to students with credit for CHEM 171 or CHEM 251 or higher. Lab fee: \$19.00

**CHEM 113 Elements of Organic and Biochemistry (A, W, SP, SU, DL) 5 credits**

This is a course in elementary chemical concepts designed primarily for allied health students. It includes the study of basic organic chemistry, especially related to functional groups, and biochemistry including carbohydrates, lipids, proteins, enzymes and nucleic acids and metabolism. Safety training and goggles are required for the laboratory session. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting and completion of certain exams and laboratories. Laboratories in distance learning courses are generally done on an every other week basis on campus.

Lecture: 4 hours – Lab: 3 hours

Prerequisites: High school chemistry completed within the last 3 years, or CHEM 100 or CHEM 111, or successfully completing a chemistry placement exam; MATH 102 or higher; and placement into ENGL 101. Not open to students with credit for CHEM 112 or CHEM 251. Lab fee: \$19.00

**CHEM 171 General Chemistry I (A, W, SP, SU, DL) 5 credits**

CHEM 171 presents fundamental chemical principles for chemistry majors and pre-professionals. Topics include chemical calculations, the mole concept, atomic structure, periodic classification, bonding, the behavior of gases and thermochemistry. Laboratory sessions provide bench experiences. Students will be required to participate in a laboratory research experience. Safety training and goggles are required for laboratory sessions. This is the first of a three-quarter sequence designed for students entering scientific disciplines. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting and completion of certain exams and laboratories. Laboratories in distance learning courses are generally done on an every other week basis on campus.

Lecture: 4 hours – Lab: 3 hours

Prerequisites: High school chemistry or CHEM 100 or CHEM 111, completion of or concurrent enrollment in MATH 148 or equivalent, and placement into ENGL 101 Lab fee: \$19.00

**CHEM 172 General Chemistry II (A, W, SP, SU, DL) 5 credits**

This course is a continuation of CHEM 171. Topics include chemical bonding, molecular geometry, behavior of liquids and solids, solutions, kinetics, equilibrium and acid-base chemistry. Laboratory sessions provide bench experiences. Students will be required to participate in a laboratory research experience. Safety training and goggles are required

for laboratory sessions. This is the second of a three-quarter sequence designed for students entering scientific disciplines. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting and completion of certain exams and laboratories. Laboratories in distance learning courses are generally done on an every other week basis on campus.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: CHEM 171 Lab fee: \$19.00

#### **CHEM 173 General Chemistry III (A, W, SP, SU, DL) 5 credits**

CHEM 173 is a continuation of CHEM 172. Topics include buffers, solubility equilibria, atmospheric chemistry, entropy and free energy, electrochemistry, the chemistry of metals and nonmetals, coordination complexes and nuclear chemistry. Laboratory sessions provide bench experiences. Students will be required to participate in a laboratory research experience. Safety training and goggles are required for laboratory sessions. This is the third of a three-quarter sequence designed for students entering scientific disciplines. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting and completion of certain exams and laboratories. Laboratories in distance learning courses are generally done on an every other week basis on campus.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: CHEM 172 Lab fee: \$19.00

#### **CHEM 251 Organic Chemistry I (A, W, SP, SU) 5 credits**

This is the first course in a three-course sequence in organic chemistry. CHEM 251 covers structure, nomenclature, physical properties, bonding and reactions of alkanes, alkenes, and alkyl halides.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: CHEM 173 Lab fee: \$6.00

#### **CHEM 252 Organic Chemistry II (A, W, SP, SU) 5 credits**

This is the second course in a three-course sequence in organic chemistry. This course includes the study of Infrared Spectroscopy, Mass Spectrometry, Nuclear Magnetic Resonance Spectroscopy, physical and chemical properties of aromatic compounds including aromatic substitution reactions, and further study of alcohols, ethers, epoxides, and carbonyl compounds.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: CHEM 251 Lab Fee: \$6.00

#### **CHEM 253 Organic Chemistry III (A, W, SP, SU) 5 credits**

This is the third course in a three-course sequence in organic chemistry. This course includes the study of the chemical and physical properties of carboxylic acids, carboxylic acid derivatives, amines, carbonyl condensation reactions, carbohydrates, amino acids, peptides, proteins, lipids and polymers.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: CHEM 252 Lab fee: \$6.00

#### **CHEM 254 Organic Chemistry Lab I (A, W, SP, SU) 3 credits**

This is the first course in a two-course sequence in organic chemistry laboratory. This course introduces the student to laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds. Students will be required to participate in a laboratory research experience.

Lecture: 1 hour – Lab: 8 hours

Prerequisite: CHEM 252 and or concurrent enrollment in CHEM 252  
Lab fee: \$39.00

#### **CHEM 255 Organic Chemistry Lab II (A, W, SP, SU) 3 credits**

This is the second course in a two-course sequence in organic chemistry laboratory. This course includes further study of organic laboratory techniques including synthesis, isolation, purification and identification of organic compounds. Students will be required to participate in a laboratory research experience.

Lecture: 1 hour – Lab: 8 hours

Prerequisites: CHEM 252 and CHEM 254 Lab fee: \$39.00

#### **CHEM 261 General Biochemistry (A, W, SP, SU) 5 credits**

This is an introductory course in biochemistry dealing with the molecular basis of structure and metabolism of plants, animals and microorganisms.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: CHEM 252 and two quarters of biological science

Lab fee: \$6.00

#### **CHEM 293 Independ. Study in Chemistry (On Demand) 1-5 credits**

CHEM 293 offers a detailed examination of selected topics of interest in chemistry.

Prerequisite: Permission of instructor Lab fee: Varies

#### **CHEM 299 Special Topics in Chemistry (On Demand) 1-5 credits**

This course is an opportunity for a detailed examination of selected topics of interest in chemistry. Students may be required to participate in a laboratory-based research project.

Lecture: 1 to 5 hours – Lab: 0 to 6 hours

Prerequisite: Permission of the instructor Lab fee: Varies

## **Chinese (CHIN)**

#### **CHIN 101 Elementary Chinese I (A, W, SP, SU) 5 credits**

This course offers an introduction to the fundamentals of the Mandarin Chinese language with practice in listening, speaking and simplified Chinese characters. It also includes selected studies in Chinese culture. CHIN 101 meets elective requirements in the A.A and A.S degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$6.00

#### **CHIN 102 Elementary Chinese II (W, SP) 5 credits**

CHIN 102 is a continuation of CHIN 101 with further development of listening and speaking skills. Course also focuses on writing skills and further study of Chinese culture. CHIN 102 meets elective requirements in the A.A and A.S degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: CHIN 101 with a grade of “C” or better or by placement exam Lab fee: \$6.00

#### **CHIN 103 Elementary Chinese III (On Demand) 5 credits**

CHIN 103 is a continuation of CHIN 102 with further development of listening and speaking skills. Some focus also is given to writing skills and further study of Chinese culture. CHIN 103 meets elective requirements in the A.A and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: CHIN 102 with a grade of “C” or better or by placement exam Lab fee: \$6.00

#### **CHIN 104 Elementary Chinese IV (On Demand) 5 credits**

CHIN 104 is a continuation of CHIN 103 with further development of listening and speaking skills. Some focus also is given to writing skills and further study of Chinese culture. CHIN 104 meets elective requirements in the A.A and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: CHIN 103 with a grade of “C” or better or by placement exam Lab fee: \$6.00

## Civil Engineering Technology (CIVL)

### **CIVL 120 Basic Construction Materials (A, W, SP, SU) 3 credits**

A study of the properties, construction applications, standards, specifications and elementary material testing methods of soils, aggregates, asphalts, Portland cement concrete, masonry, metals and woods. Laboratory exercises include basic common construction industry materials testing procedures and comparison of results to industry standards and specifications.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: MATH 102 or placement into a higher level mathematics course Lab fee: \$20.00

### **CIVL 121 Heavy Construction Materials (A, SP) 3 credits**

A comprehensive study and application of the material testing methods of soils, aggregates, asphalt, and Portland cement concrete required in the heavy construction industry. The laboratory exercises provide fundamental hands-on experience in preparation for the American Concrete Institute (ACI) Grade 1 Concrete Field Technician exam. Preparation in the ACI Grade 1 Contract Field Technician test is a course requirement.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIVL 120 Lab fee: \$55.00

### **CIVL 123 Heavy Construction Drawings (A, W, SP) 3 credits**

Reading and interpretation of construction drawings as related to highway and public works construction projects. Interpretation of the relationships of plans, elevations, sections and details, and the coordination with published specifications. A basic method of material quantity take-off will be explained.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$15.00

### **CIVL 125 Heavy Construction Methods (W, SP) 3 credits**

A study of methods used to build horizontal projects, such as highways, dams, airports, bridges and utility lines. The various pieces of equipment and materials used in these type projects will be explained as well as the processes used.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$5.00

### **CIVL 221 Elementary Hydraulics (A, W) 3 credits**

Course is a study of liquids at rest and in motion in enclosed conduits and open channels. The effects of static heat, velocity, pressure and friction in enclosed piping systems are analyzed. Principles of pump systems, pump station design and detailing are emphasized. Fundamentals of open channel flow, quantification of rainfall runoff and culvert design are introduced.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: MATH 104 or 112 Lab fee: \$12.00

### **CIVL 223 Public Utility Systems (W) 3 credits**

CIVL 223 is a study of the principles of public utility theory, planning, design and detailing. Emphasis is placed on applying current design standards and local and state regulations to the planning, design and plan preparation for sanitary collection systems, storm water management systems and water distribution systems. Detail plan preparation using CAD systems is also emphasized.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: CIVL 221 and 123 Lab fee: \$12.00

### **CIVL 243 Heavy Construction Estimating (A, SU) 3 credits**

This course is a comprehensive study of the topics associated with, and unique to, heavy/highway construction estimating. The major focus of the course will involve determining the cost factors of the equipment-intensive operations associated with heavy/highway construction. The secondary focus will be relating the equipment selection and cost factors to the labor requirements, materials' price extensions, and time requirements as utilized in the model crew method of estimating.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: CIVL 123, CIVL 125 and CMGT 131 Lab fee: \$9.00

### **CIVL 291 Field Experience (SU) 3 credits**

3 credits

Field Experience offers real-world, off-campus job/work experience in civil engineering, consulting engineering, or the surveying industry that augments formal education received in the technology. "N" credit will not be allowed for this course.

Lecture: 0 hours – Lab: 36 hours Lab fee: \$5.00

### **CIVL 299 Special Topics in Civil Engineering Technology (On Demand) 1-5 credits**

1-5 credits

The study of special topics in civil engineering technology industry designed to meet specific needs.

Lecture: 1 hour – Lab: 1-15 hours

Prerequisite: Permission of instructor Lab fee: \$10.00

## Communication (COMM)

### (Also see Technical Communication and Theater)

**Note: Courses taught at a distance (DL) may have a higher lab fee than traditionally taught courses.**

### **COMM 105 Speech (A, W, SP, SU, DL) 3 credits**

3 credits

Emphasis is placed on both verbal and nonverbal communication techniques in public speaking. Individual presentations, including at least three major speeches, are required. The fundamental principles of interpersonal communications and small group discussion are introduced. Audio and/or videotaping of selected projects will occur.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 101 or 111 Lab fee: \$1.00

### **COMM 110 Conference and Group Discussion (A, W, SP, SU) 3 credits**

3 credits

Through role play, discussion and participation, students will develop attitudes, skills and knowledge of methods necessary to effectively participate in discussion at conferences, in committees and in other small groups. This course is recommended as a substitute for COMM 105 in some technologies; check with academic advisor.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 101 or 111 Lab fee: \$1.00

### **COMM 115 Oral Interpretation (A, W, SP, SU, DL) 3 credits**

3 credits

Students will read literature orally and listen critically. They will then practice techniques for presenting literature dramatically. The cultural and social functions of oral literature will be discussed. Emphasis will be placed on analyzing literary works, recognizing their emotional and dramatic values, and projecting those qualities through oral presentations. Writing assignments include response journals and short critical papers.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 101 or 111 Lab fee: \$1.00

### **COMM 150 Video Art Production (On Demand) 5 credits**

5 credits

This course introduces students to the art of independent film and video through analysis of short films and production of digital video shorts. Students will analyze independent films and videos to develop a descriptive definition of video as a collaborative art form. Students will learn digital video photography, conversion of VHS to digital form, script writing, editing and post production in iMovie (Macintosh nonlinear editing software for nonprofessionals). Students will create short videos in selected genre, such as biographical narrative, the parody, or the community-interest documentary.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: ENGL 102 or equivalent with a grade of "C" or higher

required; COMM 245 Introduction to Film is recommended  
Lab fee: \$25.00

### **COMM 200 Business Communications (A, W, SP, SU, DL)**

**3 credits**

Emphasis is placed on principles of effective business writing. Students practice writing business letters and memos. A problem-solving or technical report related to the student's area of concentration is required. Resume preparation and job search techniques are covered.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ENGL 102 or ENGL 111 with a grade of "C" or higher and at least two quarters (or equivalent) work experience in a technology  
Lab fee: \$5.00

### **COMM 202 Writing for Health and Human Services**

**(A, W, SP, SU)**

**3 credits**

Students specializing in human services and health care fields practice the kinds of writing essential to record keeping and research in their professions. Legal and ethical interdisciplinary communication is emphasized. Using practice and real-life cases, students write descriptions, summaries and evaluations. Job search techniques and letter, memo, and report formats are covered. A short research paper using APA documentation is required. This course may substitute for COMM 200 or COMM 204 in certain technologies; check with academic advisor.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ENGL 102 or ENGL 111 with a grade of "C" or higher, enrollment in a technical program, and current clinical /field placement  
Lab fee: \$7.00

### **COMM 204 Technical Writing (A, W, SP, SU, DL)**

**3 credits**

Students learn the principles of technical writing and practice the types of writing required of technicians, including letters, memos, and reports as required in a student's technology. A problem-solving report is written. Resume preparation and job search techniques are covered. Oral reports using visual aids are required.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ENGL 102 or ENGL 111 with a grade of "C" or higher and at least two quarters (or equivalent) in the student's technology  
Lab fee: \$5.00

### **COMM 206 Governmental Communications (On Demand)**

**3 credits**

The course emphasizes the principles of effective writing practiced in government settings. The student learns to write various types of correspondence in a variety of formats, in addition to researching and writing a report adhering to specific guidelines. The student will also prepare selected components of a job application package.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or better  
Lab fee: \$5.00

### **COMM 207 Writing for the Web (A, W, SP, SU, DL)**

**3 credits**

This course introduces students to the fundamentals of writing on the Web. It examines the stylistic and rhetorical dimensions of creating text for the Web, examines which combination of media should be employed to support text, and considers basic issues of design and usability, including how reading strategies on the WWW differ from reading strategies for paper documents.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 Lab fee: \$7.00

### **COMM 208 Communication for the Mass Media (W, SP) 3 credits**

This course prepares students to communicate effectively with the mass media including newspapers, magazines, radio and television through press conferences, news releases, feature stories, research reports and statements. Students will prepare and present a portfolio that may include news and feature stories, brochures, flyers, research and other assignments completed for the course.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111

Corequisite: COMM 105 or equivalent is recommended Lab fee: \$7.00

### **COMM 220 Introduction to Mass Communication**

**(A, W, SP, SU, DL)**

**5 credits**

Students will become better consumers of news and other mass media through the study and discussion of the history, roles and impact of mass media in American society. Principal ethical, policy and legal questions confronting reporters and media are reviewed. Students are introduced to news writing, advertising and public relations techniques.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 Lab fee: \$1.00

### **COMM 245 Introduction to Film (A, W, SP, SU, DL)**

**5 credits**

This course introduces students to cinema by analyzing the elements of film technique: literature, story, drama, editing, movement, acting, sound, photography, staging and theory. Film as a cultural product is also discussed. Class activities include critical viewing, discussion and writing assignments.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of "C" or higher  
Lab fee: \$7.00

### **COMM 250 Advanced Video Art Production**

**(On Demand)**

**5 credits**

This course is a continuation of COMM 150 Video Art Production. Students will further develop their skills in digital video photography, scriptwriting, editing, and post-production in iMovie. Students will create short videos in selected genres, such as the biographical narrative, the parody, or community-interest documentary.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: COMM 150 and permission of the instructor Lab fee: \$25.00

### **COMM 297/298/299 Special Topics in Communication**

**(On Demand)**

**1-5 credits**

Lecture hours: Vary – Lab hours: Vary

Prerequisite: Varies

## **Computer Information Technology (CIT)**

### **CIT 092 Introduction to HTML (A, SU, DL)**

**1 credit**

Learn the most important topics of HTML, including creating an HTML document; viewing an HTML file in a Web browser; working with tag text elements; inserting special characters, lines, and graphics; creating hypertext links; working with color and images; creating text and graphical tables; using tables to enhance page design; creating and working with frames; and, controlling the behavior of hyperlinks on a page with frames.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: None Lab fee: \$10.00

### **CIT 093 Project Management (W, SU)**

**1 credit**

Learn to develop, plan, schedule, and chart project information, and balance workloads for people working on several projects at once, tracking all phases of the project to meet deadlines and stay on budget. Uses Microsoft approved text.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: None Lab fee: \$10.00

### **CIT 094 Web Learning Tools (A, W, SP, SU, DL)**

**1 credit**

This one-credit-hour course provides students with an introduction to Blackboard and to the Internet. Students will learn how to use Blackboard, find information, and explore the World Wide Web. Not open to students who have taken CIT 139.

Lecture: 0 hours – Lab: 2 hours  
Prerequisite: None Lab fee: \$10.00

**CIT 095 Computer File Management (A, W, SP, SU) 1 credit**

This one-credit-hour course is an introductory course on the Windows operating system. The objective of the course is to teach fundamental skills in working with the desktop, drives, folders, files, and applications. Not open to students who have taken CIT 121.

Lecture: 0 hours – Lab: 2 hours  
Prerequisite: None Lab fee: \$10.00

**CIT 100 Computer Literacy (A, W, SP, SU, DL) 1 credit**

This one-credit-hour course provides students with an introduction to computer technology, computer hardware, and computer software.

Lecture: 0 hours – Lab: 2 hours  
Prerequisite: None Lab fee: \$10.00

**CIT 101 PC Applications I (A, W, SP, SU, DL) 3 credits**

This course is designed to provide students an introduction to fundamental computer applications and technologies based on the International Computing Drivers' License (ICDL). ICDL is an international standard for measuring competence in those essential computer skills necessary to work and community in today's society. While the program is currently offered in more than 130 countries worldwide, the program is relatively new in the United States. Ohio is the first to create a state-wide focus on the ICDL program. The ICDL course includes 7 modules: 1. Concepts of Information Technology (IT); 2. Using the Computer and Managing Files; 3. Word Processing; 4. Spreadsheets; 5. Database; 6. Presentation; and 7. Information and Communication. This course is not designed for users with no familiarity with the computer. These computer users should take CIT 100 Computer Literacy before taking this course. Distance learning students are responsible for the required software.

Lecture: 2 hours – Lab: 2 hours  
Prerequisites: DEV 030 and completion of ENGL 100 or ESL 100, or placement into ENGL 101 or 111 Lab fee: \$10.00

**CIT 102 PC Applications II (A, W, SP, SU, DL) 3 credits**

This course covers advanced concepts and techniques used in word processing, spreadsheet, and database software. Microsoft has approved the textbooks used in CIT 101 and CIT 102, when used in a two-quarter sequence, as courseware for the Microsoft Office Specialist certification. Distance learning students are responsible for the required software.

Lecture: 2 hours – Lab: 3 hours  
Prerequisite: CIT 101 Lab fee: \$10.00

**CIT 102A Word Integration (A, W, SP, SU, DL) 1 credit**

Business-oriented features of Word such as merging letters, merging labels, page layout for newsletters, columns, object linking and embedding, outlines, and Web pages. Not open to students who have completed CIT 102.

Lecture: 0 hours – Lab: 2 hours  
Prerequisite: CIT 101 Lab fee: \$10.00

**CIT 102B PC Business Excel (A, W, SP, SU, DL) 1 credit**

Business-oriented features of Excel such as lists, filters, pivot tables and charts, 3-D formulas, data validation, auditing tools, and IF functions. A bridge course designed to prepare students for CIT 231 Expert Excel. Not open to students who have completed CIT 102.

Lecture: 0 hours – Lab: 2 hours  
Prerequisite: CIT 101 Lab fee: \$10.00

**CIT 102C PC Business Access (A, W, SP, SU, DL) 1 credit**

Business-oriented features of Access such as creating and manipulating forms and form data, creating and manipulating reports and report data, creating complex reports, relating tables, refining table design, using Access database tools, and integrating Access with other applications. This is a bridge course to prepare students for CIT 233 Expert Access. Not

open to students who have completed CIT 102.

Lecture: 0 hours – Lab: 2 hours  
Prerequisite: CIT 101 Lab fee: \$10.00

**CIT 103 Computer Concepts and Logic (A, W, SP, SU) 3 credits**

This course is an introduction to computer information systems, computer concepts, and programming logic. Along with general computing concepts, this course will cover command line interaction, file management, programming logic using pseudo code, flowcharts, and VB.NET.

Lecture: 2 hours – Lab: 3 hours  
Prerequisites: MATH 102 and completion of ENGL 100, ESL 100, or placement into ENGL 101 Lab fee: \$15.00

**CIT 110 Unified Modeling Language (UML) (A, W, SP, SU)**

**3 credits**

This course teaches all of the major UML diagram types and the basic notation involved in creating and deciphering them. Students will learn to read, draw, and use this visual modeling language to create clear and effective blueprints for software development projects.

Lecture: 2 hours - Lab: 3 hours  
Prerequisites: CIT 103 Lab fee: \$15.00

**CIT 120 Foundations of Game Programming 1 (On Demand)**

**4 credits**

This course introduces students to the rigorous field of interactive simulation and gaming. Students learn about the major components of modern simulations and games from both a design perspective and a technical perspective. Topics covered include: fundamentals of simulation / gaming, user interface design, human computer interaction, input/output paradigms, and an overview of simulation/game design process. Lab activities are designed to foster critical thinking and problem solving skills through the development of an understanding of the development process as well as interactive programming techniques through the creation of working interactive programs in a high-level programming language.

Lecture: 2 hours – Lab: 4 hours  
Prerequisite: CIT 103 or permission of instructor Lab fee: \$30.00

**CIT 121 PC Operating Systems (A, W, SP, SU) 3 credits**

This course examines common operating systems, from the Windows family to Linux and MAC. The student will also learn how operating systems interact with networks and hardware.

Lecture: 2 hours – Lab: 3 hours  
Prerequisite: CIT 103 Lab fee: \$15.00

**CIT 123 Workstation Systems (A, W, SP) 3 credits**

This course provides students with the necessary skills and knowledge to identify and perform tasks involved in supporting networks. The course is designed to prepare students to perform essential network administration tasks.

Lecture: 2 hours – Lab: 3 hours  
Prerequisite: none Lab fee: \$20.00

**CIT 127 Structured Programming (On Demand) 4 credits**

CIT 127 is an introduction to the software development process through a modern block-structured language. Computer problem solving and program debugging strategies, data abstraction, modularity, parameter passing, and elementary data structures are covered in this class. Fundamentals of linked lists, stacks, and queues are also introduced. Recursion, recursively-defined data structures, and tree structures will be discussed.

Lecture: 2 hours – Lab: 4 hours  
Prerequisite: CIT 120 Lab fee: \$30.00

**CIT 128 Concepts of 3D Graphics (On Demand) 4 credits**

This course introduces students to concepts of 3D graphics, 3D modeling, and the mathematics necessary for 3D programming. Topics covered include: 3D model generation and texture generation, 3D trigonometric operations, 3D vector motion, and matrix transformations in 3-space. Lab activities focus upon creating textures & models and learning the



mathematical principles that underlie the computer graphics field.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: CIT 120 Lab fee: \$30.00

### **CIT 130 MIS II: Project Management Fundamentals**

(A, W, SP, SU)

**3 credits**

This course teaches the genesis of project management and its importance to improving the success of information technology projects. The student will demonstrate knowledge of project management terms and techniques such as the triple constraint of project management and the project life cycle using project management industry tools and techniques. *This course satisfies PMI's 35-hour education requirement to sit for the Project Management Professional (PMP) Exam.*

Lecture: 2 hours – Lab: 3 hours

Prerequisites: None Lab fee: \$15.00

### **CIT 137 Advanced Information Presentation**

(A, W, SP, SU)

**3 credits**

Learn how computer graphics are used to communicate information effectively. Computer lab assignments include chart format and data content. Students will learn how to create effective business presentations complete with graphs, organization charts, graphics, sound, movies, and Web links. Students will research a topic and develop presentations. Uses Microsoft approved text. Covers skill set for PowerPoint Expert certification.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 101 Lab fee: \$15.00

### **CIT 139 Web Essentials (A, W, SP, SU, DL)**

**3 credits**

Students will learn the dynamics of the Web environment, including finding resources, security and copyright issues and multimedia. Students will explore WWW sites, transfer files, and create a simple home page using basic HTML tags. Hands-on experience using the Internet will be emphasized. The course is taken entirely on the Internet.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 103 Lab fee: \$10.00

### **CIT 145 HTML (A, SP, DL)**

**3 credits**

This course provides an in-depth study of Hypertext Markup Language and its use in Web pages. Student will receive experience in TCP/IP, HTTP, and HTML in a Web server environment.

Lecture: 2 hours—Lab: 3 hours

Prerequisite: CIT 139

### **CIT 147 JavaScript Fundamentals (W, SU)**

**3 credits**

This course provides an in-depth study of scripting languages that add interactivity to Web sites. Scripting languages such as JavaScript and pHp are extensions to hypertext markup language (html) that enable one to get data stored in Web page forms. With scripting languages, one may make intelligent Web pages that verify and calculate input and make presentation decisions based on said input. Students will be introduced to programming concepts to provide planning logic for programs.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 145 Lab fee: \$15.00

### **CIT 150 Networking for Home and Small Business**

(On Demand)

**4 credits**

This course is designed to teach students the fundamentals of networking while gaining the skills needed to obtain entry-level home and small business network installation jobs. Students gain knowledge in networking theory and obtain hands-on experience in networking, PC configuration, Internet connectivity, wireless connectivity, and file/print sharing.

Lecture: 3 hours – Lab: 3 hours Lab fee: \$20.00

### **CIT 151 Networking 1 (A, W, SP, SU)**

**3 credits**

CIT 151 is an introductory course to Local Area Networks (LANs). This course will explore the current technology available for LANs including both hardware and software.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 121 Lab fee: \$15.00

### **CIT 152 Working at a Small-to-Medium Business (On Demand)**

**4 credits**

This course is designed to teach students the basics of routing and remote access, addressing, and security. Students will gain hands-on experience with servers that provide e-mail services. Web spaces and authenticated access, network monitoring. Students will also learn troubleshooting skills as well as the necessary soft skills required for interacting with customers.

Lecture: 3 hours – Lab: 3 hours

Prerequisite: CIT 150 with 'C' or higher Lab fee: \$20.00

### **CIT 154 Introducing Routing and Switching in the Enterprise**

(On Demand)

**4 credits**

The course is designed for students to learn the equipment applications and protocols installed in enterprise networks with an emphasis on switched networks, IP Telephony requirements and security. This course introduces advanced routing protocols such as Enhanced Interior Gateway Routing Protocol (EIGRP) and Open Shortest Path First (OSPF) Protocol. The hands-on exercises include configuration, installation and troubleshooting.

Lecture: 3 hours - Lab: 3 hours

Prerequisite: CIT 152 with 'C' or higher Lab fee: \$20.00

### **CIT 156 Designing and Supporting Communications Technology**

(On Demand)

**4 credits**

This course is designed for students to learn basic network design, how to gather user requirements, establish proof-of-concept, and perform project management tasks. Students learn lifecycle services such as system upgrades, competitive analysis and system integration.

Lecture: 3 hours – Lab: 3 hours

Prerequisite: CIT 154 with 'C' or higher Lab fee: \$20.00

### **CIT 158 CISCO Certification Review (On Demand)**

**1 credit**

This course is designed to help students prepare for either the Cisco CCENT (Cisco Certified Entry Networking Technician) or the CCNA (Cisco Certified Network Associate). Upon completion of either the CCNA Discovery Track or the CCNA Exploration Track students can prepare for a Cisco certification exam. This is a self-paced course in which students can study for a certification exam.

Lecture: 0 hours – Lab: 3 hours

Prerequisite: CIT 156 with 'C' or higher Lab fee: \$20.00

### **CIT 160 CCNA Voice (On Demand)**

**4 credits**

This course covers basic IP telephony installation, configuration, and maintenance skills. Students will implement and configure small- to medium sized IP Telephony solutions using Cisco Unified Communications Manager Express, Cisco Unity Express, and the UC500 Smart Business Communications System solutions.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: CIT 156 with 'C' or higher Lab fee: \$20.00

### **CIT 163 Visual Basic 1 (A, W, SP, SU, DL)**

**4 credits**

CIT 163 emphasizes the essential aspects of creating the graphical user interface of a Visual Basic Windows program. The student also will learn fundamental aspects of coding a VB.NET program, along with more advanced topics such as manipulating MS Access databases, sequential file processing, error handling, and data validation. Software is provided to students.

Lecture: 2 hours – Lab: 5 hours

Prerequisite: CIT 103 Lab fee: \$15.00

### **CIT 164 CCNA Security (On Demand)**

**4 credits**

CCNA Security equips students with the knowledge and skills needed to prepare for entry-level security specialist careers. This course is a hands-on, career-oriented e-learning solution that emphasizes practical

experience. CCNA Security is a blended curriculum with both online and classroom learning.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: CIT 156 with ‘C’ or higher Lab fee: \$20.00

**CIT 165 COBOL 1 (On Demand) 3 credits**

Course offers an introduction to the concepts and techniques of batch COBOL programming using structured programming techniques. Index access methods are stressed.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 163 Lab fee: \$15.00

**CIT 166 CCNA Wireless (On Demand) 4 credits**

This course will build a student’s knowledge and skills in the areas of installing, configuring, operating, and troubleshooting small to medium-size WLANs. This course is a hands-on, career-oriented course emphasizing practical experience. CCNA Wireless is a blended curriculum with both online and classroom learning.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: CIT 156 with ‘C’ or higher Lab fee: \$20.00

**CIT 167 C++ Programming 1 (A, W, SP, SU) 4 credits**

This is an introductory course in ANSI-Standard C++ Language Programming. Lab problems are targeted towards writing programs with business applications. Computer lab projects will provide hands-on experience in developing programs with an ANSI-Standard C++ compiler environment.

Lecture: 2 hours – Lab: 5 hours

Prerequisite: CIT 103 Lab fee: \$15.00

**CIT 169 Java Programming 1 (A, SP) 3 credits**

This course is an introduction to the art of computer programming in Java. Included are features needed to construct Java Applets, Java applications, control structures, methods, arrays, character and string manipulation, graphics, and object-oriented programming.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 103 Lab fee: \$15.00

**CIT 171 Database Administration/SQL (A, SP) 4 credits**

This course provides the student with the necessary skills and knowledge to identify and perform the tasks involved in implementing and managing databases on MS SQL Server.

Lecture: 2 hours – Lab: 6 hours

Prerequisites: CIT 151 or CIT 273 Lab fee: \$15.00

**CIT 173 Database Programming (A, W, SP) 3 credits**

This course presents an overview of Database Management Systems (DBMS) programming techniques and systems. The student will write programs using ORACLE.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 103 or CIT 273 Lab fee: \$20.00

**CIT 175 Systems Analysis 1 (A, W, SP) 4 credits**

CIT 175 is an introduction to the fundamentals of traditional and object systems analysis, design, and project management. Emphasis will be placed on the Systems Development Life Cycle (SDLC), various flow diagrams, system requirements, project scheduling and managing analysis, and design activities.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: CIT 103 Lab fee: \$15.00

**CIT 179 C# Programming I (A, W, SP, SU) 4 credits**

This course provides an introduction to programming including the basic concepts of object-oriented programming. Students will learn about the C# programming language and how to write a C# program using methods, classes, selection and repetition and arrays.

Lecture: 2 hours – Labs: 4 hours

Prerequisites: CIT 103 Lab Fee: \$20.00

**CIT 200 Certification Test Review (A, W, SP, SU) 1 credit**

Students will review topical material to take an industry certification exam relevant to their field of study.

Lecture: 0 hours – Lab: 3 hours

Prerequisite: CIT 175 Lab fee: \$10.00

**CIT 206 Foundations of Gaming Programming 2 (On Demand) 4 credits**

This class is a continuation of CIT 120 and is intended to further develop the student’s understanding of the simulation/gaming production and implementation process. Class activities are focused upon understanding of more advanced concepts and implementation techniques central to the game and simulation development process. Lab activities are focused upon the writing of simple, yet complete, interactive programs in a high-level programming language, like Java.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: CIT 120 Lab fee: \$30.00

**CIT 212 Web Database Development (W, SU) 3 credits**

Databases are now an integral part of the Internet and many Web sites use databases in the background to control their content. This course shows how to design and use databases for the Web using MySQL and PHP. No previous knowledge of MySQL or PHP is required.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: CIT 145 Lab fee: \$30.00

**CIT 213 Designing an E-Commerce Website (A, SP) 3 credits**

E-commerce has become a frequently used word in the area of business as the Web has become a popular way to sell to a larger market with less overhead. With a particular emphasis on consumer market, this course pushes not just the why, but also the practical application of creating a shopping cart. Students will learn how to create a usable e-commerce application from planning the application, designing the user interface and data store to implementing the entire application while taking into consideration the four fundamental marketing ingredients of product, price, place and promotion as informed by interactive media. MySQL database and PHP scripting language will be used to implement the e-commerce application. No previous knowledge of MySQL or PHP is required.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: CIT 212 Lab fee: \$30.00

**CIT 226 Digital Audio/Video Programming (On Demand) 3 credits**

This course will explain the programming methods of how digital audio and video data are manipulated for use in a video game format, as well as teach students how to develop their own audio and video tools and filters.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: CIT 206 Lab fee: \$30.00

**CIT 227 Data Structures and Algorithms (On Demand) 4 credits**

CIT 227 is an introduction to the software development process through a modern block-structured language. Computer problem solving and program debugging strategies, data abstraction, modularity, parameter passing, and elementary data structures are discussed. Additional topics include fundamentals of linked lists, stacks, and queues. Recursion, recursively-defined data structures, and tree structures will be discussed.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: CIT 127 Lab fee: \$30.00

**CIT 228 Computer Graphics 1 (On Demand) 4 credits**

This course is intended to provide a rigorous introduction to 2D and 3D computer graphics concepts, techniques, and algorithms. Topics covered may include point plotting, line drawing, clipping, sprite animation, optimization, projection, shading, transformations, and other topics. Lab activities will include programming projects in two and three dimensional graphics varying from simple to complex.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: CIT 128 Lab fee: \$30.00

**CIT 229 Computer Graphics 2 (On Demand) 4 credits**

This class is a continuation of CIT 228 and is intended to provide advanced mathematical concepts, techniques, and algorithms for 3D computer graphics. Topics covered may include texture mapping, curves and surfaces, image processing, alpha-blending, bump mapping, anti-aliasing, pixel-shaders, volumetric lighting, and other topics. Lab activities will include various programming projects using a modern 3D graphics API.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: CIT 228 Lab fee: \$30.00

**CIT 230 MIS III: Project Management Case Studies (A, W, SP, SU) 3 credits**

Through the use of case studies, this course focuses on analyzing and implementing the concepts and techniques learned in the Project Management Fundamentals class.  
Lecture: 2 hours - Lab: 3 hours  
Prerequisites: CIT 130 Lab fee: \$15.00

**CIT 231 Expert Excel (A, SP, DL) 3 credits**

Advanced features and formats in the spreadsheet application MS Excel. Uses Microsoft approved text. Covers skill set for Microsoft Expert certification. Distance learning students are responsible for the required software.  
Lecture: 2 hours – Lab: 3 hours  
Prerequisites: CIT 102 or 102B and MATH 102 Lab fee: \$15.00

**CIT 233 Expert Access (A, W, SP, SU, DL) 3 credits**

Course presents a continuation of CIT 102 presenting database software, including file creation, screen and report generators. Emphasis is placed on Macros, Switchboards, Dialog boxes and VB applications. Uses Microsoft approved text. Covers skill sets for Access Expert certification.  
Lecture: 2 hours – Lab: 3 hours  
Prerequisites: CIT 102 or 102C and MATH 102 Lab fee: \$15.00

**CIT 241 Introduction to the Mainframe – z/OS Basics (On Demand) 4 credits**

This course provides students the background, knowledge and skills necessary to begin using the basic facilities of a mainframe computer. Topics covered include: the mainframe in business today, including mainframe job roles; mainframe interfaces; Job Control Language; mainframe hardware and architecture; middleware for the mainframe, application programming on the mainframe; networking, and security topics. This course is designed for someone with prior programming experience or education.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: CIT 103, CIT 121 or permission of instructor  
Lab fee: \$30.00

**CIT 242 Introduction to the Mainframe – Large Scale Commercial Computing (On Demand) 4 credits**

This course helps students gain an understanding of the reasons companies chose mainframe system to run (and grow) their large-scale computing environments. Topics include capacity, scalability, integrity and security, availability, access to large amounts of data, systems management and autonomic capabilities. This course is designed for someone with prior programming experience or education.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: CIT 241 or permission of instructor Lab fee: \$30.00

**CIT 243 Introduction to the Mainframe – Networking (On Demand) 4 credits**

This course provides the background, knowledge and skills necessary to begin using the basic communication facilities of a mainframe system. Students will be given a broad understanding of networking principles and the hardware and software components necessary to allow the mainframe to participate in a high volume data communications networks. Topics covered include: overview of the importance of the mainframe environment, TCP/IP, SNA, SNA/IP implementation on the mainframe, networking operations, security and problem determination.

Lecture: 2 hours – Lab: 4 hours  
Prerequisite: CIT 241 or permission of instructor Lab fee: \$30.00

**CIT 244 An Introduction to the Mainframe – Security (On Demand) 4 credits**

This course provides the background, knowledge and skills necessary to begin using the basic security facilities of a mainframe system. Students will have a broad understanding of both the security principles and the hardware and software components needed to insure that the mainframe resources and environment are secure. Topics covered include elements of security, systems architecture and virtualization, cryptography, as well as security in operating systems, networks, middleware and applications.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: CIT 241 or permission of instructor Lab fee: \$30.00

**CIT 245 Introduction to Game Prototyping and Development (On Demand) 4 credits**

This course is the first of a 3 part sequence in which students put into practice all of the information and knowledge gained in the previous courses. Students are introduced to the XNA Game Studio Express and the XNA platform, which is designed for game developers to easily create video games for Windows and the Xbox 360 console.  
Lecture: 4 hours–Lab: 0 hours  
Prerequisite: CIT 206, CIT 227, CIT 229 Lab fee: \$30.00

**CIT 246 Game Development Project – Part 1 (On Demand) 3 credits**

This course is the second of a 3-part sequence in which students put into practice all of the information and knowledge gained in the previous courses. In this sequence the students first identify, then build, the necessary components for a full working 3D simulation/game engine. Lab activities focus upon designing and implementing simple simulations/games upon the XNA platform.  
Lecture: 1 hour–Lab: 4 hours  
Prerequisite: CIT 245 Lab fee: \$30.00

**CIT 247 Game Development Project – Part 2 (On Demand) 3 credits**

This course is the third of a 3-part sequence in which students put into practice all of the information and knowledge gained in the previous courses. In this sequence the students first identify, then build, the necessary components for a full working 3D simulation/game engine. Lab activities focus upon designing and implementing simple simulations/games upon the XNA platform.  
Lecture: 1 hour–Lab: 4 hours  
Prerequisite: CIT 246 Lab fee: \$30.00

**CIT 250 Network Communication Systems (A, W, SP, SU, DL) 3 credits**

Students will learn the fundamentals of data communication and computer networks. Course includes basic communication theory as applied to both digital and analog communication networks. Students will also learn the basics of the OSI layered network model and characteristics of the wide area and local area data communication networks.  
Lecture: 2 hours – Lab: 3 hours  
Prerequisite: CIT 151 Lab fee: \$10.00

**CIT 251 Networking 2 (A, SP) 3 credits**

Course is a continuation of CIT 151. Students will learn advanced local area network concepts and how they can be applied to support enterprise-wide information management of a large organization. The student will learn to install and configure a network using UNIX.  
Lecture: 2 hours – Lab: 3 hours  
Prerequisite: CIT 151 Lab fee: \$5.00

**CIT 252 Networking 3 (W, SP) 4 credits**

CIT 252 is a continuation of CIT 251. Students will learn to use the Microsoft Windows Server environment to support small and enterprise-

wide information management systems. Students will complete a series of laboratory assignments using the Windows Server environment.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: CIT 251 Lab fee: \$10.00

**CIT 253 TCP/IP (A, SP, DL) 3 credits**

This course demonstrates the concepts and analyzes the results using utilities provided by Windows. The course covers the aspects of TCP/IP such as history, client/server model, addressing, bridging, and routing/DHCP, Windows domains, and name services.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 252 Lab fee: \$10.00

**CIT 255 Networking 4 (A) 4 credits**

Students will learn how to perform administration tasks using MS Windows networks. Elements include management of data storage, monitoring event logs, designing and administering Windows security model, and designing and developing a security needs analysis. The student will also utilize the client and server technologies used in designing and implementing Web services such as network address translators, proxy servers, firewalls, and Internet Information Services.

Lecture: 2 hours – Lab: 5 hours

Prerequisite: CIT 252 Lab fee: \$10.00

**CIT 257 Network Security (W) 3 credits**

This course focuses on the underlying theory of computer security by covering topics such as e-security, cryptography, security architecture and management, laws and ethics, telecommunications, network and Internet security, risk assessment and auditing, and firewalls.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 252 Lab fee: \$10.00

**CIT 258 Wireless Networking (SP) 3 credits**

This course is designed to provide students and network administrators with an in-depth knowledge of wireless LAN basics including IEEE 802.11, Wi-Fi, Bluetooth, WiMax technologies, encryption techniques, site surveys, securing, troubleshooting, monitoring, and managing wireless LANs, while preparing the students for CWNA certification.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 252 Lab fee: \$25.00

**CIT 259 Advanced Network Security (On Demand) 3 credits**

This course is designed to introduce students and network administrators to comprehensive and advanced topics related to network security. This course is an extension to the Network Security course and includes concepts related to network firewall security, intrusion detection techniques, VPNs, IP security, installation and troubleshooting firewall technology while preparing the student for an industry-standard certification.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 257 Lab fee: \$25.00

**CIT 260 Web Security (On Demand) 3 credits**

This course is designed for students, Web developers, and network administrators who want to gain knowledge related to Internet/Intranet security while learning how to protect Web sites from internal and external threats. This course will teach students about the concepts and techniques related to securing Web sites while exploring common vulnerabilities of Web sites as well as implementing secure communications across unsecured networks. Students gain hands-on experience implementing Web security using a network server-based operating system.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 259 Lab fee: \$25.00

**CIT 263 Visual Basic 2 (W, SP, DL) 4 credits**

This is a continuation of CIT 163. Emphasizes advanced topics in VB.NET such as database programming, including SQL, Active X controls, and object-oriented programming. Software is provided to students.

Lecture: 2 hours – Lab: 5 hours

Prerequisite: CIT 163 Lab fee: \$15.00

**CIT 264 Visual Basic 3 (A) 4 credits**

Visual Basic 3 is a continuation of CIT 263, Visual Basic 2. Emphasis is on advanced topics, including deploying Web forms that utilize a database. Advanced features of Visual Studio.NET are explored and applied as they relate to connectivity with SQL Server, Oracle, and other databases.

Lecture: 2 hours – Lab: 5 hours

Prerequisite: CIT 263 Lab fee: \$15.00

**CIT 265 COBOL 2 (On Demand) 3 credits**

Course is a continuation of CIT 165. Sort procedures, sequential access, table handling, and SQL with COBOL are stressed.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 165 Lab fee: \$15.00

**CIT 266 Interactive COBOL (On Demand, DL) 3 credits**

Course covers interactive programming using applicable software.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 165 Lab fee: \$15.00

**CIT 267 C++ Programming 2 (A, SP) 4 credits**

This is an advanced course in ANSI-Standard C++ Language programming. Lab problems are targeted towards writing programs that explore data structures using object-oriented techniques. Computer lab projects will provide further hands-on experience in developing programs with an ANSI-Standard C++ compiler environment including debugging techniques.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 167 Lab fee: \$15.00

**CIT 268 Object-Oriented COBOL (On Demand, DL) 3 credits**

CIT 268 is an introduction to object-oriented COBOL using classes and objects. Object analysis and object design concepts are introduced for COBOL programming. Programs written are runnable on personal computers using an ANSI-standard COBOL compiler.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 165 Lab fee: \$15.00

**CIT 269 Java Programming 2 (W, SU) 3 credits**

This course is a continuation of Java Programming 1. More advanced work in Java applets, applications, structures, methods, and arrays will be included.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 169 Lab fee: \$15.00

**CIT 270 Advanced Web Programming (A, SP) 4 credits**

This course focuses on using the Common Gateway Interface (CGI) and Active Server Pages (ASP) to create dynamic, interactive Web content. Both Perl and VBScript are taught in this course. Although no prior experience with either programming language is required, students are expected to understand basic programming concepts. Practical, real-world lab exercises provide students with hands-on experience, including working with the Apache Web Server and Microsoft Internet Information Server (IIS).

Lecture: 2 hours – Lab: 5 hours

Prerequisite: CIT 147 Lab fee: \$15.00

**CIT 271 Data Mining and Warehousing (W, SU) 4 credits**

This course provides students with the necessary skills and knowledge to design and develop relational databases and provides an introduction to data mining and data warehousing concepts.

Lecture: 2 hours – Lab: 6 hours

Prerequisite: CIT 171 Lab fee: \$15.00

**CIT 273 Database Systems (W, SU) 3 credits**  
 CIT 273 presents an introduction to database systems in theory and application. Students will design and build databases using ORACLE.  
 Lecture: 2 hours – Lab: 3 hours  
 Prerequisite: CIT 103 or CIT 233 Lab fee: \$20.00

**CIT 275 Systems Analysis 2 (SP) 4 credits**  
 Students will use techniques learned in Systems Analysis 1 to produce various flow diagrams, project schedules, and timetables. They will also explore object-oriented design and unified modeling language (UML) in this class. Students will work in teams to learn to prepare and present a systems proposal and how to implement and complete a software project.  
 Lecture: 3 hours – Lab: 2 hours  
 Prerequisite: CIT 175 Lab fee: \$15.00

**CIT 276 Information Security Audit (On Demand) 3 credits**  
 This course is designed for students, web developers, and network administrators who want to gain knowledge related to information and database security focusing on the areas of security, auditing, and implementation.  
 Lecture: 2 hours – Lab: 3 hours  
 Prerequisite: CIT 259 Lab fee: \$25.00

**CIT 277 Computer Forensics (On Demand) 3 credits**  
 This course is designed for students and systems administrators involved in responding to security incidents and applying computer forensics skills. This course focuses on the latest technologies in computer forensics techniques in order to recognize and respond to security threats.  
 Lecture: 2 hours – Lab: 3 hours  
 Prerequisite: CIT 259 Lab fee: \$25.00

**CIT 278 Business Continuity and Disaster Recovery (On Demand) 3 credits**  
 This course is designed for students and network administrators who need to obtain knowledge and experience for disaster recovery. This course will provide methods used to identify vulnerabilities and take appropriate countermeasures to prevent and mitigate failure risks for an organization. This course takes an enterprise-wide approach to developing a disaster recovery plan.  
 Lecture: 2 hours – Lab: 3 hours  
 Prerequisite: CIT 276 Lab fee: \$25.00

**CIT 279 C# Programming II (A, W, SP, SU) 4 credits**  
 This course provides a continuation of the basic concepts of object-oriented programming using the C# programming language. Students will learn more advanced programming using inheritance, exception handling, and controls. Students will also use files and streams for input and output.  
 Lecture: 2 hours – Lab: 4 hours  
 Prerequisite: CIT 179 Lab fee: \$20.00

**CIT 280 ACP Examination (A, SP) 1 credit**  
 Students will review topics covered in all previous technical courses. Students will be eligible to take the Associate Computer Professional (ACP) examination administered by the Institute for the Certification of Computer Professionals (ICCP). All software developer students in Computer Information Technology will take CIT 280 during their graduating quarter.  
 Lecture: 0 hours – Lab: 3 hours Lab fee: \$40.00

**CIT 281 Capstone for Software Developer (A, SP) 5 credits**  
 In this capstone course, software developer majors will work in assigned groups to convert a manual business process to a computer-based solution. Using project management techniques, students will design, present, and program their solution using a Web user interface and database technology. Emphasis will be placed on the ability to demonstrate technical expertise and software skills required for employment.  
 Lecture: 2 hours – Lab: 8 hours  
 Prerequisites: CIT 263 and CIT 275 Lab fee: \$30.00

**CIT 282 Capstone for Net Admin./User Support/Web Dev. (A, SP) 5 credits**  
 This is the capstone course for the User Support, Networking Administrator, and Web Developer tracks. Students will work in small groups or individually to design and develop a typical business system. Students in the Software Developer track take CIT 281.  
 Lecture: 2 hours – Lab: 8 hours  
 Prerequisites: See table below. Lab fee: \$30.00

Networking Tech.	Web Dev.
CIT 123	CIT 169
CIT 253	CIT 233
CIT 255	CIT 270
CIT 271	

**CIT 283 MIS Internship (On Demand) 3 credits**  
 Supervised on-the-job application of knowledge and skills learned in the classroom.  
 Lecture: 2 hours – Lab: 2 hours  
 Prerequisites: CIT 230 Lab fee: \$15.00

**CIT 290 CIT Seminar (On Demand) 1 credit**  
 Supervised on-the-job application of knowledge and skills acquired in the classroom  
 Lecture: 1 hour – Lab: 0 hours  
 Prerequisites: Must be a Computer Information Technology major with GPA of a least 2.5; must have completed 12 hours in the technology or have permission of instructor.  
 Corequisites: CIT 299 Lab fee: \$3.00

**Special Topics in CIT**  
 Special Topics in CIT is a series of courses specifically designed to meet the needs of the constantly changing business community and student population. Courses will be designed with the advice of the particular group requesting the course and approval by the department chairperson.  
 Lecture: 0 hours – Lab: 1–5 hours Lab fee: \$5.00

**CIT 291 Special Topics in CIT 1 (On Demand) 1–5 credits**  
**CIT 292 Special Topics in CIT 2 (On Demand) 1–5 credits**  
**CIT 293 Special Topics in CIT 3 (On Demand) 1–5 credits**  
**CIT 294 Special Topics in CIT 4 (On Demand) 1–5 credits**  
**CIT 295 Special Topics in CIT 5 (On Demand) 1–5 credits**  
**CIT 296 Special Topics in CIT 6 (On Demand) 1–5 credits**

**CIT 297 CIT Internship/Field Experience 1 (On Demand) 1 credit**  
 The student works 12 hours per week in an activity that relates to the student's occupational objective.  
 Lecture: 0 hours – Lab: 12 hours

**CIT 298 CIT Internship/Field Experience 2 (On Demand) 2 credits**  
 The student works 24 hours per week in an activity that relates to the student's occupational objective.  
 Lecture: 0 hours – Lab: 24 hours

**CIT 299 CIT Practicum (On Demand) 4 credits**  
 The student works 28 hours per week in an activity that relates to the student's occupational objective.  
 Lecture: 0 hours – Lab: 28 hours  
 Prerequisites: Computer Information Technology major with GPA of a least 2.5. Completion of 12 hours in technology or permission of instructor.  
 Corequisites: CIT 290 Lab fee: \$3.00

# Construction Management (CMGT)

## **CMGT 105 Building Construction Documents (A, W, SP, SU, DL) 3 credits**

Course offers a study of construction industry documents as they relate to a construction project. Emphasis is placed upon legal aspects of documents; roles of design professionals, contractors, and owners; utilization and effects of construction documents; procurement of construction services; assembly of a project manual; specifications formatting; drawing and specifications coordination; submittals and project closeout. Standard forms, ethics, bonding, CSI MasterFormat, and credentialing will also be examined.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$5.00

## **CMGT 106 Supervision of Field Operations (W, SP) 3 credits**

CMGT 106 presents an overview of the principles of construction industry field operations and supervision. Emphasis is placed upon field supervision, revealing the importance of and insights into the complex and responsible task of managing people. Various phases of proper management will be discussed such as understanding employee behavior, boosting productivity, communicating effectively with employees, ethics and professionalism, handling discipline problems, sexual harassment and discrimination, planning and organizing, making and implementing decisions, solving problems, reducing costs and improving safety.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$4.00

## **CMGT 115 Building Construction Methods (A, W, SP, DL) 3 credits**

This course is a presentation on the technical operations, methods, and operational sequences used in the construction of a modern commercial building. The content will be provided so that the student understands the sequence of construction operations in the field. Students will also understand the rationale for, and the sequential nature of, the building construction process.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$3.00

## **CMGT 121 Building Construction Drawings (A, W, SP, SU, DL) 3 credits**

CMGT 121 is a study of reading and interpreting building construction working drawings and project manuals, as related to residential, commercial and industrial construction. Emphasis is placed upon drawing organization; relationship of plan, section, and elevation; coordination of the drawings and specifications; shop drawings and submittals; graphic symbols and interpretation skills; and construction mathematics required for use in building drawings.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: MATH 102 or instructor permission Lab fee: \$20.00

## **CMGT 131 Construction Quantity Survey (A, W, SP, SU) 3 credits**

This course develops a student's use of construction math relative to linear, area, and volumetric measures of common construction materials. Also presented is how to compute and organize basic material quantities used in a building construction project, including those required for site preparation.

Lecture: 1 hour – Lab: 4 hours

Prerequisite: CMGT 115, 121 or instructor permission Lab fee: \$15.00

## **CMGT 135 Safety and Loss Prevention (W, SP) 3 credits**

CMGT 135 is an introduction to materials covering the expanding concerns of construction safety and loss prevention. Emphasis will be placed upon identification of work hazards and unsafe practices; supervisory safety and loss prevention techniques to minimize loss in productivity and resources; OSHA and Ohio BWC as safety resources; creation of a safety plan; the profitability of safety and loss prevention; and the creation and promotion of an ethical and pro-active safety culture in the construction workplace.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$7.00

## **CMGT 141 Building Estimating (SP, SU) 3 credits**

This course is a study of the current manual practices of estimating skills and methods utilized to create project estimates. Emphasis will be placed upon preparation of estimates for typical commercial building projects; incorporating drawing interpretation, quantity survey, and construction methods in estimate creation; and calculating the time, cost, and effort in the form of crew size for the various tasks involved with a construction project.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CMGT 131 or instructor permission Lab fee: \$9.00

## **CMGT 153 Residential Construction (A, SP, SU, DL) 3 credits**

Class offers a presentation and overview of residential construction. Emphasis will be placed upon home construction methods and field operations, structural design elements, terminology, materials and equipment used, and an understanding of the sequential nature of the residential construction process.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$2.00

## **CMGT 170 Introduction to Sustainability (AU, SP) 3 credits**

This class provides an overview of sustainability terms, building science, energy conservation, remodeling and new construction applications. Students will learn about sustainable applications for home, work and industry, as well as how to implement at home, on the job and employment. Students will begin to understand the information needed to promote self employment, job advancement and preparation for certifications. Students will experience field applications of content and conduct a basic home sustainability audit.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$5.00

## **CMGT 172 Weatherization and Energy Conservation (WI, SU) 3 credits**

This course is an introduction to building science, weatherization techniques, tools and challenges. You will be exposed to a blower door demonstration and infrared camera imaging and documentation, while learning how to reduce your energy consumption based on whole house techniques and best practices. This class will provide you an understanding of what the national certification requirements are to become BPI and RESNET certified. Information will be provided for those who want to become employed as a weatherization technician.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CMGT 170 or instructor permission Lab fee: \$10.00

## **CMGT 174 Energy Auditing and Commissioning (AU, SP) 3 credits**

This course instructs students on how to perform an energy audit and a home energy assessment, what an energy dashboard does and how "Smart Grid" technology is changing the nature of how we receive and use energy. We will review the LEED® and ASHREA assessment and performance standards and the ICC 700-2008 Green Building Standard and IECC 2009 Energy Conservation Code. Students will also learn how a building is commissioned and how the market is changing due to new technology like BIM. Information will be provided for those who want to become employed and credentialed as an energy auditing or commissioning technician.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CMGT 170 or instructor permission Lab fee: \$10.00

## **CMGT 176 Alternative Energy Technology (AU, SP) 3 credits**

This course will explore alternative types of energy including active and passive solar. The course will inform of applications that will enable the student to combine solar systems with conservation applications to manage peak load and consumption. The course will cover equipment and skills that are necessary to generate solar energy, install alternative energy systems, and utilize the multitude of incentives and strategies to offset initial costs and estimate return on investment. The course will review the NAPCEP and NASBAT requirements in preparation for national certification and requirements for those who want to become

employed as an alternative energy technician.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CMGT 170 or instructor permission Lab fee: \$10.00

**CMGT 215 Intro to Bldg. Information Modeling (BIM) (AU, SP) 3 credits**

A presentation and overview of building information modeling (BIM). Emphasis will be placed upon: providing an introduction to BIM technologies, developing an understanding of the business and organizational issues associated with the implementation of building information modeling and promoting an awareness of the substantial impacts on the building process that utilization of BIM practices can provide to all members of a project team.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$10.00

**CMGT 216 Implementing BIM on Construction Projects (W, SP) 3 credits**

A presentation and review of means and methods for implementing Building Information modeling (BIM) on a construction project. Emphasis will be placed on strategies for implementing BIM, identifying challenges and opportunities in the application of BIM technologies on the construction worksite, evaluating BIM as a tool for overseeing the entire building lifecycle, examining the challenges associated with sharing data among members of the project team, and sharing best practices as they pertain to the routine utilization of BIM technologies with construction projects.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: CMGT 215 Lab fee: \$10.00

**CMGT 221 Managing a Construction Company (A, SP, SU) 3 credits**

CMGT 221 gives students an overview of the operations and management of a construction firm. Emphasis is placed upon construction management firm organization, roles and responsibilities of construction industry participants, accounting and cash flow, analysis of general management techniques, and ethics and professionalism. Students will create a sound business plan in order to better understand what it takes to be successful in the construction industry.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: CMGT 105, 115, and 121 or instructor permission Lab fee: \$5.00

**CMGT 231 Computer Estimating Buildings (W, SU) 3 credits**

This class offers a comprehensive study of the skills required to “take-off” the amount of materials from a set of construction plans in an orderly manner and arrive at a final price utilizing computer software. The course develops the general background information and bidding strategies to be used for estimating a commercial construction project.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CMGT 131 or instructor permission Lab fee: \$20.00

**CMGT 241 Planning and Scheduling (A, SU) 3 credits**

CMGT is a study of the management and coordination of construction projects utilizing systematic planning and scheduling. Local and global construction industry methods and techniques will be reviewed and practiced in simulated projects. Topics include WBS (Work Breakdown Structure), PDM (precedence diagram method), and the manual calculations involved with CPM (Critical Path Method) scheduling. The student will learn fundamental skills to develop, analyze, and manage construction projects utilizing several scheduling methods. Fundamental course work will be supplemented with the use of Primavera Project Planner (P3) software.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: CMGT 131 or instructor permission Lab fee: \$10.00

**CMGT 251 Construction Cost Controls (A, W) 3 credits**

The various methods and techniques used by construction professionals for predicting and analyzing cost performance are presented. The student will learn how to implement cost reduction strategies, monitor field performance, and develop cost databases for estimating future work. This

format will provide the student exposure to various types of schedules and projects, as well as assist in the understanding of the concepts and methods used for cost control and monitoring construction project progress.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CMGT 241 Lab fee: \$10.00

**CMGT 252 Construction Law (A, W) 3 credits**

CMGT 252 presents an intensive study of the legal aspects and characteristics unique to the construction industry. Students review typical legal problems which arise in the day-to-day business of construction. Emphasis is placed upon the bidding process and laws; contracts, sub-contracts, and supply contracts; labor laws and issues, insurance and bonding; lien laws, dispute resolution, and remedies; and ethical behavior in the construction industry.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CMGT 105 or instructor permission Lab fee: \$5.00

**CMGT 261 Project Management (W, SP) 3 credits**

This capstone experience provides student the opportunity to demonstrate, present, and simulate methods and techniques used to obtain and manage a construction project. The methods and techniques studied include project marketing, obtaining financing, start-up, schedule development, control structures, organizational forms, subcontractor and vendor coordination, schedule adjustment, shop drawing coordination, move-out/shut-down phase, and correspondence and tracking techniques. Some computer simulations will be used to demonstrate project management activities and processes. Student teams are selected jointly by the students and approved by the instructor to prepare for and simulate the process of obtaining financing, marketing/sales, management and some field operational concerns by the project management teams. This information shall be organized by the teams and presented as if making a presentation to a potential customer as a final exercise for the course.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CMGT 251 Lab fee: \$10.00

**CMGT 281 Computer Estimating Residential (A, SP) 3 credits**

This course offers a comprehensive study of the skills required to take-off the amount of materials from a set of residential construction plans in an orderly and effective manner and arrive at a cost for construction. The course will develop the general background information for the process of bidding/pricing a residential construction project utilizing estimating software.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CMGT 131 or instructor permission Lab Fee: \$20.00

**CMGT 282 Sustainable Construction (SU, W, DL) 3 credits**

This course is an intense study of building documents, construction materials and methods, and the sales and marketing of construction management services as they apply to sustainable building of various types of new construction and existing facilities. Prior course work (ENVR 282) and/or field experience is essential, as this course will not be a review of conventional documents, methods, and estimating concepts.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: ENVR 282 or instructor permission Lab Fee: \$10.00

**CMGT 291 Field Experience (A, W, SP, SU) 4 credits**

Off-campus work experience in construction, consulting engineering or some construction related industry that augments the formal education received in the technology with actual work conditions and job experience. “N” credit will not be allowed for this course. Instructor permission

Lecture: 0 hours – Lab: 48 hours Lab fee: \$15.00

**CMGT 299 Special Topics in Construction Management (On Demand) 1–5 credits**

This course provides the student and instructor flexibility to allow for special topics in the construction industry to be presented.

Lecture and Lab hours vary dependent upon topic

Prerequisite: Varies depending upon topic and Instructor permission

## Dance (DANC)

All studio classes are held at BalletMet Columbus, 322 Mount Vernon Ave.

**DANC 101 Classical Ballet I (A, W, SP) 2 credits**  
Classical Ballet I presents the basics of this disciplined yet exquisitely moving form of art. Class covers fundamentals of classical ballet technique, coordination, strength and flexibility with an emphasis on proper execution and comprehension. Course is repeatable for up to 6 total credits.  
Lecture: 1 hour – Lab: 2 hours Lab fee: \$8.00

**DANC 102 Classical Ballet II (A, W, SP) 2 credits**  
Classical Ballet II is a continuation of Classical Ballet I, following through on the development of basic skills and their incorporation into combinations of movements. Class is repeatable for up to 6 total credits.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisite: 6 hours of Ballet I or permission of instructor  
Lab fee: \$8.00

**DANC 110 Dance Appreciation (On Demand) 2 credits**  
This class will explore dance as ritual, tradition, educational tool, popular entertainment, propaganda and art form as a reflection and function of culture. It will involve demonstration and teaching of a proper body warm-up, focusing on range of motion, cardiovascular preparation, body awareness, flexibility and strength. Course also covers experimental movement relating to topics of lecture that will involve movement in place and across the floor.  
Lecture: 1 hour – Studio: 2 hours Lab fee: \$8.00

**DANC 121 Beginning Tap I (A, W, SP) 1 credit**  
Beginning Tap I introduces basic level tap dance techniques. Tap classes emphasize precession in sound, rhythm, movement, gesture and expression. Course is repeatable for up to 3 total credits.  
Lecture: hours – Studio: 2 hours Lab fee: \$8.00

**DANC 122 Beginning Tap II (A, W, SP) 1 credit**  
Beginning Tap II continues with the fundamentals of tap, developed to include more complex movement combinations and interpretations. Emphasis is on quick and efficient learning skills. Course is repeatable for up to 3 total credits.  
Lab: 2 hours  
Prerequisite: 6 hours of Tap I or permission of instructor  
Lab fee: \$8.00

**DANC 131 Beginning Jazz I (A, W, SP) 1 credit**  
Jazz dance techniques at the beginning level. Jazz classes combine classic Broadway theatre dance with contemporary movement styles, elementary body part isolations, and basic combinations. Class is repeatable for up to 3 total credits.  
Lab: 2 hours Lab fee: \$8.00

**DANC 132 Beginning Jazz II (A, W, SP) 1 credit**  
DANC 132 demonstrates additional jazz dance techniques and includes more complex movements, combinations and interpretations. Course is repeatable for up to 3 total credits.  
Lab: 2 hours  
Prerequisite: 6 hours of Jazz I or permission of instructor. Lab fee: \$8.00

**DANC 140 Modern Dance I (On Demand) 2 credits**  
This is a beginning course in the movement and vocabulary, both physical and linguistic, of modern dance.  
Lecture: 1 hour – Studio: 2 hours Lab fee: \$8.00

**DANC 299 Special Topics in Dance (On Demand) 1–5 credits**  
This course presents an examination of types and styles of dance other

than those regularly offered.  
Lecture: Varies – Lab: Varies Lab fee: \$8.00

## Dental Hygiene (DHY)

**DHY 101 Preventive Concepts I (A) 1 credit**  
This 1-credit-hour course introduces students to the concepts of individualized oral hygiene instructions and topics related to patient education.  
Lecture: 1 hour – Lab: 0 hours  
Prerequisite: Admission to Dental Hygiene Program

**DHY 102 Preventive Concepts II (W) 1 credit**  
This 1-credit course introduces students to the concepts and principles on instrumentation.  
Lecture: 1 hour – Lab: 0 hours  
Prerequisite: DHY 101

**DHY 103 Techniques I (SP) 1.5 credits**  
This 1.5-hour lecture course is designed to expand the student's knowledge of dental hygiene practice including ultrasonic instrumentation, care of implants and dental appliances, topical anesthetic, and care of the special need patient including the (geriatric, pregnancy, pediatric) patient.  
Lecture: 1.5 hour – Lab: 0 hours  
Prerequisite: DHY 110

**DHY 110 Introduction to Dental Hygiene (A) 4 credits**  
This 4-hour course is designed to acquaint the dental hygiene student with the role of the dental hygienist and to provide background knowledge, information and the necessary foundation required for subsequent didactic and clinical dental hygiene course work.  
Lecture: 3 hours – Lab: 1 hour  
Prerequisite: Admission to Dental Hygiene Program Lab fee: \$60.00

**DHY 120 Dental Hygiene Pre-Clinic (W) 4 credits**  
This 4-credit, 12 contact-hour clinical course is designed to apply the basic principles of instrumentation, instrument design, instrument utilization, and fundamental clinical dental hygiene skills. The method of evaluation is competency-based and guided by mastery of instrumentation skills.  
Lecture: 0 hours – Lab: 12 hours  
Prerequisite: DHY 110 Lab fee: \$300.00

**DHY 121 Dental Hygiene Clinic I (SP) 4 credits**  
This 4-credit, 12 contact-hour clinical course continues the clinical experience of total patient care and radiographic techniques.  
Lecture: 0 hours – Lab: 12 hours  
Prerequisite: DHY 110 Lab fee: \$300.00

**DHY 130 Dental Radiography (W) 3 credits**  
This 3-hour lecture course provides the fundamental theory for safe and effective use of radiation as it relates to dentistry. It encompasses history, production and uses of radiation, film exposure, operation techniques for exposure, and radiographic interpretation.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: DHY 110

**DHY 135 Dental Radiography Laboratory (W) 1 credit**  
This 1-credit, 3-contact-hour laboratory course places emphasis on proficiency in exposing and developing diagnostically acceptable dental radiographs. The course provides experience in the use of x-ray equipment, exposure projections and techniques, processing, mounting and evaluation of radiographs.  
Lecture: 0 hours – Lab: 3 hours  
Prerequisite: DHY 110 Lab fee: \$75.00



**DHY 140 Head-Neck Anatomy/Tooth Morphology (A) 3 credits**

This three-hour course includes the study of skeletal, muscular, circulatory, nervous and glandular structures of the head, neck and oral cavity. The study of anatomy and morphology of the head, soft tissues of the oral cavity, tooth landmarks and identification will also be included in this course.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Admission to Dental Hygiene program

**DHY 145 Head-Neck Anatomy/Tooth Morphology Lab (A) 1 credit**

This 1-credit, three-contact-hour course involves the identification and knowledge of teeth and orofacial structures, morphology of hard and soft tissues of the oral cavity and head and neck with special emphasis on clinical application.

Lecture: 0 hours – Lab: 3 hours

Prerequisite: Admission to Dental Hygiene Program Lab fee: \$175.00

**DHY 204 Techniques II (SU) 1.5 credits**

This 1.5-hour lecture course is designed to introduce the foundational theories and clinical techniques of root planing and gingival curettage. Instruction will be provided on the practical aspects of the nutritional need of the dental patient and nutritional counseling. This course will also serve as an orientation to the sealant rotation with the Columbus Health Department.

Lecture: 1.5 hours – Lab: 0 hours

Prerequisite: DHY 110

**DHY 205 Techniques III (A) 2 credits**

This 2-hour lecture course is designed to provide knowledge and understanding regarding dental hygiene care and management for patients with special needs, including but not limited to, pediatrics, geriatrics and the handicapped.

Lecture: 2 hour – Lab: 0 hours

Prerequisite: DHY 110

**DHY 206 Techniques IV (W) 1 credit**

This 1-hour lecture course is designed to introduce the foundational principles of enhanced therapeutics for periodontal therapy, instrument management, expanded functions, licensure requirements, and advanced computer technology enhancement for dental practices. Dental forensics and other emerging professional issues in dental hygiene will be discussed.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: DHY 110

**DHY 207 Techniques V (SP) 1 credit**

This lecture course is designed to provide the student with knowledge of professional ethics, legal responsibilities of the dental hygienist, and the role of organized dental hygiene. In addition, office management skills, alternate practice settings and securing employment will be emphasized. The student will create a Dental Hygiene Portfolio including a prepared resume.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: DHY 110

**DHY 214 Dental Hygiene Treatment Planning (SP) 0.5 credits**

This 0.5-lab credit course involves the study of theory on how to complete a total treatment plan for a patient based on individual needs using the APIE concept. Columbus State's Smoking Cessation Program guidelines will be covered in this course.

Lecture: 0 hours – Lab: 1.5 hour

Prerequisite: DHY 110

**DHY 215 Case Studies and Presentations (SP) 0.5 credits**

This 0.5-credit-hour lab course provides the student with the opportunity to assess, plan, implement and evaluate a complete patient case study. The Senior student will present a 30-minute oral presentation on each case study to the members of the Junior and Senior classes.

Lecture: 0 hours – Lab: 1.5 hours

Prerequisite: DHY 110

**DHY 220 Dental Hygiene Clinic II (SU) 4 credits**

This 4-credit, 12 contact-hour clinical course will provide ongoing experience in total patient care.

Lecture: 0 hours – Lab: 12 hours

Prerequisite: DHY 110 Lab fee: \$300.00

**DHY 221 Dental Hygiene Clinic III (A) 4 credits**

This 4-credit, 12 contact-hour clinical course builds upon previous clinical course work involving dental hygiene total patient care.

Lecture: 0 hours – Lab: 12 hours

Prerequisite: DHY 110 Lab fee: \$300.00

**DHY 222 Dental Hygiene Clinic IV (W) 4 credits**

This 4-credit, 12 contact-hour clinical course will provide ongoing experience in total patient care.

Lecture: 0 hours – Lab: 12 hours

Prerequisite: DHY 110 Lab fee: \$300.00

**DHY 223 Dental Hygiene Clinic V (SP) 4 credits**

This 4-credit, 12 contact-hour clinical course is the final course in the clinical dental hygiene sequence. It is designed to enable the student to incorporate all the techniques and treatment modalities previously acquired involving total patient care. Emphasis will be placed on refinement of treatment and professional decision making.

Lecture: 0 hours – Lab: 12 hours

Prerequisite: DHY 110 Lab fee: \$300.00

**DHY 240 Dental Materials (SU, DL) 1 credit**

This 1-hour distance learning course is designed to study the chemical, physical and biological properties of materials used in dentistry. Emphasis will be placed on the manipulation and utilization of materials that have application to the dental hygienist.

Lecture: 1 hour online – Lab: 0 hours

Prerequisite: DHY 110

**DHY 245 Dental Materials Laboratory (SU) 1 credit**

This 3-hour laboratory course places emphasis on the manipulative techniques and practical application of various materials used in the practice of dentistry.

Lecture: 0 hours – Lab: 3 hours

Prerequisite: DHY 110 Lab fee: \$150.00

**DHY 250 Oral Histology (A) 1 credit**

This 1-credit-hour course involves the study of tissues comprising the oral cavity, along with the embryonic development of these tissue and facial structures.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Admission to the Dental Hygiene Program

**DHY 251 Oral Pathology (SU) 3 credits**

This 3-credit-hour course involves the study of oral pathology with emphasis placed upon the recognition of normal and abnormal conditions in the oral cavity.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: DHY 110

**DHY 260 Periodontology (W) 3 credits**

This 3-hour lecture course is designed to place emphasis on the etiology, assessment, evaluation, classification, treatment and maintenance of the periodontally involved dental patient.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: DHY 110

**DHY 270 Dental Pharmacology (A) 2 credits**

This 2-hour lecture course surveys the drugs commonly encountered in

the dental office. Emphasis is given to drugs and drug actions which can affect dental treatment.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: DHY 110

**DHY 275 Dental Hygiene in Review (W) 0.5 credits**

This 0.5-credit lab course is a comprehensive review of dental hygiene courses to aid students in the preparation for both clinical and written examinations for licensure.

Lecture: 0 hours – Lab: 1.5 hours

Prerequisite: DHY 110 Lab fee: \$90.00

**DHY 282 Biostatistics and Research for the Dental Hygienist (SP, DL) 1 credit**

This distance learning course introduces the student to biostatistics, dental indices, and research methods in dentistry.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: DHY 110

**DHY 283 Community Dental Health I (SP) 1 credit**

This 1-hour lecture course introduces the philosophy, techniques, attitudes, and behaviors necessary to promote oral disease prevention through organized community-based programs. The student will be responsible for completing and presenting an oral health prevention or health promotion lesson plan.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: DHY 110

**DHY 284 Community Dental Health II (W) 2 credits**

This 2-hour lecture course introduces the dental hygiene student to public health concepts and principles. The student will be introduced to their roles and responsibilities as a community health educator.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: DHY 283

**DHY 285 Community Dental Health III (SP) 1 credit**

This course provides the dental hygiene student with the opportunity to apply the principles of community dental health in a practical setting. Projects that involve development, implementation and evaluation on public health dental programs are included.

Lecture: 0 hours – Lab: 3 hours

Prerequisite: DHY 284 Lab fee: \$40.00

**DHY 290 Pain Control Management (A) 1.5 credits**

This course provides the basic concepts of local anesthesia and pain control. The rationale for pain control, a review of specific anatomic landmarks, physiological aspects and the pharmacology of anesthetic agents will be included. Detailed instruction in the local anesthesia techniques and nitrous oxide analgesia administration will be provided. Prevention and management of complications in relation to pain control will be discussed.

Lecture: 1.5 hours – Lab: 0 hours

Prerequisite: DHY 140

Corequisites: DHY 270, DHY 295

**DHY 295 Pain Control Management Lab (A) 1 credit**

This laboratory course will provide clinical instruction for the dental hygiene students in relationship to pain control techniques. Detailed instruction and demonstration for local anesthesia techniques and pain control management will be provided. Students are required to participate in partner injections for pain control.

Lecture: 0 hours – Lab: 3 hours

Prerequisite: DHY 145

Corequisites: DHY 270, DHY 290 Lab Fee: \$200.00

## Dental Laboratory Technology (DENT)

**DENT 101 Materials I (A) 3 credits**

This course involves a comprehensive study of the chemical and physical properties of materials used by the dental technician.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Acceptance into program

**DENT 111 Anatomy (A) 3 credits**

This course provides the student with an introduction to the masticatory system. The student will be exposed to the significant structures and landmarks of the oral cavity, with extensive study of the permanent dentition.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: Acceptance into program

**DENT 121 Complete Dentures I (A) 3 credits**

This course involves an introduction to complete dentures and includes a study of the procedures from preliminary impressions through wax contouring, with special emphasis upon artificial tooth arrangement.

Lecture: 1 hour – Lab: 6 hours

Prerequisite: Acceptance into program Lab fee: \$65.00

**DENT 122 Complete Dentures II (A) 2 credits**

This course is a continuation of the study of complete dentures and includes procedural material from flasking through patient remount and occlusal adjustments.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: Acceptance into program Lab Fee: \$65.00

**DENT 123 Complete Dentures III (SP) 3 credits**

This course involves a study of procedures required to solve specific post insertion problems, e.g., repair, rebase, and reline. In addition, the student is introduced to the immediate denture technique.

Lecture: 1 hour – Lab: 6 hours

Prerequisite: Acceptance into program Lab fee: None

**DENT 132 Occlusion (A) 3 credits**

This course will entail a study of occlusal morphology, the temporomandibular joint, and mandibular movements.

Lecture: 1 hour – Lab: 6 hours

Prerequisite: Acceptance into program

**DENT 142 Removable Partial Dentures I (W) 3 credits**

This course is a basic study of removable partial dentures and presents principles such as survey, design, and fabrication.

Lecture: 1 hour – Lab: 6 hours

Prerequisite: Acceptance into program

**DENT 143 Removable Partial Dentures II (A) 2 credits**

This course will involve an intensification of the study of survey, design and fabrication of removable partial dentures.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: Acceptance into program

**DENT 153 Fixed Partial Dentures I (W) 3 credits**

This course will introduce the student to the fixed appliance. The content will be limited to the single unit crown.

Lecture: 1 hour – Lab: 6 hours

Prerequisite: Acceptance into program Lab fee: \$65.00

**DENT 224 Complete Dentures IV (SP) 2 credits**

In this course, the student will fabricate an overdenture and will concentrate upon characterization of complete dentures.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: Acceptance into program Lab fee: None

**DENT 244 Removable Partial Dentures III (SP) 3 credits**  
During this course, the student will apply acquired knowledge and skills by fabrication of removable partial dentures. The didactic portion will encompass specialized designs such as stress breakers, precision attachments, and the RPI technique.  
Lecture: 1 hour – Lab: 6 hours  
Prerequisite: Acceptance into program

**DENT 256 Fixed Partial Dentures IV (SP) 3 credits**  
This course will involve a study of crown and bridge cases not covered previously, as well as the use of attachments. The student will construct multiple unit appliances and construct one-piece castings.  
Lecture: 1 hour – Lab: 6 hours  
Prerequisite: Acceptance into program Lab fee: None

**DENT 275 Ceramics I (W) 4 credits**  
This course is an introduction to dental ceramics and will involve a study of porcelain fused to metal restorations. The students will construct porcelain veneers and full-coverage single unit crowns.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: Acceptance into program Lab Fee: None

**DENT 276 Ceramics II (SP) 3 credits**  
This unit will entail a continuation of the study of the porcelain fused to metal restoration. It will also include the study of the Maryland bridge and the porcelain jacket crown and other multiple unit appliances.  
Lecture: 1 hour – Lab: 6 hours  
Prerequisite: Acceptance into program Lab Fee: None

**DENT 285 Orthodontics (SP) 2 credits**  
This course provides a basic introduction to the laboratory skills necessary to provide services in the areas of orthodontics.  
Lecture: 1 hour – Lab: 3 hours

**DENT 296 Applied Laboratory I (SP) 3 credits**  
This course consists of laboratory and is intended to simulate a working laboratory. The student will fabricate fixed and removable appliances.  
Lecture: 1 hour – Lab: 6 hours  
Prerequisite: Acceptance into program Lab fee: \$65.00

**DENT 297 Applied Laboratory II (SU) 7 credits**  
This course consists entirely of laboratory and is intended to simulate a working laboratory situation with regard to work schedules, case flow, and coping with real problems.  
Lecture: 1 hour – Lab: 18 hours  
Prerequisite: Acceptance into program Lab fee: \$75.00

## Developmental Education Department (DEV)

**DEV 006 Basic Grammar Skills (A, W, SP, SU, DL) 2 credits**  
This course covers grammar skills including the correct use of verb tenses and forms; simple, compound, and complex sentences; fragments, run-ons and comma splices. Traditional and Web-based sections are available.  
Lecture: 2 hours – Lab: 0 hours Lab fee: \$2.00

**DEV 007 Basic Punctuation Skills (A, W, SP, SU, DL) 2 credits**  
This course covers punctuation skills including the correct use of commas, semicolons, quotation marks, apostrophes and other marks. Traditional and Web-based sections are available.  
Lecture: 2 hours – Lab: 0 hours Lab fee: \$2.00

**DEV 015 Spelling and Vocabulary (A, W, SP, SU) 3 credits**  
This course is designed to improve vocabulary and spelling skills through the use of memorization, phonics, the application of rules, and personal word lists.  
Lecture: 3 hours – Lab: 0 hours Lab fee: \$2.00

**DEV 028 Algebra Foundations (A, W, SP, SU) 3 credits**  
This course is designed for students who need special assistance to re-enter DEV 031 Pre-Algebra. The course is structured to develop students' critical thinking and problem solving in relation to basic algebra concepts. Methods of instruction will include collaborative activities, lecture and writing activities involving terminology, simplifying expressions, solving equations and signed number operations. In order to re-enter DEV 031, a "C" or higher in DEV 028 is required. The course is not open to students with credit for DEV 031 or higher.  
Lecture: 3 hours – Lab: 0 hours Lab fee: \$3.00

**DEV 030 Basic Mathematics (A, W, SP, SU, DL) 5 credits**  
Basic Mathematics offers a review of arithmetic concepts including whole numbers, fractions, decimals, percents, proportions, formulas and data interpretation. The course is structured to develop students' critical thinking, problem solving, math and study skills through collaborative activities, writing assignments, real-life applications, and the use of modern technology in the classroom. Traditional, Web-based and hybrid sections are available.  
Prerequisite: By placement exam; this mastery learning course is not open to students with credit for DEV 031, MATH 101, 102 or higher.  
Lecture: 5 hours – Lab: 0 hours Lab fee: \$6.00

**DEV 031 Pre-Algebra (A, W, SP, SU, DL) 5 credits**  
Pre-Algebra is designed for students who have no experience with algebra and for those who need to strengthen their abilities to work with algebraic mathematics. Topics include simplifying algebraic expressions, solving equations, working with exponents, formulas, signed number operations, monomial operations and application problems. This course will help to develop students' algebra and study skills and help them to perform successfully in MATH 101, MATH 102 and in the workplace. Traditional, Web-based and hybrid sections are available. This course is not open to students with credit for MATH 101, 102 or higher. Please note that students cannot take DEV 030 and DEV 031 concurrently.  
Prerequisite: By placement exam or "C" or higher in DEV 030  
Lecture: 5 hours – Lab: 0 hours Lab fee: \$6.00

**DEV 040 Reading Improvement (A, W, SP, SU) 5 credits**  
This course focuses on developing students' basic reading skills. Students will practice strategies for improving reading rate and comprehension. Critical reading skills will be introduced through reading and responding to essays, keeping a journal and vocabulary notebook, and doing workbook activities. In order to re-enter DEV 044, a "C" or higher is required in DEV 040. This course is not open to students with credit for DEV 044.  
Lecture: 4 hours – Lab: 2 hours Lab fee: \$4.00.

**DEV 041 Basic Communication Skills (A, W, SP, SU) 5 credits**  
This course combines elements of the writing process with the basic principles of writing clear, coherent, and well-developed paragraphs. Students will review rules of grammar usage and punctuation. Critical thinking skills will be developed through reading, class discussion and journal writing.  
Prerequisite: By placement exam; not open to students with credit for any of the ENGL 100 series or higher.  
Lecture: 4 hours – Lab: 2 hours Lab fee: \$12.00

**DEV 044 Critical Reading and Thinking (A, W, SP, SU) 3 credits**  
Critical Reading and Thinking is designed to help students develop higher-order reading skills that will help them become more effective and efficient readers. In this course, students will expand basic reading and critical thinking skills. A variety of reading disciplines will be used for discussion, reading, and writing assignments, and for projects that will

allow students to critique their self-knowledge and evaluate ideas. The course is open to all Columbus State students.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: By placement exam Lab fee: \$2.00

**DEV 050 Career Life Planning (A, W, SP, SU) 3 credits**

Career and Life Planning is designed to help students identify and examine their abilities, interests, values, and personalities relative to educational and career choices. Upon completion of this course, a student will be able to develop a plan of action for gaining employment and/or pursuing a field of study that meets his or her personal needs. Traditional and Web-based sections are available.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$3.00.

**DEV 090 College Success Skills (A, W, SP, SU) 2 credits**

College Success provides students with skills necessary to be successful in their personal, academic and career-related pursuits. The course focuses on an orientation to the College, study skills, note-taking, test-taking and time management. This course is required of students who place in two Developmental Education courses. Traditional and Web-based sections are available.

Lecture: 2 hours – Lab: 0 hours Lab fee: \$2.00

**DEV 098 Special Topics in Developmental Education (On Demand) 1–5 credits**

Students can explore special topics in developmental reading, writing, mathematics or related areas. This course is designed to meet special needs.

Lecture: 1-5 hours – Lab: 0 hours

Prerequisites: Will vary Lab fee: Will vary

**DEV 099 Special Topics in Developmental Education (On Demand) 1–5 credits**

Course provides an opportunity for study of special topics in developmental reading, writing, mathematics or related areas. This course is designed to meet special needs.

Lecture: 1-5 hours – Lab: 0 hours

Prerequisites: Will vary Lab fee: Will vary

## Digital Design and Graphics (GRPH)

**GRPH 110 Survey of Digital Design (A, W, DL) 5 credits**

This course provides an overview of the digital design and graphics industry. The student will be introduced to various areas and job opportunities in this field. A basic overview of the printing industry, graphic design, advertising and marketing communications will be discussed. Key terminology and related software used in this business will be reviewed. Laboratory time will be used for understanding basic skills.

Lecture: 5 hours

Prerequisites: None Lab fee: \$10.00

**GRPH 112 Introduction to Computer Design (A, W, SP, SU, DL) 4 credits**

This course introduces the student to the computer software program most widely used in the graphic communications field. A basic working knowledge of Adobe Photoshop, Adobe Illustrator, Adobe InDesign is the primary goal of this course. The student will learn these skills through basic project development.

Lecture: 3 hours Lab: 3 hours

Prerequisites: None Lab fee: \$29.00

**GRPH 113 Fundamentals of Layout and Storyboarding (A, SP) 4 credits**

A storyboard is used by graphic artists, Web developers, and audio/video

professionals to map out visually a series of actions and events. The storyboard graphically outlines in rough format how the project will appear in the final state. This course will introduce students to the fundamental skills in conceptualizing and developing coherent and compelling storyboards. Significant focus will be placed on learning how to communicate ideas into a logical layout that tells the story.

Lecture: 4 hours

Prerequisites: None Lab fee: \$20.00

**GRPH 115 Fundamentals of Illustration (A, SP) 4 credits**

This course is an introduction to the basic techniques of visual communication. Significant focus will be placed on learning how to communicate ideas into a logical layout that tells the story. This course provides a study of basic sketching techniques used to create storyboards.

Emphasis is placed on the human form, gestures, facial expressions, perspective, line, textures, contrast and composition.

Lecture: 4 hours

Prerequisite: None Lab fee: \$15.00

**GRPH 116 Introduction to Traditional Animation (W, SU) 4 credits**

In this course, the student will be introduced to the animation process and will learn to adapt this process to various projects. Drawing techniques will be reviewed and practiced to develop the quality and imagination of the student's project. The student will learn the importance of acquiring a large collection of reference material in many different subjects. This will help the student's observation skills and creative thinking.

Lecture: 4 hours

Prerequisite: GRPH 113 and GRPH 115 Lab fee: \$15.00

**GRPH 123 Electronic Publishing with InDesign II (A, W, DL) 4 credits**

This course introduces students to electronic publishing software, specifically InDesign with typographical command sequences and manipulation applications. Special emphasis is placed on its use to generate and create professional quality publications, such as advertisements and newsletters.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: GRPH 112 Lab fee: \$28.00

**GRPH 131 Advertising Design I (A, W, SP, SU, DL) 5 credits**

This course provides the student with an understanding of how graphic design, advertising and marketing are used together to provide a client with effective visual communications to a specific target market. Elements of design, design philosophy, typography, marketing and color will be discussed in preparation for advertising campaign development. Verbal presentation is an important element in this course.

Lecture: 5 hours

Prerequisites: GRPH 112, GRPH 123 Lab fee: \$25.00

**GRPH 150 Package Design I (A, W, SP, SU, DL) 5 credits**

In this course, the student will learn the importance of the package design as an advertising element. Package structure and producing 2-D and 3-D comprehensive package designs will be stressed. An extensive study of required package elements and how to visually present that to the consumer will be discussed. Evaluating the creative process from concept to finished package and how this relates to the consumer is very important to the success of a package.

Lecture: 5 hours

Prerequisites: GRPH 123, GRPH 131 Lab fee: \$25.00

**GRPH 216 Advanced Traditional Animation (A, SP) 4 credits**

This course teaches students advanced skills and techniques to be applied to the development of animation sequences. The emphasis is on creating and developing characters and compositions that effectively support story telling. Topics include the creation of realistic and stylized character design, movement and interaction, as well as props, backgrounds, layout and effects.

Lecture: 4 hours

Prerequisites: GRPH 113, GRPH 115, and GRPH 116 Lab fee: \$15.00

**GRPH 242 Media Color Management (A, W, SP, SU, DL) 5 credits**

This course is an introduction to color and how color is perceived and managed across different devices and outputs. Techniques will be used to identify, examine, and measure color to ensure color quality. Students will develop an understanding and application of color theory, color perception, and color management for a color's final destination.

Lecture: 5 hours

Prerequisites: GRPH 110 Lab fee: \$25.00

**GRPH 243 Vector Illustration (A, SU, DL) 5 credits**

This course provides the student with a comprehensive knowledge of Adobe Illustrator. This software will enable the student to produce complex technical drawings, illustrations and creative typographic applications. Individual projects, team projects and project presentation are used for evaluation.

Lecture: 5 hours

Prerequisite: GRPH 112 Lab fee: \$27.00.

**GRPH 251 Photoshop and Design I (A, W, SP, DL) 5 credits**

This course combines the fundamental skills introduced in preliminary courses with the new technologies of desktop scanning and separation. The course incorporates such topics as color separation and photographic manipulation. The software used in this course is Photoshop.

Lecture: 5 hours

Prerequisite: GRPH 112 Lab fee: \$24.00

**GRPH 252 Digital Imaging II (A, SP) 3 credits**

Advanced Electronic Imaging Techniques are covered using Photoshop CS4. These techniques are commonly used with images that are going to be printed in a marketing piece. This course is geared toward those who want to learn every aspect of Photoshop and to learn the techniques that are used in the real work world.

Lecture: 2 hours – Labs: 3 hours

Prerequisites: GRPH 251 Lab fee: \$ 24.00

**GRPH 254 Advanced Illustrator (A, SP) 4 credits**

This course is focused on advanced principles and applications of Adobe Illustrator, CS4. This course will focus on advanced tips and techniques while developing an understanding for design and creativity. Customizing your work environment to increase your illustration productivity will be reviewed. The study of the gradient mesh tools, advanced brush techniques and advanced vector illustration techniques will be major focus.

Lecture: 2 hours Lab: 4 hours

Prerequisite: GRPH 243 Lab fee: \$25.00

**GRPH 255 Digital Painting (A, SP) 4 credits**

This course will introduce students to digital painting using various digital painting software programs. The student will learn how to apply a variety of effects to drawings and photographic images via computer that can give the appearance of oil painting on canvas. Course will explore the ideas behind creatively interpreting color, shape, and movement and study the techniques that can be useful in graphic design, photography, art and illustration.

Lecture: 4 hours

Prerequisites: none Lab Fee: \$29.00

**GRPH 260 Digital Design and Graphics Practicum (A, W, SP, SU) 4 credits**

This course provides supervised, on-the-job application of the knowledge and skills the student acquired in the classroom.

Lecture: 0 hours – Practicum: 28 clock hours for 4 credits

Prerequisites: Digital Design and Graphics major, with GPA of at least 2.5 and completion of 12 hours in the technology, or permission of instructor

Corequisite: GRPH 261 Lab fee: \$3.00

**GRPH 261 Digital Design and Graphics Seminar (A, W, SP, SU) 1 credit**

This course offers an opportunity for supervised application of digital design and graphics knowledge to the specific area of internship.

Seminar: 1 hour – Lab: 0 hours

Prerequisites: Digital Design and Graphics major, with GPA of at least 2.5 and completion of 12 hours in the technology, or permission of instructor

Corequisite: GRPH 260 Lab fee: \$3.00

**GRPH 262 Photoshop WOW! (A, SP) 4 credits**

This course will enlighten and inspire graphic designers, and illustrators. In this course the student will learn step-by-step methods for creating both commercial and fine-art images, with tips and techniques that will take their professional skills to a new level. The student will learn the most innovative techniques for creating and enhancing images, graphics and type, using layer styles, patterns, actions, gradients, custom tools, and other advanced features of Photoshop.

Lecture: 2 hours Lab: 4 hours

Prerequisites: GRPH 251 Lab fee: 25.00

**GRPH 265 Character and Environment Design 4 credits**

This course will teach students the importance of costume, personality, and story interactivity. Students will also learn to place characters into designed environments. This course will also emphasize professional applications, techniques, and quality. Advanced principles of 3D environment design, architecture and level design will be studied.

Lecture: 4 hours

Prerequisites: GRPH 216 Lab fee: \$15.00

**GRPH 273 Advertising Design II (W, DL) 5 credits**

This course provides a more extensive and in-depth study of the graphic design process. Using the knowledge students receive in GRPH 131, more complex advertising campaigns and formal presentation options will be emphasized. Individual project presentation and group presentations are a very important part of the business and this class. A class critique will follow each project.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: GRPH 131 Lab fee: \$25.00

**GRPH 282 Digital Publishing II (A, SP, DL) 4 credits**

This course will provide the student with a more comprehensive study of desktop publishing and how it applies to practical project work. This class will deal with issues that give the student an understanding of the processes involved in producing high-end graphic publications. This course uses InDesign.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: GRPH 112, GRPH 123 Lab fee: \$36.00

**GRPH 284 Ad Agency I (AU, SP) 4 credits**

This is a capstone course for the graphic designer, which provides the student with advanced graphic design techniques and project presentation practices. The student will learn how to produce elements of advertising campaigns in two and three dimensional form. This class will work in a simulated advertising agency environment to develop product advertising from marketing concepts to visual design applications. One formal team presentation is required for completion of this class.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: GRPH 131 Lab fee: \$29.00

**GRPH 291 Portfolio Development (W, SU, DL) 4 credits**

In this course, the student will develop a traditional portfolio of his/her graphic design and photography work, as well as create a portfolio on CD. The student will develop a visually effective and informative resume. Learning proper presentation skills when showing the portfolio to prospective employers is a very important part of this class.

Lecture: 4 hours

Prerequisites: GRPH 113, GRPH 273, GRPH 284 Lab fee: \$15.00

**GRPH 292 Business of Design (A, SP) 4 credits**  
This course introduces students to the business and marketing practices needed, and commonly found, in professional design firms and in freelance design work. Emphasis will be placed on developing professional objectives based upon the financial, legal, organizational, promotional, interpersonal and ethical practices particular to design. This course is a research and business-planning course.  
Lecture: 4 hours  
Prerequisites: GRPH 110 Lab Fee: \$3.00

**GRPH 297/298/299 Special Topics in Digital Design and Graphics (On Demand) 1–4 credits**  
These courses provide an opportunity for detailed examination of a selected topic in digital design and graphics.  
Lecture: 1 to 4 hours – Lab: 1 to 4 hours Lab fee: \$28.00

## Digital Photography (FOTO)

**FOTO 111 Black and White Photography (A, W, SP, SU) 4 credits**  
This course introduces students to the basic principles of continuous-tone photography, emphasizing a balance of technical, aesthetic, and business concerns including composition and lighting, as well as manipulative functions, operative settings, exposure, and focus control of cameras and enlargers. Students will also learn to develop film and produce industry acceptable contact sheets and prints. A 35 mm SLR film camera with manual setting capabilities is needed. This course is film-based.  
Lecture: 2 hours Lab: 4 hours  
Prerequisite: None Lab fee: \$32.00

**FOTO112 Photoshop for Photographers (A, W, SP, SU, DL) 4 credits**  
This course familiarizes students with Photoshop and its relationship with digital photography as a business, design, and communication tool. The goal of this industry-based approach is to facilitate the integration of technical ability and visual problem solving skills in order to strengthen visual communication with the medium of digital photography. Students will need access to a version of Photoshop that best suits their needs.  
Lecture: 3 hours Lab: 3 hours  
Prerequisite: None Lab fee: \$24.00

**FOTO 113 Photoshop for Photographers II (On Demand, DL) 5 credits**  
This course introduces students to advanced principles of Photoshop as they relate to digital image editing and digital workflow. The goal of this course is to continue the integration of technical ability and creative visual problem-solving skills in order to strengthen visual communication and digital workflow skills. Students will need access to a version of Photoshop that best suits their needs.  
Lecture: 5 hours  
Prerequisite: FOTO 112 Lab fee: \$24.00

**FOTO 114 Introduction to Digital Photography (A, W, SP, SU) 4 credits**  
This course introduces students to the basic principles and applications of digital photography as a medium, a skill-set, and an integral part of today's digital literacy needs. Topics covered include capturing images using digital cameras while emphasizing the manipulation of camera controls, exposure, lighting, on-and-off camera flash, essential imaging tactics, digital workflow for photography, print, web and image storage and archival. Students are required to have a digital camera (point and shoot or DSLR).  
Lecture: 3 hours – Lab: 3 hours  
Prerequisite: None Lab fee: \$15.00

**FOTO 115 Digital Photography and Design (A, W, SU) 3 credits**  
This course introduces students to the basic to advanced principles of design as they relate to digital photography as a business, design and communication tool. The goal of this industry-based approach is to facilitate the integration of aesthetics and technical ability and visual problem solving skills in order to strengthen visual design and communication with the medium of digital photography. Students are required to have a digital camera (point and shoot or DSLR).  
Lecture: 3 hours  
Prerequisite: FOTO 114 Lab fee: \$24.00

**FOTO 116 Artistic Photography (On Demand) 3 credits**  
This course focuses on principles and concepts of digital photography as a conceptual-based product in the realm of art and the artist. The goal of this qualitative approach is to facilitate the integration of aesthetics and technical ability with visual problem solving skills in order to strengthen the “self” as artist and the product as art. In that “Deconstructionist Theory” seems to center around the idea that language and meaning are often inadequate in trying to convey the message or idea to communicate and in that the photographer is often not recognized as “artist” it is the objective to communicate visually and artistically, write with depth and meaning which can help strengthen visual communication with the medium of photography.  
Lecture: 2 hours Lab: 2 hours  
Prerequisite: FOTO 114 Lab fee: \$24.00

**FOTO 117 Digital Panoramic Photography (On Demand) 3 credits**  
This course covers the basic and advanced principles of digital panoramic photography. Students will learn the latest technological advances in panoramic digital photography. Students will learn how to control exposure, focus, and white balance when taking 5 to 30 pictures of a single scene (e.g., landscape, building, room interior) that will be stitched together digitally in a current image-editing software. Focus will be on visual communications of natural and urban landscapes in the context of commercial utilization for marketing or advertising material. Students are required to have a digital camera (point and shoot or DSLR).  
Lecture: 3 hours  
Prerequisite: FOTO 114 Lab fee: \$24.00

**FOTO 118 Real Estate Photography (On Demand) 3 credits**  
This course covers the basic through advanced principles of digital real estate photography as it is used for promotional flyers, brochures, magazine ads and Web sites. This course will cover all the techniques, skills, equipment and lighting needed to adequately document the interior and exterior of houses with minimal distortion and maximum marketing appeal. Students are required to have a digital camera (point and shoot or DSLR).  
Lecture: 3 hours  
Prerequisite: FOTO 114 Lab fee: \$24.00

**FOTO 119 Digital Infrared Photography (On Demand) 3 credits**  
This course introduces students to the basic principles of digital infrared photography as it is used for contemporary wedding portraiture and landscapes for client products, magazine ads and Web sites. This course covers all the techniques, skills and equipment students needed to use their existing digital camera to photograph infrared radiation. Students are required to have a digital camera (point and shoot or DSLR).  
Lecture: 3 hours  
Prerequisite: FOTO 114 Lab fee: \$24.00

**FOTO 120 PainterX for Photographers (On Demand) 4 credits**  
This course is focused on the principles and applications of Painter X as it relates to digital photography. Students will learn Painter X techniques by completing a series of skill-based projects and quizzes. Topics covered include; digital painting theory, image size and resolution, basic image editing control, tonal and color correction, retouching, digital painting, sharpening, blurring, filtering and other manipulation, as well as additional special effects techniques related to the digital photography industry. To

develop a student's technical ability and visual problem solving skills.

Lecture: 3 hours Lab: 3 hours Lab fee: \$24.00

**FOTO 121 Lightroom for Photographers (On Demand) 3 credits**

This course explores the importance of workflow management through the program Adobe Photoshop Lightroom. Students will learn effective file management and organization skills, editing and batch processing methods, the efficiency of building personal customized templates, editing and imaging large-scale photo shoots, and creating presentations and web galleries, along with compiling commercial print packages. Special attention will be paid to advanced composition techniques and image sequencing for marketing collateral and client proofing and presentations. This course will create a solid foundation of Photoshop Lightroom, which in conjunction with Photoshop CS3, is essential for streamlining the digital imaging process.

Lecture: 2 hours Lab: 2 hours Lab fee: \$24.00

**FOTO 122 Landscape Photography (On Demand) 3 credits**

This course is designed to provide students with a firm grounding in the digital photographic techniques and skills to create successful images of landscapes that could be used as stock photography or marketing and promotional materials for print or Web. Students will learn how to implement specific digital design elements and camera angles that aid in the digital translation of the three-dimensional world to two dimensions for display in print or on the Web. They also will explore the technical controls of the camera, from setting the hyper-focal distance to long, tripod-based exposures during the daytime, with reference to relevant theories to the work of recent and contemporary landscape photographers. Students are required to have a digital camera (point and shoot or DSLR).

Lecture: 3 hours

Prerequisite: FOTO 114 Lab fee: \$15.00

**FOTO 123 Aperture for Photography (On Demand) 3 credits**

This course is focused on the principles and concepts that introduce students to Aperture. This is a powerful tool for organizing, adjusting, and distributing your digital photographs. This course will teach students to sort, group, and stack images just as you would on a traditional light table. Students will learn how Aperture complements Photoshop, and discover some amazing organizing, productivity, and presentation tools offered by Aperture that are not available within Photoshop which can help post-production techniques within the medium of photography.

Lecture: 3 hours Lab fee: \$18.00

**FOTO 125 Night Photography (On Demand) 3 credits**

This course introduces students to the principles of night photography using digital camera equipment. Students will learn effective motion control techniques, architectural documentation, light painting, and multiple exposure techniques commonly used in today's commercial advertisements and promotional materials. Students will learn how to effectively use the law of reciprocity to create exposures that last up to a half an hour with minimal digital noise. Also covered will be many post-production alternatives which can refine the night-time digital capture. Students are required to have a digital camera (point and shoot or DSLR) and a tripod.

Lecture: 3 hours

Prerequisite: FOTO 111 or FOTO 114 Lab fee: \$15.00

**FOTO 130 Macro and Close-Up Photography (On Demand) 3 credits**

This course introduces students to all the concepts, equipment and techniques related to macro and close-up photography as it relates to commercial photography applications such as advertisements and promotions for both print and Web. Students will learn the technical considerations involved in using their DSLR to capture the smallest details. Students will implement the core design and exposure theories in digital photography to capture the details of a smaller world. Working with close-up filters, extension tubes and bellows, students will achieve professional macro-photographed subjects. Students are required to have a digital single lens camera (DSLR) and a set of close-up filters (+1, +2, +4) or

a macro lens

Lecture: 3 hours

Prerequisite: FOTO 114 Lab fee: \$35.00

**FOTO 150 Advanced Black and White Photography (A, W, SP, SU) 4 credits**

This course focuses on advanced applied still photography with emphasis on the technical side of exposure, development, advanced darkroom techniques, and advanced use of a 35mm camera. This course places an emphasis on advanced problem solving, pre-visualization and goal-based, visual communication. This course exposes the student to more extensive use of lighting, Zone System of exposure, development comparisons and its effect upon resulting exposure of films and printing papers. It is required that each student have a 35mm SLR camera with variable shutter speed and aperture as well as an incident light meter.

Lecture: 2 hours – Lab: 4 hours

Corequisite: FOTO 178

Prerequisite: FOTO 111 Lab fee: \$28.00

**FOTO 160 Color Photography (A, W, SP, SU) 3 credits**

This course is an introduction to color photography with emphasis on color theory, exposure control, scene and shot pre-visualization and composition. Students will examine color theory as it relates to light, the Web, and print, with a digital camera. This reinforces the concept of pre-visualization, vigilant shot planning, and careful exposure consideration which also will help the student become a better digital photographer in future classes. Through reading, practice and class discussion, students will learn elements unique to color photography. Students are required to have a 35 mm SLR camera with manual setting capabilities.

Lecture: 3 hours

Prerequisite: FOTO 114 Lab fee: \$15.00

**FOTO 178 Photo Lab (A, W, SP, SU) 1 credit**

The photo lab provides students currently enrolled in other photography courses the opportunity to enhance their film processing and printing technique skills. This course may be repeated.

Lecture: 0 hours – Lab: 3 hours

Corequisite: FOTO 111 or 150 or 220 or 250 Lab fee: \$28.00

**FOTO 214 Advanced Digital Photography (A, W, SP, SU) 5 credits**

This course provides an in-depth look at the digital single lens reflex camera (DSLR), advanced digital shooting techniques in different lighting conditions, and digital workflow solutions with image editing software for taking full advantage of the DSLR's range of capabilities. This course focuses on high resolution JPEG and RAW capture for photo-industry specific venues and outputs. A continuation of aesthetic and technical camera controls will be covered. This course assumes that the student has an understanding of basic digital photography and has access to a DSLR camera.

Lecture: 5 hours

Prerequisite: FOTO 114

Prerequisite: None Lab fee: \$15.00

**FOTO 220 Studio Lighting (A, W, SP) 4 credits**

This course has an emphasis on lighting problem solving in relation to indoor studio lighting techniques and equipment for product photography. This course exposes the student to more extensive use of product lighting, lighting techniques and the Zone System of exposure with the use of digital camera systems. This course will introduce the concepts of lighting required for basic commercial product photography with emphasis on lighting products based upon surface qualities and shape. Additional emphasis will be on designing sets and advertising arrangements for print and Web. It is required that each student have a DSLR as well as a hand-held incident light meter (analog or digital).

Lecture: 3 hours Lab: 3 hours

Prerequisite: FOTO 214 Lab fee: \$28.00

**FOTO 232 Industrial Photography (On Demand) 3 credits**

This course introduces students to the techniques and concerns of industrial photography. The course focuses on the needs of industrial photographers who photograph workers on the job, machinery, industrial layout, prominent places in an industry, etc. These photographs are used in company publications or for ad campaigns. Industrial photography demands knowledge of the industry as well as its equipment. This requires the student have access to a DSLR camera.

Lecture: 3 hours

Prerequisite: FOTO 114 Lab fee: \$18.00

**FOTO 250 View Camera Photography (SP) 4 credits**

This is an advanced photography class dealing with large format photography. The student, using college-provided 4x5 equipment, explores the techniques used in large format film exposure, development, and printing. The emphasis is on discovering all of the benefits associated with a view camera in various aspects of the photographic field. Studio work outside of regular class time is required.

Lecture: 2 hours – Lab: 4 hours

Corequisite: FOTO 178

Prerequisites: FOTO 150 Lab fee: \$40.00

**FOTO 260 Studio Portraiture (SP) 4 credits**

The focus in this class will be upon advanced posing, lighting and background creation of the single subject and multiple-subject portraiture. Basic-to-advanced studio portrait lighting techniques and on-location (indoor and outdoor) portrait lighting techniques will be covered, in addition to on-camera flash fill techniques and portable strobe use. This course assumes that the student has an understanding of advanced digital photography and has access to a DSLR camera and a hand-held incident meter (analog or digital).

Lecture: 3 hours Lab: 3 hours

Prerequisites: FOTO 214 Lab fee: \$40.00

**FOTO 261 Environmental Portraiture (On Demand) 4 credits**

The focus in this class will be upon basic posing, lighting and background creation of the single subject and multiple-subject portraiture. Basic to advanced portrait lighting techniques used on-location (both indoor and outdoor) will be covered, in addition to on-camera flash fill techniques, and portable strobe use. This course assumes that the student has an understanding of advanced digital photography and has access to a DSLR camera and an external flash unit. In this course, students will develop an advanced understanding of problems and solutions associated with creating expressive environmental portraits. Students will learn how to identify the assets and deficits found in any environment including available light, environment, and background. Students will work with light modifiers, flash-fill, and off camera flash to explore advantages offered by each.

Lecture: 3 hours Lab: 3 hours

Prerequisites: FOTO 214 Lab fee: \$24.00

**FOTO 265 Photojournalism (A, SP) 3 credits**

This course provided an introduction to the principles and theories of photojournalism in the digital era. FOTO 265 will increase technical understanding of digital photography as a medium, enabling the student to document newsworthy events with accuracy. The latest digital photographic techniques and technology will be employed throughout and the digital work output should be suitable for publication in newspapers, magazines, Web sites, company publications, brochures, pamphlets, announcements, circulars, folders, handouts, leaflets, throwaways, tracts, and digital slide-show presentations. This course will also cover media ethics, legal issues and the evolving technological impact of photojournalism. Student must have access to a DSLR camera.

Lecture: 3 hours

Prerequisites: FOTO 214 Lab fee: \$18.00

**FOTO 266 Photojournalism II (On Demand) 3 credits**

This course presents advanced principles, concerns and theories of photojournalism in the digital era. This course will increase technical

understanding of digital photography as a medium, enabling the student to document newsworthy events with accuracy. This course provides continued experience in shooting, digital processing, production-based projects, and deadlines, using current digital technology paralleling the photojournalism industry. The latest digital photographic techniques will be employed throughout and the digital work output should be suitable for publication in a variety of media. This course will also cover media ethics, legal issues and the evolving technological impact of photojournalism. Students must have access to a DSLR camera.

Lecture: 3 hours

Prerequisites: FOTO 265 Lab fee: \$18.00

**FOTO 279 Photoshop for Retouching (On Demand) 4 credits**

This course is focused on the principles using Photoshop for professional retouching as it relates to digital photography. Students will learn Photoshop retouching techniques by completing a series of skill-based projects and quizzes that cover basic to advanced topics of: digital imaging, image editing, tonal and color correction, retouching – glamour, single and multiple portraits, batch retouching, collage techniques, as well as additional special effects techniques related to the digital photography industry. The goal of this approach is to facilitate the integration of technical ability and visual problem solving skills with today's industry recognized post-production program, Photoshop, to strengthen visual communication with the medium of photography.

Lecture: 3 hours Lab: 3 hours

Prerequisites: FOTO 112 Lab fee: \$24.00

**FOTO 280 Photoshop Layers (On Demand) 4 credits**

This course is focused on the principles of the layers feature within Photoshop as it relates to digital photography. Students will learn the Photoshop layer techniques by completing a series of skill-based projects and quizzes that cover basic to advanced topics of: digital imaging, image editing, tonal and color correction, retouching, contrast masking, layer masks, collage techniques, as well as additional special effects techniques related to the digital photography industry. The goal of this approach is to facilitate the integration of technical ability and visual problem solving skills to strengthen visual communication with the medium of photography.

Lecture: 3 hours Lab: 3 hours

Prerequisites: FOTO 112 Lab fee: \$24.00

**FOTO 290 Business of Photography (SP, DL) 4 credits**

This course introduces students to the business and marketing practices common in a professional photography business or in freelance photography work. Emphasis will be placed on developing professional objectives based upon careful consideration of the financial, legal, organizational, promotional, interpersonal and ethical practices particular to photography. This course is a research and business-planning course. No camera is needed.

Lecture: 4 hours

Prerequisite: None Lab fee: \$15.00

**FOTO 292 Digital Portfolio Development (SP) 3 credits**

This course is designed for digital photography majors to gain knowledge of photography portfolio book design and production as well as Web-hosted portfolio production as it relates to self-promotion for future clients, job placement, or pursuit of photo-education at a four year university. Since the course is focused on the printed page and Web-posted portfolio to enhance the multi-medium delivery of any visual information, its potential applications are almost limitless. This course can provide groundwork for continued study and/or a career in digital photography or related industries.

Lecture: 3 hours

Prerequisites: FOTO 114 and FOTO 214 Lab fee: \$15.00

**FOTO 294 Digital Photography Practicum (On Demand) 4 credits**

This practicum offers an opportunity for supervised, on-the-job application of knowledge and skills acquired in the classroom. Student must be a Digital Photography major with GPA of a least 2.5, who has completed



12 hours in the technology and has permission of the instructor.

Lecture: 0 hours Lab: 28 hours

Prerequisites: Instructor permission

Corequisites: FOTO 295 Lab fee: \$3.00

### **FOTO 295 Digital Photography Seminar (On Demand) 1 credit**

This seminar offers an opportunity for supervised on-the-job application of knowledge and skills acquired in the classroom. Student must be a Digital Photography major with GPA of a least 2.5 who has completion of 12 hours in the technology and has the instructor's permission.

Lecture: 0 hours Lab: 4 hours

Prerequisites: Instructor permission

Corequisites: FOTO 294 Lab fee: \$3.00

### **FOTO 297 FOTO Field Studies (On Demand) 1–5 credits**

This hands-on course introduces students to a range of natural and man-made subjects that can range from field trips to the local zoo to foreign lands to study the indigenous people of the area, landscapes and architecture. Students learn ways of visualizing and capturing outside subjects at various times of the day or year. Course topics include studying equipment, portable digital storage devices, and other materials necessary to create the best digital photographs in a field environment. Students go on field trips lasting a day or several days depending on the location and topic to be covered. Students are required to have a DSLR and are responsible for the cost of any entrance fees, travel and lodging (if needed) and meal expenses TBA. This course can be repeated.

Lecture: 1–5 hours

Prerequisite: FOTO 114 Lab fee: \$20.00

### **FOTO 299 Special Topics in Digital Photography (On Demand) 1–5 credits**

This course is a detailed examination of a selected topic in Digital Photography. This course can be repeated.

Lecture: 1 to 5 hours

Prerequisite: TBA Lab fee: \$15.00

## **Early Childhood Development (ECD)**

### **ECD 101 Introduction to ECD (A, W, SP, SU) 1 credit**

This course presents an overview of the early childhood profession with an emphasis on developmentally appropriate practice. Students will be introduced to historical perspectives, philosophies, theories, trends and issues. Focus will be placed on professionalism.

Lecture: 1 hour

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **ECD 102 Introduction to CDA (SU) 1 credit**

This flex-term course focuses on the process to follow to earn the national Child Development Associate (CDA) credential. Students will study the history of the early childhood profession and discuss the role of professionals in this field. They will complete a written autobiography, a requirement for the CDA.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **ECD 104 CDA Competencies (AU) 1 credit**

This flex-term course focuses on the processes to complete requirements to earn the national Child Development Associate (CDA) credential. Students will select a format for presenting their written competencies and required resource file. They will complete written assignments for CDA competency areas and collect samples for their resource file. Procedures for final steps to earn the CDA will be discussed.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: ECD 108 Lab fee: \$4.00

### **ECD 105 Emotional Development (A, W, SP, SU) 3 credits**

This course details the importance of individualizing early childhood practices to meet the needs of children in a manner which develops positive self-image and individual competence. The course explores the impact of a teacher's self-image, values, and attitudes on the preschool classroom. Also looks at dimensions of self, antecedents of self-concept, relationship of feelings to self-concept, and teaching strategies and classroom arrangements that foster self-esteem. Finally, the class examines the use of positive communication skills for guidance of young children.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Placement into ENGL101 Lab fee: \$12.00

### **ECD 106 Observing and Recording (A, W, SP, SU) 1 credit**

This course focuses on appropriate methods of observing young children in group settings. Objective methods for recording children's behavior will be included. Strategies for observing while filling the role of teacher will be addressed. ECD 106 may be taken concurrently with ECD 101, 105 or 107.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **ECD 107 Curriculum Planning (A, W, SP, SU) 3 credits**

This class presents strategies that facilitate classroom management and guidance, and it emphasizes developing goals and objectives as a basis for classroom activities. The course includes preschool curriculum planning and fundamentals of developmentally appropriate practice. Also deals with the organization of time and space as it impacts group child care. This class may be taken concurrently with ECD 105 and 106.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$12.00

ECD 101, 105, 106 and 107 may be taken together.

### **ECD 108 Creative Curriculum (A, W, SP, SU) 3 credits**

This course deals with the principles of creativity and its importance in the life of the young child. Focus is on the sequence of development in child's use of creative materials. Techniques for creative arts and music will be explored, demonstrated and implemented. Students will develop and evaluate materials, objectives, and activities in these areas.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ECD 101, 105, 106, 107 Lab fee: \$12.00

### **ECD 109 Language Experiences in Early Childhood Programs (A, W, SP, SU) 3 credits**

This course includes theories and sequence of speech/language development, differentiating between normal and atypical language. Focus is on the teacher as facilitator of communication skill development, planning and implementing language arts activities, and selecting and using literature to enhance language development and provide emotional support. Literacy in young children is stimulated through interactive speech, listening, reading and print activities. Guidelines for establishing a literacy area in the classroom and working with parents also will be included.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ECD 101, Lab fee: \$12.00

### **ECD 110 Infant-Toddler Curriculum (A, W, SP, SU) 3 credits**

This course presents an overview of care giving for infants and toddlers in group settings. Programming for infants and toddlers is emphasized across developmental areas through appropriate routines, environment, and experiences. The role of staff and parent relationships is explored, and Ohio Child Care Licensing Rules are reviewed. This course is offered every quarter, with alternating day and evening class times.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ECD 101, 105, 106, 108, PSY 261

Corequisite: ECD 181, ECD 191 Lab fee: \$12.00

### **ECD 112 Physical Development Curriculum (A, SP) 3 credits**

This course covers the theoretical foundations for a child's physical and motor development. It includes assessing an individual child's motor

skills, sequence for the development of motor skills, perceptual-motor development, as well as implementing small and large motor activities in both indoor and outdoor settings. Health, nutrition, and safety education activities and discussion of childhood sexuality are part of this course.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ECD101, 105, 106, 107 and PSY 261 Lab fee: \$12.00

**ECD 114 Cognitive Curriculum (W, SP, SU) 3 credits**

This course explores the theoretical foundations behind a child’s cognitive development. Techniques for promoting concept development as well as focus on science and math activities for young children are part of the course. Emphasis is on planning activities which encourage questioning, probing, and problem-solving skills appropriate to individual developmental levels and learning styles. The course also includes studying the effects and use of television, computers and technology in settings for young children.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ECD 101, 105, 106, 107 Lab fee: \$12.00

**ECD 115 School Age Child Care (On Demand) 3 credits**

This course will present principles that are important for developing and administering childcare programs for children in Kindergarten through Grade 5. Developmental characteristics of school-aged children will be reviewed and appropriate care, education, and guidance practices identified. Information regarding licensing regulations and parent involvement for school-age childcare programs in Ohio will be disseminated.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ECD 105, 106, 107, 108 Lab fee: \$12.00

**ECD 120 Interpersonal Communications for Human Services (A, W, SP, SU) 3 credits**

This participatory and interactive course teaches principles of interpersonal communication for individuals working in Human Services. It is structured on the premise that the most important resource individuals bring to a helping relationship is their ability to remain self-aware and to communicate honestly and directly. Also covered are managing anger, conflict resolution, and assertive behavior.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: ECD 101, 105, 106, 107 Lab fee: \$4.00

**ECD 151 ECD Media Resource I (A, W, SP, SU) 1 credit**

This course will provide an overview and orientation to resources, equipment and materials available for creating learning activities and materials to be used with and by children. Students will have opportunities to practice safe, economical, and appropriate skills in creative ways.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: ECD 105 or permission of ECD coordinator

Lab fee: \$12.00

**ECD 152 ECD Media Resources II (A, W, SP, SU) 1 credit**

This course will expand students’ opportunities to learn, implement, and evaluate appropriate materials and methods for creating learning activities for children. Emphasis will be on extensions of appropriate classroom activities and environments through the use of media materials.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: ECD 105 or permission of ECD coordinator

Lab fee: \$12.00

**ECD 181–285 ECD Seminar (A, W, SP, SU) 1 credit**

These seminars offer group discussion of experiences related to ECD field experiences and integration of theory and practice. Seminars are taken as corequisites with ECD Practicums I-V. Seminars focus on observing and recording children’s play and interactions, basic principles of guidance, and application of knowledge. Expectations, objectives and requirements build with each successive experience. Successful completion (“C” or better) of each seminar is a prerequisite for the next seminar.

Lecture: 1 hour – Lab: 0 hours

Prerequisites: ECD 108, PSY 261

Corequisites: ECD 110, ECD 191–295 Lab fee: \$4.00 for each course

**ECD 191–295 ECD Practicum I-V (A, W, SP, SU) 1 credit**

These courses are an integral part of the ECD program, providing students with the opportunity to apply theory and practice under the guidance of early childhood professionals, who guide and assist in the evaluation of student performance. Students in the field for practicum are observed twice during the quarter by an assigned ECD faculty member. Successful completion with a “C” or better is a prerequisite for the next practicum.

Lecture: 0 hours – PR: 7 hours

Prerequisite: Formal admission to ECD, ECD 108 & PSY 261

Corequisite: ECD 110, ECD 181–285 Lab fee: \$4

Number	Seminar	Practicum
ECD 181	Infants & Toddler Sem	
ECD 182	Preschoolers Sem	
ECD 183	Three to Five Sem	
ECD 284	Special Needs Sem	
ECD 285	Pre-Kindergarten Sem	
ECD 286	Administration Sem	
ECD 287	Student Teaching Sem	
ECD 191		Infants & Toddler Prac
ECD 192		Preschoolers Prac
ECD 193		Three to Five Prac
ECD 294		Special Needs Prac
ECD 295		Pre-Kindergarten Prac
ECD 296		Administration Prac
ECD 297		Student Teaching Prac

**ECD 190 Activity Plan Seminar (A, W, SP, SU) 1 credit**

This seminar is required for ECD students who are petitioning for Prior Learning Assessment credit for Practicum and Seminars I. The class will focus on preparing written documentation of developmentally appropriate activities for preschool-aged children. Students will learn to write concepts, objectives, and procedures for developmentally appropriate activities, consistent with ECD program outcomes. Students will be observed in their work with children one time as a requirement for completing this class.

Lecture: 1 hour – Lab: 0 hours

Prerequisites: ECD 101, 105, 106, 107, Lab fee: \$4.00

**ECD 200 First Aid (A, W, SP, SU) 1 credit**

This course provides the student with training and practice in First Aid for infants and young children. It meets requirements of Ohio Child Day Care Licensing Rules for staff in early childhood settings. Prior Learning Assessment credit may be awarded for a current valid certificate for First Aid.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Placement into ENGL 100 Lab fee: \$4.00

**ECD 201 Health and Safety (A, W, SP) 3 credits**

This course gives training and practice in First Aid, in the recognition and management of communicable diseases, and in child abuse recognition and prevention. ECD 201 meets requirements of Ohio Child Day Care Licensing Rules for staff in early childhood settings. Prior Learning Assessment credit may be awarded for current valid certifications in First Aid, Recognition of Child Abuse and Neglect, and Management of Communicable Diseases.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 100 Lab fee: \$4.00

**ECD 202 Management of Communicable Disease (A, W, SP, SU)**  
**1 credit**

This course is designed to give students the knowledge and skills to recognize and manage communicable diseases. This class meets requirements for Ohio Child Day Care Licensing Rules for staff in early childhood settings. Prior Learning Assessment credit may be awarded for a current valid certificate in Management of Communicable Diseases.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Placement into ENGL 100 Lab fee: \$4.00

**ECD 204 Recognition of Child Abuse and Neglect (A, W, SP, SU)**  
**1 credit**

This course is designed to provide students with the knowledge and skills needed for child abuse recognition and prevention. This class meets requirements for Ohio Child Day Care Licensing Rules for staff in early childhood settings. Prior Learning Assessment credit may be awarded for a current valid certificate in Recognition of Child Abuse and Neglect.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Placement into ENGL 100 Lab fee: \$4.00

**ECD 205 Family Dynamics (W, SU)** **3 credits**

This course will present strategies for working effectively with parents of young children and involving them in childcare programs. Emphasis is on how to encourage active participation of parents in early childhood programs, parent conferences, and parent education. Family needs, similarities, and differences will be discussed as they may affect the teacher's role in building a partnership with parents.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ECD 109, 112, 114, 120 and PSY 261 Lab fee: \$12.00

**ECD 206 Social Development Curriculum (A, SP, SU)** **3 credits**

This course will address the major components of social development: recognition of family patterns and traditions, gender identity and sex roles, moral reasoning of young children, play theories and programming for classroom play, multicultural practices and diversity, and social studies for young children. The teacher's role as facilitator of social development will be defined.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ECD, 112, ECD 120 Lab fee: \$12.00

**ECD 207 Guidance and Discipline in Early Childhood Programs (W, SP, SU)** **3 credits**

This course is a study of social learning theories and the guidance of young children. Focus is on preventing problem behaviors and teaching desirable behavior through example, communication, and setting limits. Issues of child behavior and analyzing discipline problems will be discussed. Ways to resolve problem situations, change behavior, and develop moral reasoning are suggested. Strategies for helping children cope with stressful situations and for working with children in special circumstances are presented.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ECD 205, 206 Lab fee: \$12.00

**ECD 208 Young Children with Special Needs (A, SP)** **3 credits**

This course presents the rationale and skills necessary for educating and caring for young children with special needs in programs that are inclusive. It describes methods for identifying and assessing children with special needs and offers adaptive activities/strategies that are useful in an integrated classroom. Course acknowledges the importance and necessity of collaboration with parents, community professionals, and resources.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ECD 205 Lab fee: \$12.00

**ECD 210 Administration and Staff Dynamics (A, W, SP, SU)**

**3 credits**

This course is an in-depth study of the dynamics of staff interaction in a setting for young children. Focus includes personnel rights and responsibilities, ethical implications of teaching, and team functioning.

Problem-solving, professional growth and development, evaluation processes, and the legal requirements and responsibilities of Ohio Child Day Care Licensing procedures will be explored.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ECD 109, 112, 114, 120, PSY 261 and minimum of one year working in a childcare setting Lab fee: \$12.00

**ECD 212 Family Ecology (A, SP)** **3 credits**

ECD 212 views the family as an ecosystem and examines its interrelationships with the environment (biophysical, psychosocial, and technological) through processes of perceiving, valuing, spacing, and deciding. Emphasis is placed on family organizations, family members, and their roles.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ECD 206

**ECD 221–230 Contemporary Issues in Early Childhood (SU)**

**1–5 credits**

These courses will facilitate offerings of special topics related to ECD on an annual basis. Topics may include Children's Literature, Diversity and Young Children, Intergenerational Care, Music and Movement, Fitness for Children, Nutrition, Sign Language, Leadership, Advocacy, etc. These topics may be for new students in ECD or meet requirements for Pre-K Associate Licensed teachers for renewal purposes.

Lecture: 1-5 hours – Lab: 0 hours

Prerequisite: ENGL 100 or permission of ECD coordinator Lab fee: \$4.00 - \$12.00

**ECD 231 Phonics and the Structure of Language (SU)** **5 credits**

This course is designed to introduce students to the teaching of phonics and grammar in the context of reading, writing, and spelling. Students will learn basic terminology, will apply this terminology to instruction, and will develop an understanding of, and appreciation for, the structure and function of language elements. Teacher candidates must achieve a grade of "C" or better.

Prerequisites: ECD 287 and 297 Lab fee: \$ 20.00

**ECD 286 ECD Administration Seminar (A, W, SP, SU)** **1 credit**

This seminar provides opportunities for discussion and activities related to the ECD field experience and for the integration of theory and practice. Focus will be given to the program philosophy, qualifications and roles required to administer programs for young children, and to the planning required to meet the needs of staff, children, families, and the community. Establishing and maintaining sound fiscal practice also will be reviewed.

Lecture: 1 hour

Corequisite: ECD 296

Prerequisites: ECD 284, 294 Lab Fee: \$4.00

**ECD 287 Student Teaching Seminar (A, W, SP, SU)** **2 credits**

Students will have opportunities to discuss their interactions with young children, staff, and parents in their assigned practicum settings. Students will analyze the components of the learning environment, and their interrelationships in programs for young children and families. They will plan to integrate theory and practice to facilitate learning and promote quality programming, guidance, health, and safety of pre-Kindergarten children.

Lecture: 2 hours – Lab: 0 hours

Prerequisites: ECD 284, 294

Corequisite: ECD 297 Lab fee: \$8.00

**ECD 296 Administration Practicum Experience (W, SU)** **1 credit**

Students will spend 7 hours a week with an assigned community childcare administrator. Objectives related to administration of a childcare center, including budgeting, enrolling children, parent involvement, hiring and monitoring staff, and program development will direct student participation in this practicum experience.

Lecture: 0 – Lab: 0 – Clinical: 7 hours

Prerequisite: ECD 284, 294  
Corequisite: ECD 286 Lab fee: \$4.00

### **ECD 297 Student Teaching Practicum (A, W, SP, SU) 3 credits**

This practicum helps students integrate theories of child development with actual teaching practice as they work with young children individually and in groups. Students will hone their teaching skills in assigned Pre-Kindergarten classrooms five days a week for a total of 21 hours weekly.

Lecture: 0 hours – Lab: 21 hours

Prerequisites: ECD 284, ECD 294

Corequisite: ECD 287 Lab fee: \$12.00

## **Economics (ECON)**

**Students who enroll in economics courses must have placed in ENGL 101 and are encouraged to either have completed ENGL 101 or be enrolled in that course when scheduling an economics course.**

### **ECON 100 Introduction to Economics (A, W, SP, SU, DL) 5 credits**

This course is an issues-based introduction to basic economic concepts. Students will relate principles such as scarcity, opportunity cost, and markets to current events, including changes in the minimum wage, environmental controversies, and the actions of the Federal Reserve. A distance-learning (DL) version of Introduction to Economics is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: MATH 101 (or equivalent) and placement into ENGL 101  
Lab fee: \$4.00

### **ECON 200 Principles of Microeconomics (A, W, SP, SU, DL) 5 credits**

This course introduces students to the economic decision-making of individuals and firms. Topics include scarcity, opportunity cost, supply and demand, consumer choice, elasticity, market structure, profit maximization, resource markets and international trade. A distance-learning (DL) version of Principles of Microeconomics is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: MATH 102 (or equivalent) with a “C” or better and placement into ENGL 101 Lab fee: \$4.00

### **ECON 240 Principles of Macroeconomics (A, W, SP, SU, DL) 5 credits**

This course introduces students to economic decision-making at the aggregate level. Topics include national income analysis, the business cycle, inflation, unemployment, fiscal and monetary policies and objectives. A distance-learning (DL) version of Principles of Macroeconomics is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: Grade of “C” or better in ECON 200 and MATH 102 (or equivalent) and placement into ENGL 101 Lab fee: \$4.00

### **ECON 267 Economics of War (A, W, SP, SU, DL) 5 credits**

Economics of War is an intermediate composition course that extends and refines skills in writing (objective analysis, persuasive arguments, journalism pieces), oral and visual presentation, critical thinking by having students analyze, discuss, and write about various topics pertaining to the economics of war. An original research paper (based on an approved testable hypothesis) and presentation is also required. Assigned texts address the economics of war with respect to economic growth, debt, costs of a standing armed forces, costs of weapons of mass destruction and terrorism as well as how to write a hypothesis statement.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: ECON 240 and Completion of ENGL 102 or ENGL 111  
Lab fee: \$3.00

### **ECON 280 Intermediate Microeconomics (W, SP, SU, DL) 5 credits**

Sophomore level microeconomics course investigating the theory of consumer behavior including indifference curve analysis and the construction demand curves; income and substitution effects; income consumption curves; Engel curves; theory of the firm and derivation of all cost curves in short run and long run; factor price determination; dealing with uncertainty; general equilibrium and Edgeworth Box diagrams; and various pricing systems.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: Grade of “C” or better in ECON 200 and MATH 102 (or equivalent) and placement into ENGL 101 Lab fee: \$4.00

### **ECON 293 Independent Study in Economics (On Demand) 1–5 credits**

ECON 293 is an individual, student-structured course that examines a selected topic in economics through intensive reading or research. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisites: Permission of the instructor and the chairperson and one course in Economics Lab fee: \$3.00

### **ECON 299 Special Topics in Economics (On Demand) 1–5 credits**

This course allows students to examine, in detail, selected topics of interest in economics.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisite: Varies Lab fee: \$4.00

## **Education (EDUC)**

### **EDUC 210 Introduction to Education (A, W, SP, SU) 5 credits**

This course provides an introduction to the teaching profession with a focus on urban education. Candidates will learn how the historical, philosophical and sociological foundations of education as well as current cultural, economic and political forces impact urban schools through class discussion, inquiry and field experiences. Focusing on understanding themselves, understanding their students, and understanding the teaching profession, candidates work in urban community and school settings and critically reflect on their values, experiences and observations. Specifically, students will gain an educational policy and practice in Columbus City Schools.

Lecture: 3 hours – Lab: 5 hours

Prerequisites: Grade of “C” or better in PSY 100 and placement into ENGL 101 Lab fee: \$4.00

### **EDUC 220 Technology in Education (A, W, SP, SU) 5 credits**

This course provides those entering the teaching profession with an understanding of how to effectively enhance modern education with various types of technology. Students will explore the benefits and challenges of using technology. They will develop the skills to choose and implement technologies that will improve learner understanding and retention. Teaching and learning topics include basic hardware configurations and troubleshooting, operating systems, file types, spreadsheets, presentation

software, databases, word processing, audio-visual technologies, and online and distance-learning technologies. Students will be taught how to find reliable educational resources online and to understand intellectual property and copyright laws. Basic computing skills are required.

Lecture: 5 hours

Prerequisites: ENGL 101 Lab fee: \$4.00

## Electro-Mechanical Engineering Technology (EMEC)

For other related course descriptions, see **Electronic Engineering Technology and Mechanical Engineering Technology**.

### EMEC 250 Motors and Controls (A, SP) 4 credits

In this course students learn about the basic elements, operating theory, and wiring of electric motors and their related controls. Electromagnetism, generators, single phase AC motors, three phase AC motors, transformers, motor drives, and circuit protection are examined in detail. Also, students will learn how to use multi-meters to troubleshoot and test circuits and DC motors are briefly touched on.

Lecture: 3 hours – Lab: 3 hours Lab fee: \$15.00

### EMEC 251 Controls and Control Logic (W, SU) 4 credits

This course is a study in the basic interface circuitry used in electro-mechanical control of typical industrial circuits. Students will learn about solenoids, relays, ladder logic, ladder diagrams, and how to design and wire controls systems to meet a given set of criteria. Troubleshooting is emphasized at each step.

Lecture: 3 hours – Lab: 3 hours

Prerequisite: EMEC 250 Lab fee: \$15.00

### EMEC 260 PLC Programming (AU, SP) 4 credits

EMEC 260 is an introduction to Programmable Logic Controllers (PLCs). Students will gain knowledge and experience in programming the Allen-Bradley SLC 500 series of PLCs using RS Logix software. They will design, wire, and troubleshoot programs and circuits to meet a given set of criteria. Also, they will do a final project incorporating all the PLC functions they learn during the quarter.

Lecture: 3 hours – Lab: 3 hours

Prerequisite: EMEC 251 Lab fee: \$20.00

## Electronic Engineering Technology (EET)

### EET 105 Basic Electronic Systems (A, W, SP, SU) 5 credits

Every electrical or electronic device operates using either Direct Current (DC) or Alternating Current (AC) or both. This course is an introduction to DC and AC fundamentals, the systems that use them, and the basic sources of DC and AC electricity.

Lecture: 3.5 hours – Lab: 4.5 hours

Prerequisites: ENGL 100 with a grade of “C” or higher or by placement out of ENGL 100 or higher; MATH 103 with a grade of “C” or higher, or placement out of MATH 103 or higher, and PHYS 100 or higher.

Lab fee: \$11.00

### EET 110 Electronic Engineering Technology Graphics (A, W, SP, SU) 3 credits

EET 110 is an introductory drawing course incorporating the use of instruments, instructions, and practice to produce quality schematics and diagrams complete with lettering, electronic, and electrical symbols. An

introduction to computer-aided drafting (CAD) is included.

Lecture: 2 hour – Lab: 3 hours Lab fee: \$4.00

### EET 115 Basic Digital Systems (A, W, SP, SU) 5 credits

A digital system is one that uses a precise sequence of discrete voltages, representing numbers or non-numeric symbols (such as letters or icons) for input, processing, transmission, storage, or display. This course covers PDAs, cell phones, DVD players, GPS devices, laptops, MP3 players, PCs, etc.

Lecture: 3.5 – Lab 4.5 hours

Prerequisite: EET 105 Lab fee: \$11.00

### EET 123 PC Tech Essentials I (A, W, SP, SU) 4 credits

This is the first course in a two-course curriculum based upon the knowledge domains required for the CompTIA A+ Certification exam. This exam is vendor neutral and recognized worldwide in the Information Technology industry. The domains of the exam address the skills and responsibilities of computer service and support personnel.

Lecture: 3 hours - Lab: 3 hours

Prerequisite: MECH 112 or CIT 101 Lab Fee: \$40.00

### EET 125 Electronic Switching Systems (A, W, SP, SU) 5 credits

This course introduces the operating characteristics and practical applications of electronic switching systems commonly required for power conversion. Switch mode power supplies can be classified into four types according to the form of input and output voltages: AC to DC (off-line power supply or a rectifier); DC to DC (voltage converter); AC to AC (frequency changer); and DC to AC (inverter). Systems which will be studied in the laboratory setting include Uninterruptible Power Supplies (UPS), Variable-frequency drives (VFD), Intelligent Charging Systems, and Switching-Mode Power Supplies (SMPS).

Lecture: 3.5 – Lab 4.5 hours

Prerequisite: EET 105 Lab fee: \$11.00

### EET 136 Introduction to Open Source –Linux + (A, SP) 4 credits

This course introduces the Open Source system and provides the knowledge necessary to use it and its tools productively. The course will focus on the domains required for the CompTIA Linux+ Certification exam.

Lecture: 3 hours – Lab: 3 hours

Prerequisites: MECH 112 and EET 123 Lab fee: \$40.00

### EET 137 E-Mail for Tech Support (W, SP, SU) 4 credits

The course will review e-mail from the support technician’s perspective and discuss the roles, behavior, and components of the e-mail system. User creation, standards, configuration files, monitoring, ethics, and regulations will be addressed as will day-to-day and long-term support issues. Troubleshooting and configuring techniques for POP3, SMTP and IMAP e-mail clients will be discussed, practiced and tested.

Lecture: 3 hours – Lab: 3 hours

Prerequisites: MECH 112 or CIT 101, EET 123, EET 136, EET 105

Lab fee: \$20.00

### EET 143 PC Technician Essentials II (A, SP) 4 credits

This is the second course in a two-course curriculum based upon the knowledge domains required for the CompTIA A+ certification exam. This exam is vendor neutral and recognized worldwide in the Information Technology industry. The domains of the exam address the skills and responsibilities of computer service and support personnel. Also known as FreeGeeks@CSCC, this course combines traditional classroom study with community service. Class members rehab donated computers for students in need on campus. Equipment that is not repairable is broken down by component and recycled.

Lecture: 3 hours – Lab: 3 hours

Prerequisite: EET 123 or EET 144 or CIT 125 Lab fee: \$40.00

**EET 146 Computer Network Communications Systems****(A, W, SP, SU)****3 credits**

This course is a computer networking course focusing on software and hardware interface. Topics include networking protocols and network configurations, circuit analysis of high-speed modems, packet-switching techniques, pulse-code and pulse-width modulation techniques. Investigation of high-speed modern transmission lines, microwave transmission, and cellular radio is included. The lab emphasizes network component installations and making measurements on bit-error-rates, system noise, analysis of error detection/correction codes, and synchronous and asynchronous protocols.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: EET 123 Lab fee: \$40.00

**EET 154 Electronic Fabrication (A, W, SP, SU)****3 credits**

EET 154 is an introduction to the fabrication of electronic circuits from assembly through testing. Course includes soldering/desoldering techniques, surface mount technology, printed circuit board design, testing techniques, documentation standards and repair/replacement of parts.

Lecture: 2 hour – Lab: 3 hours Lab fee: \$12.00

**EET 203 National Electrical Code (On Demand)****4 credits**

This course gives a brief description of each National Electrical Code article and discusses how to reference information in the code. Changes from the previous code and sample calculations are also covered. EET 203 is not required for students in the Electronic Engineering Technology. Completion of this course does not guarantee eligibility to sit for any licensing examinations and may not meet electrical contractor or electrical safety inspector refresher course requirements. Check with the college or the Ohio Department of Industrial Relations.

Lecture: 3 hours – Lab: 3 hours

**EET 215 Advanced Digital Systems (FPGA) Programming****(A, W, SP, SU)****5 credits**

This course will provide the ideal vehicle for learning about digital logic, microcontroller organization, and Field Programmable Gate Arrays (FPGA). It will use state-of-the-art technology in both hardware and schematic capture tools to expose the student to a wide range of topics. The Altera DE2 Development and Education board will be used in a laboratory environment to offer a rich set of features that make it suitable for a variety of design projects, as well as for the development of sophisticated digital systems.

Lecture: 3.5 – Lab 4.5 hours

Prerequisite: EET 115 Lab fee: \$11.00

**EET 225 Data Acquisition Systems (A, W, SP, SU)****5 credits**

This course will focus on data acquisition systems, which are electronic systems that extract data from their surroundings for statistical analysis. The digital data is catalogued, stored and sometimes utilized to make improvements on the object being measured. Through a combination of external hardware and/or software, such systems facilitate the collection of data in biomedical applications, aerospace products, automation processes, and robotics. “Human Machine Interface” (HMI), “Distributed Control Systems” (DCS) and “Supervisory Control and Data Acquisition” (SCADA) systems will be studied. Students will study how high frequency, large dynamic range, gradual changes, or sudden, unpredictable events are captured, stored and analyzed in laboratory settings.

Lecture: 3.5 – Lab 4.5 hours

Prerequisites: EET 115 and EET 125 Lab fee: \$12.00

**EET 235 Embedded Microcontroller Systems****(A, W, SP, SU)****5 credits**

Microcontrollers are used in automatically controlled products and devices, such as automobile engine control systems, remote controls, office machines, peripherals for computer systems, appliances, power tools, and toys. By reducing size, cost, and power consumption (compared to a design using a separate microprocessor, memory, and input/output devices),

microcontrollers make it economical to electronically control many more processes. This course will focus on microcontrollers’ embedded systems. In the laboratory setting, students will learn how to interface with embedded systems, which typically have no keyboard, screen, disks, printers, or other recognizable computer I/O devices, and may lack human interaction devices of any kind. Typical input and output devices include switches, relays, solenoids, LEDs, small LCD displays, radio frequency devices, and sensors for data such as temperature, humidity, light level etc.

Lecture: 3.5 – Lab: 4.5 hours

Prerequisite: EET 215 Lab fee: \$12.00

**EET 246 Open Source II (A, SP, SU)****4 credits**

The second of a two-course series, EET 246 covers the intermediate level use of an Open Source operating system and its applications in support of business needs. Students will apply Open Source applications to real-world technical problem solving.

Prerequisites: EET 136 Lab fee: \$40.00

**EET 255 Instrumentation and Process Controls (A, W, SP, SU)****4 credits**

This course presents the basic theories and methodologies of measurement for industrial and scientific applications. The laboratory part of this course gives students experience with transducers. Major process control schemes as used in industry are covered, along with conditions affecting response and stability of control systems

Lecture: 2 hours – Lab: 6 hours

Prerequisites: EET 115, EET 125 Lab fee: \$11.00

**EET 256 Technical Support Fundamentals (W, SP, SU)****4 credits**

Effective technical support is a very demanding and much in demand skill. Today’s technical support professionals must possess solid technical abilities combined with ‘soft’ and self management skills. This course will present the skills needed to deliver excellent customer service, in-person and remotely. Students will learn a “how to” approach for delivering quality, technical customer support. Students will utilize real-world case studies as they practice crucial skills.

Lecture: 3 hours – Lab: 3 hours

Prerequisites: MECH 112, EET 123 or CIT 125 Lab fee: \$20.00

**EET 260 Capstone Experience in Electronic Engineering Technology (A, W, SP, SU)****4 credits**

EET 260 is a capstone course focusing on electronic systems. Students will master skills related to the design, development, fabrication, troubleshooting, implementation and documentation of a system or systems relevant to emerging technologies. The course requirements include preparation of system requirements specifications, proposals, prototyping, troubleshooting, testing, and functional demonstration of a core project. The specific student core project will be based on current emerging technology.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: EET 215, EET 225, EET 235 Lab fee: \$11.00

**EET 266 Capstone Experience in Computer Electronics (A, W, SP, SU)****4 credits**

EET 266 is a capstone course focusing on computer electronic systems. Students will master the skills related to the support, design, development, fabrication, troubleshooting, implementation and documentation of a system or systems relevant to emerging technologies. The course requirements include preparation of system requirements specifications, proposals, prototyping, and troubleshooting, testing, and functional demonstration of a capstone system project. The specific student projects will vary, based on current and emerging technologies

Lecture 3 hours – Lab: 3 hours

Prerequisites: EET 123, EET 136, EET 143, EET 146, EET 246, EET 256 Lab Fee \$30.00

## Emergency Medical Services (EMS)

### EMS 110 EMT–Basic (A, W, SP, SU) 9.5 credits

This course provides a first phase of training in the career structure of the Emergency Medical Technician (EMT). The course covers all the knowledge and skills required for the state certification examination. Course includes 24 clock hours of clinical experience.

Lecture: 6 hours – Lab: 10 hours

Prerequisites: Placement into ENGL 100 and completed health record required PRIOR TO registration Lab fee: \$200.00

### EMS 121 Emergency Medical Services Systems (A) 3 credits

This course deals with the history, development, organization, funding, and control of EMS. It will involve the student in current trends in EMS.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$15.00

### EMS 123 Emergency Psychiatric Intervention (W) 3 credits

This course deals with the EMT's approach to victims exhibiting abnormal behavior and provides an in-depth look into methods of evaluation and management of people experiencing behavioral crises.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$20.00

### EMS 125 Disaster Aid (SP) 3 credits

This course will familiarize the EMT with disaster planning, community needs assessment, organization and control of a community disaster plan, and in developing testing procedures for this plan.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$15.00

### EMS 128 Introduction to Rescue for the EMS Provider (SU 2nd Term) 3 credits

This combination classroom and hands-on course provides a basic overview of the rescue process and the tools required for rescue as it relates to the EMS provider. The student will learn to effectively manage the initial stages of a rescue incident without becoming a victim themselves.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$70.00

### EMS 130 River Rescue (SU 1st Term) 3 credits

This course deals with rescuing victims from the water. It will include, but not be limited to, self-rescue, rescue from shore, boat-assisted rescues, rescue from boats and rappelling.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: Intermediate swimming ability Lab fee: \$30.00

### EMS 131 Special Topics for Paramedics (A) 3 credits

In this course, the paramedic will be required to develop and present an in-depth study in an area of individual interest.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Permission of instructor Lab fee: \$50.00

### EMS 133 Ice and Cold Water Rescue (W) 2 credits

This course deals with rescuing victims from ice covered and cold water, hypothermia and other related medical concerns.

Lecture: 2 hours – Lab: 0 hours Lab fee: \$40.00

### EMS 137 WMD for Emergency Responders (A, SP, SU) 2 credits

The course includes basic safety issues for emergency responders and focuses on medical care of people exposed to weapons of mass destruction. Content reflects Department of Homeland Security mandatory training for emergency personnel.

Lecture: 2 hours – Lab: 0 hours Lab fee: \$30.00

### EMS 142 Vertical Rescue (SP) 2 credits

This course is designed to present the fundamentals of rope rescue, using up-to-date equipment and techniques with a major emphasis on safety. Terminology, selection of proper equipment, essential knots, and current standards will be presented, as well as rope rescue systems and litter packaging. Practical application evolutions will include solving rescue

problems and evaluating rope rescue systems and/or techniques. Course work includes rescue of the injured and/or stranded from ledges, cliffs, elevator shafts, etc.

Lecture: 1 hour – Lab: 3 hours Lab fee: \$40.00

### EMS 143 Search and Rescue (A) 2 credits

This course includes the introduction to job responsibilities, philosophy and concepts of effective search and rescue management. It describes preplanning, resources, investigation, interviewing, determining urgency, subject behaviors, search strategy, area probability, base camp set up and management, briefing and debriefing. The course also introduces map and compass reading.

Lecture: 1 hour – Lab: 3 hours Lab fee: \$40.00

### EMS 144 Confined Space Rescue (SP) 2 credits

This course is designed to present the learner with OSHA regulations and requirements. Also covered are confined space entry procedures to safely and properly perform a rescue from tanks, pipelines, manholes, cave-ins, etc. The course will address necessary rescue shoring and tunneling equipment required for a confined space rescue.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: EMS 142 Lab fee: \$15.00

### EMS 201 Paramedic Preparation Course (A, W, SP, SU) 4 credits

This is the course prerequisite for the paramedic certification program. The student will study anatomy, physiology and pathophysiology as they relate to providing paramedic emergency care. The course will cover fluid and electrolyte balance, neuromuscular theory, cardiovascular, respiratory, immune and renal systems, infectious disease, and principles of pharmacology.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: EMS 110 or permission of instructor Lab fee: \$25.00

### EMS 211 EMT–Paramedic I (W, SU) 7 credits

This course encompasses the training of the paramedic in the areas of role, triage and assessment of victims, care of the victim in the areas of shock, respiratory system, intravenous therapy and trauma, as well as principles of communications.

Lecture: 5 hours – Lab: 4 hours

Prerequisites: State certified EMT–Basic; EMS 201, successful completion of the Health Occupations Basic Entrance Test and the pre-testing process, and completed health record.

Co-requisite: EMS 281 and EMS 291 Lab fee: \$165.00

### EMS 212 EMT–Paramedic II (A, SP) 7 credits

This course encompasses the training of the paramedic in the areas of cardiovascular, anaphylaxis, and the endocrine and nervous systems.

Lecture: 5 hours – Lab: 4 hours

Prerequisite: EMS 211, EMS 281, and EMS 291

Co-requisite: EMS 282 and EMS 292 Lab fee: \$180.00

### EMS 213 EMT–P III (W, SU) 6 credits

This course encompasses the training of the paramedic in the areas of central nervous system, musculoskeletal system, soft tissue injuries, obstetric and gynecologic emergencies, neonatal and pediatric emergencies, and rescue.

Lecture: 4 hours – Lab: 4 hours

Prerequisites: EMS 212, EMS 282, and EMS 292

Co-requisites: EMS 283 and 293 Lab fee: \$165.00

### EMS 214 EMT–P IV (SP, A) 4 credits

This course encompasses the training of the paramedic in the areas of trauma life support and major incident response, and the continuation of training in ob/gyn/neonatal, behavioral emergencies and rescue.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: EMS 213, EMS 283, EMS 293

Co-requisites: EMS 284 and EMS 294 Lab fee: \$180.00

**EMS 265 12-Lead EKG Interpretation and Advanced Cardiac Treatment** **3 credits**

This course will teach students to perform and interpret 12-lead EKGs. Students will also learn to integrate advanced cardiac assessment and 12-lead EKG interpretation into treatment plans for critical patients.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisite: ACLS certification or equivalent experience  
Lab fee: \$75.00

**EMS 275 Critical Care Transport (A)** **7 credits**

This course deals with the special needs of critical patients during transport, including the use of advanced equipment and procedures. The course is designed to prepare paramedics and nurses to function as members of a critical care transport team. (This is the UMBC CCEMT-P course.)  
Lecture: 6 hours – Lab: 3 hours  
Prerequisites: EMT–P or RN with 2 years experience; CPR, ACLS, Trauma Course, Pediatric Course documentation.  
Lab fee: \$310.00 (includes \$200.00 fee required by UMBC for certification)

**EMS 281 Hospital Clinical I (W, SU)** **2 credits**

Hospital clinical observation and supervised experience, encompassing the didactic areas covered in EMS 211.  
Lecture: 0 hours – Lab: 5 hours  
Co-requisites: EMS 211 and 291 Lab fee: \$75.00

**EMS 282 Hospital Clinical II (A, SP)** **2 credits**

Hospital clinical observation and supervised experience, encompassing the didactic areas covered in EMS 211 and EMS 212.  
Lecture: 0 hours – Lab: 5 hours  
Prerequisite: EMS 281  
Co-requisites: EMS 212 and 292 Lab fee: \$75.00

**EMS 283 Hospital Clinical III (W, SU)** **2 credits**

Hospital clinical observation and supervised experience, encompassing the didactic areas covered in EMS 211, 212 and EMS 213.  
Lecture: 0 hours – Lab: 5 hours  
Prerequisite: EMS 282  
Co-requisites: EMS 213 and 293 Lab fee: \$75.00

**EMS 284 Hospital Clinical IV (A, SP)** **2 credits**

Hospital clinical observation and supervised experience, encompassing the didactic areas covered in EMS 211, 212, 213 and EMS 214.  
Lecture: 0 hours – Lab: 5 hours  
Prerequisite: EMS 283  
Corequisites: EMS 214 and 294 Lab fee: \$75.00

**EMS 291 Field Clinical I (W, SU)** **1 credit**

This class offers field clinical observation and experience.  
Lecture: 0 hours – Lab: 5 hours  
Co-requisites: EMS 211, 281 Lab fee: \$125.00

**EMS 292 Field Clinical II (A, SP)** **1 credit**

This class offers field clinical observation and experience.  
Lecture: 0 hours – Lab: 5 hours  
Prerequisites: EMS 211, 281 and 291  
Co-requisites: EMS 212 and 282 Lab fee: \$45.00

**EMS 293 Field Clinical III (W, SU)** **2 credits**

This class offers field clinical observation and experience.  
Lecture: 0 hours – Lab: 10 hours  
Prerequisite: EMS 292  
Co-requisites: EMS 213 and 283 Lab fee: \$45.00

**EMS 294 Field Clinical IV (A, SP)** **2 credits**

This class offers field clinical observation and experience.  
Lecture: 0 hours – Lab: 10 hours  
Prerequisite: EMS 293  
Co-requisites: EMS 214 and 284 Lab fee: \$65.00

**EMS 295 Public Safety Services Instructor (W)** **6 credits**

This course is the Ohio curriculum required for current firefighters, EMS providers, or Registered Nurses (RNs) who wish to teach in Fire/EMS programs.  
Lecture: 5 hours – Lab: 2 hours  
Prerequisite: 5 years experience in careers listed above; written and skills pretesting according to O.A.C.

## Engineering Technologies (ENGT)

**ENGT 100 Introduction to Engineering Technology (AU, SP, SU, W)** **4 credits**

This course is designed to introduce the beginning student to the Engineering Technology Department at Columbus State. The student will complete exploratory assignments in Mechanical Engineering Technology, Electro-Mechanical Engineering Technology, and Electronic Engineering Technology as well as get a broad overview of the jobs that engineering technologists and technicians have and the industries in which they work. Students will participate in engineer interviews and plant tours. Additional topics covered include the industrial revolution, manufacturing and electronics in today’s global market, the future of manufacturing and electronics, and Steven Covey’s book, “Seven Habits of Highly Effective People.”  
Lecture: 3 hours – Lab: 3 hours Lab fee: \$10.00

**ENGT 131 Hydraulics and Pneumatics (WI, SU)** **4 credits**

This course is designed to give students a basic understanding of hydraulics and pneumatics. Students will learn about the components and functions of both systems and connect and troubleshoot both systems to meet a given set of criteria. Students will also be exposed to solenoid operated valves and their use in electrically controlling hydraulic and pneumatic systems. This course is required of Electro-Mechanical students and is an optional elective in the Mechanical program.  
Lecture: 2 hours – Lab: 4 hours

## English (ENGL)

(See also Communication, Theater, and Technical Communication)

**Note: Courses taught at a distance (DL) may have a higher lab fee than traditionally taught courses.**

**ENGL 100 Language Development (A, W, SP, SU, DL)** **5 credits**

Students develop skills in reading and writing in preparation for ENGL 101 by analyzing the writing of students and professionals. Using a process writing method, students will develop compositions for multiple purposes and with a multi-modal focus.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: DEV 041 with a grade of “C” or higher or placement by test. Credit will not count toward graduation in any degree program.  
Lab fee: \$1.00

**ENGL 101 Beginning Composition (A, W, SP, SU, DL)** **3 credits**

Students develop processes for critically reading, writing and responding to a variety of texts in order to compose clear, concise expository essays. This course, or its equivalent, is required for all degrees.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: ENGL 100 with a grade of “C” or higher or placement by test Lab fee: \$1.00



**ENGL 102 Essay and Research (A, W, SP, SU, DL) 3 credits**

English 102 is a continuation of English 101 expanded to include more critical reading, reasoned analyses, research techniques, and research paper writing using documentation format appropriate to the essay's content.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 101 with a grade of “C” or higher Lab fee: \$1.00

**ENGL 111 English Composition (A, W, SP, SU, DL) 5 credits**

This course is an accelerated combination of ENGL 101 and 102. Students critically read student and professional writings as well as compose clear, concise expository essays and reasoned analyses using a process method. Course includes research techniques and research paper writing using documentation format appropriate to the essay's content.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement test score Lab fee: \$1.00

**ENGL 119 Tutoring for Literacy (A) 3 credits**

Tutoring for Literacy is a methods course that instructs students in basic techniques for teaching reading and writing in community agencies that host programs designed to improve literacy in their respective environments. Students in this course participate in two hours of weekly classroom instruction and provide one-to-one tutoring with assigned agencies two hours per week.

Lecture: 2 hours – Lab: 2 hours

Prerequisites: ENGL 101

Lab fee: \$1.00

**ENGL 210 Creative Writing (A, W, SP, SU, DL) 3 credits**

Students are introduced to the fundamental techniques of creative writing. Using peer group analysis and workshop techniques, students will develop short pieces in a variety of genres.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 101 or ENGL 111 Lab fee: \$1.00

**ENGL 215 Magazine Publication: Literary Criticism, Editing and Design (W) 3 credits**

Through hands-on practice with Spring Street, students learn the processes and techniques involved in the production of a literary magazine.

Lecture: 1 hour – Lab: 4 hours

Prerequisites: ENGL 101 or ENGL 111 with a grade of “C” or higher and instructor's permission. Lab fee: \$3.00

**ENGL 220 Composition and Literature (A, W, SP, SU, DL) 3 credits**

Composition and Literature is an intermediate writing course that focuses on producing expository and critical essays about major literary works and genres. Students are introduced to a variety of works by American and British authors, as well as works in translation in the process of analyzing and writing about them. This course is designed for A.A. and A.S. students transferring to colleges other than Ohio State.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of “C” or higher

Lab fee: \$1.00

**ENGL 225 Introduction to Fiction (SU, DL) 5 credits**

The course is an intensive study of selected short stories and novels. Through critical reading, discussion and writing, students will become familiar with important themes and methodologies of fiction. In both short stories and novels, emphasis will be placed upon identifying and analyzing authors' particular uses of the traditional elements of fiction (structure, setting, point of view, etc.) to develop plot and character.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of “C” or better

Lab fee: \$1.00

**ENGL 235 Introduction to Poetry (A, W, SP, SU, DL) 5 credits**

This course will introduce students to the critical process of reading and responding to poetry from historical, cultural and gender-based perspec-

tives. Emphasis will be upon traditional and nontraditional forms, as well as mainstream and marginalized writers. Students will become familiar with appropriate terminology; however, they also will learn to encounter the poem as a whole piece of written discourse between poet and reader. Students will, therefore, conduct an ongoing oral and written dialogue with the poet (Who is the speaker? Who is the audience? What is the purpose?) and the poem (What is the message?). Students will articulate, orally and in writing, their own ideas of interpretation based upon a close reading of the text and an informed perspective concerning the historical and cultural circumstances of its origin.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of “C” or better

Lab fee: \$1.00

**ENGL 240 Introduction to Science Fiction (A, DL) 3 credits**

The historical roots and literary forms of science fiction are introduced. From their readings and viewing of films, students will write critiques, reports and research papers about science fiction as a literary genre.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of “C” or higher

Lab fee: \$1.00

**ENGL 250 Writing about the American Experience****(A, W, SP, SU, DL) 5 credits**

ENGL 250 is an intermediate writing course that extends and refines skills in expository and argumentative writing, critical reading and critical thinking by having students analyze, discuss and write about major topics pertaining to the theme of the American Experience of Conformity and Rebellion, and the ways in which individual writers have articulated this theme. Assigned texts will address such issues as race, culture, diversity, class, gender and sexual orientation to stimulate writing and facilitate an awareness of the interplay among purpose, audience, content, structure and style. English 250 requires students to plan, draft and revise essays that represent a sophisticated application of expository skills and critical analysis, as well as refine skills in researching a topic, documenting sources, and working collaboratively, and preparing presentations.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of “C” or higher. Not open to students who have credit for ENGL 251, ENGL 252, ENGL 254, or ENGL 253. Lab fee: \$1.00

**ENGL 251 The American Identity (A, W, SP, SU, DL) 5 credits**

ENGL 251 is an intermediate writing course that extends and refines skills in expository and argumentative writing, critical reading and critical thinking by having students analyze, discuss and write about major topics pertaining to the theme of identity in the United States, and the ways in which individual writers have articulated this theme. Assigned texts will address such issues as race, culture, diversity, class, gender and sexual orientation to stimulate writing and facilitate an awareness of the interplay among purpose, audience, content, structure and style. English 251 requires students to plan, draft and revise essays that represent a sophisticated application of expository skills and critical analysis as well as refine skills in researching a topic, documenting sources, working collaboratively, and preparing presentations.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of “C” or higher. Not open to students who have credit for ENGL 250, ENGL 252, ENGL 253 or ENGL 254. Lab fee: \$1.00

**ENGL 252 Images of Men and Women (A, W, SP, SU, DL) 5 credits**

ENGL 252 is an intermediate writing course that extends and refines skills in expository and argumentative writing, critical reading and critical thinking. Students analyze, discuss and write about major topics pertaining to the theme of gender in the United States, and the ways in which individual writers have articulated this theme. Assigned reading of American literature will stimulate writing and facilitate an awareness of the interplay among purpose, audience, content, structure and style. English 252 requires students to plan, draft and revise essays that represent

a sophisticated application of expository skills and critical analysis as well as refine skills in researching a topic, documenting sources, working collaboratively, and preparing and presentations.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of “C” or higher. Not open to students who have credit for ENGL 250, ENGL 251, ENGL 253, or ENGL 254. Lab fee: \$1.00

**ENGL 253 Regional American Writing (A, W, SP, SU, DL) 5 credits**

ENGL 253 is an intermediate writing course that extends and refines skills in expository and argumentative writing, critical reading and critical thinking by having students analyze, discuss and write about major topics pertaining to the theme of regionalism in the United States, and the ways in which individual writers have articulated this theme. Assigned texts will address such issues as race, culture, diversity, class, gender and sexual orientation to stimulate writing and facilitate an awareness of the interplay among purpose, audience, content, structure and style. English 253 requires students to plan, draft and revise essays that represent a sophisticated application of expository skills and critical analysis. as well as refine skills in researching a topic, documenting sources, working collaboratively, and preparing presentations.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of “C” or higher. Not open to students who have credit for ENGL 250, ENGL 251, ENGL 252, or ENGL 254.

Lab fee: \$1.00

**ENGL 254 The American Working-Class Identity (A, W, SP, SU)**

**5 credits**

ENGL 254 is an intermediate writing course that extends and refines skills in expository and argumentative writing, critical reading and critical thinking by having students analyze, discuss and write about major topics pertaining to the theme of working-class identity in the United States, and the way in which writers, artists, and the media have discovered, defined, celebrated, and criticized what it means to be American. The course addresses the issues of race, culture, ethnicity, disability, class, gender, and sexual orientation, and will stimulate writing and facilitate an awareness of the interplay among purpose, audience, content, structure, and style. English 254 requires students to plan, draft and revise essays that represent a sophisticated application of expository skills and critical analysis as well as refine skills in researching a topic, documenting sources, working collaboratively, and preparing presentations.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of “C” or higher. Not open to students who have credit for ENGL 250, ENGL 251, ENGL 252, or ENGL 253,

Lab fee: \$1.00

**ENGL 259 Survey of United States Literature to 1865 (A, W, SP, SU, DL)**

**5 credits**

This course will examine the works of major writers in U.S. literature from the pre-colonial period to 1865 with attention to revision of the canon. Genres include essays, short fiction, drama, poetry and the novel. Course activities include reading, class discussion and writing assignments.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 250 or equivalent Lab fee: \$1.00

**ENGL 260 Survey of Modern U.S. Literature (A, W, SP, SU, DL)**

**5 credits**

This course examines the works of major writers in U.S. literature from 1865, the end of the Civil War, to the present with attention to revision of the canon. Genres include essays, fiction, drama, and poetry. ENGL 260 will consider works from literary, social, historical, and philosophical perspectives.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 250 or equivalent Lab fee: \$1.00

**ENGL 261 Survey of British Literature I (A, W, SP, DL) 5 credits**

English 261 is a survey of canonical British literary works written from 900 to 1789 with special attention to their literary qualities, and conceptual context. The course activities include readings, discussions and writing assignments.

Prerequisites: ENGL 250 or equivalent

Lecture: 5 hours – Lab: 0 hours Lab fee: \$1.00

**ENGL 262 Survey of British Literature II (A, W, SP, SU, DL)**

**5 credits**

Students will study selected master works of British authors from the Romantic Movement to the present day. The course activities include readings, discussion, and writing assignments.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 250 or equivalent Lab fee: \$1.00

**ENGL 264 Intro to Shakespeare (A, W, SP, SU, DL) 5 credits**

This course will examine representative works of Shakespeare, concentrating on a critical/analytical approach to the plays.. Emphasis will also be placed upon Renaissance/Elizabethan dramaturgy and conventions; language and style and the human experience represented in Shakespeare’s histories, comedies, romances, and tragedies. ,

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 250 or equivalent Lab fee: \$1.00

**ENGL 265 European Literature in Translation (On Demand)**

**5 credits**

The course will examine the works of representative European writers and cultures to develop an appreciation of the international nature of literary subjects, themes and movements. Emphasis will be placed upon understanding the historical, philosophical and social contexts of the various cultures within which European Romanticism, Realism, Naturalism, Existentialism and modern movements developed.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 250 or equivalent Lab fee: \$1.00

**ENGL 270 African–American Writers (A, W, SP, SU, DL) 5 credits**

This course is a survey of African American Literature from 18th century beginnings to the present. It includes a study of slave narratives, folklore, drama, poetry and short fiction. Activities include reading and writing assignments, oral presentations, special performances, guest speakers and field trips.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 250 or equivalent Lab fee: \$1.00

**ENGL 272 Introduction to Folklore (SP, SU, DL) 5 credits**

This course introduces students to the theories, genres, and research methods essential for the study of folklore. It stresses contemporary folklore—its rituals, traditions, and beliefs. Students will read and discuss folklore theories and apply those theories. Course activities include field work and a special project.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 250 or equivalent Lab fee: \$1.00

**ENGL 274 Introduction to Non-Western Literatures (SP) 5 credits**

This course introduces students to selected classic and modern literature of the non-Western world, including Asia, Africa, the Middle East and Latin America. Through several literary approaches, students will gain an understanding of the authors, the periods, and the cultures they represent and the various ways they have handled literary themes.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 250 or equivalent Lab fee: \$1.00

**ENGL 276 Women in Literature (A, W, SP, SU, DL) 5 credits**

This course explores literature by and about women through an interdisciplinary study of women’s literary representations of critical issues in United States’ social history. The emphasis will be on the way women writers articulate the female experience and on the role of literature as a

reflection of and catalyst for social and political change. Although gender will be the primary category of analysis, issues of race, class, ethnicity, and sexual identity will also be considered.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 250 or equivalent Lab fee: \$1.00

### **ENGL 278 The English Bible as Literature (A, W, SP, SU, DL)**

**5 credits**

This course offers a literary approach to the Bible in English. Students read, in a modern English translation, much of the Old Testament and the New Testament, as well as parts of the Apocrypha. This is not a course in religion. The approach is literary, historical and cultural. The Bible is read as an anthology of writings composed, compiled, translated and edited over several centuries, by many individuals, and as a book that has had an enormous effect on our culture, art and civilization.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 250 or equivalent Lab fee: \$1.00

### **ENGL 280 Publishing Practicum (SP)**

**2 credits**

Students who have satisfactorily completed ENGL 215, or who have comparable training and experience from another context, learn magazine production techniques using Spring Street or another college publication as a production laboratory. This practicum may be repeated once and is normally taken immediately after completing ENGL 215.

Lecture: 0 hours – Lab: 4 hours

Prerequisite: ENGL 215 or instructor's permission Lab fee: \$1.00

### **ENGL 281 Writing Fiction (A, W, SP, SU, DL)**

**5 credits**

This course introduces students to the art and craft of writing fiction. Emphasis is on the student's own work; however, students will also be required to study the works and writing processes of established writers, male and female, traditional and nontraditional, ancient and modern, and from diverse cultures. Students will keep a writer's journal, respond critically to the works of other students, create and revise a final long work (or combination of shorter works) of at least 4,000 words by the end of the quarter. In addition, students will be required to participate in a public reading of their work at least once during the quarter. Course is repeatable to 10 credits.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 210 with a grade of "B" or better or permission of the instructor Lab fee: \$1.00

### **ENGL 282 Writing Poetry (A, W, SP, SU, DL)**

**5 credits**

This course introduces students to the art and craft of writing poetry. Emphasis is on the student's own work; however, students will also be required to study the works, writing processes, critical commentary on, and oral delivery of established poets, male and female, traditional and non-traditional, ancient and modern, and from diverse cultures. Students will keep a writer's journal, respond critically to the works of other students, and create and revise a chapbook of 8-10 finished poems (12-20 pages) by the end of the quarter. Students will present selected poems from the chapbook at a public reading. Course is repeatable to 10 credits.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 210 with a grade of "B" or better or permission of the instructor Lab fee: \$1.00

### **ENGL 284 Writing Creative Nonfiction (A, W, SP, SU, DL) 5 credits**

This course introduces students to the art and craft of writing creative nonfiction (feature writing, travel writing, memoirs, personal profiles, biographies, public relations, etc.). Emphasis is on the student's own work; however, students will also be required to study the works, writing processes, critical commentary on, and oral delivery of established nonfiction writers, male and female, traditional and nontraditional, ancient and modern, and from diverse cultures. Students will keep a writer's journal, respond critically to the works of other students, create and revise a complete longer work (or a combination of shorter pieces) of at least 3,000-4,000 words by the end of the quarter. Students will present a public reading of their work during the

quarter. Course is repeatable to 10 credits.

Lecture: 5 hours – Lab: 5 hours

Prerequisite: ENGL 210 with a grade of "B" or better or permission of instructor Lab fee: \$1.00

### **ENGL 285 Writing to Publish (W, S, DL)**

**5 credits**

This course introduces students to procedures for preparing a manuscript for marketing and publication. Students select a work or works for publication from a genre (fiction, poetry, drama, literary nonfiction), submit manuscripts for peer review at least three times during the quarter, and revise and edit their work throughout the quarter. Students research a market for their work, write the appropriate query or cover letter, and prepare the manuscript for submission. Since length requirements for manuscripts vary according to genre and target market, the instructor will determine the length requirement for successful completion of the course. The final exam for the course is a completed and corrected manuscript package ready for mailing. Students also will have the opportunity to give a public performance of their work. Course is repeatable to 15 credits.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 281, ENGL 282, THEA 283, or ENGL 284 with a "B" or better or permission of the instructor Lab fee: \$1.00

### **ENGL 297/298/299 Special Topics in English**

**(On Demand)**

**1–5 credits**

These courses offer special topics in English language or literature designed to meet specific needs.

Lecture: Hours vary– Lab: Hours vary

Prerequisite: Varies

## **English as a Second Language (ESL)**

### **ESL 044 Fiction for Non-Native Readers (A, W, SP) 4 credits**

This course gives ESL students an opportunity to read various authentic (unedited) literary works in English including short stories, plays and short novels. Students will explore the plot, settings, structures and character development. Students will build vocabulary as well as analyze cultural settings. Analysis will come through journals, presentations, group discussions and class discussions. Credit will not count toward graduation in any degree program.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: ESL 099 or placement into ESL 100 Lab fee: \$4.00

### **ESL 087 College Vocabulary 1 (A, W, SP)**

**2 credits**

College Vocabulary 1 is the first in a series of three courses based on the Academic Word List. Students are exposed to academic readings which embed the target vocabulary. Through various oral and written exercises, students work with the vocabulary. Students employ study skills such as vocabulary journals, dictionary use and context clues.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Placement into ESL 097 Lab fee: \$6.00

### **ESL 088 College Vocabulary 2 (A, W, SP)**

**2 credits**

College Vocabulary 2 is the second level of the series. Students are introduced to 200 more words from the Academic Word List. Oral and written exercises are used foster mastery of the words.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Placement into ESL 097 Lab fee: \$6.00

### **ESL 089 College Vocabulary 3 (A, W, SP)**

**2 credits**

College Vocabulary 3 is the final course of the series. 200 new academic vocabulary words are targeted, with the same study methods employed as in the previous two classes. Vocabulary journals are required.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Placement into ESL 097 Lab fee: \$6.00

**ESL 090 Critical Skills for College Success (On Demand) 3 credits**

This course prepares non-native students to achieve their academic goals at a U.S. college or university. They will examine U.S. classroom procedures, professor-student interaction, thinking styles and learning styles. They will also be trained in techniques for effective reading, writing and critical thinking in a variety of academic fields. Students will demonstrate these techniques through the completion of mini-projects derived from a variety of courses currently offered at Columbus State. Students' final project will be derived from an entry-level course in their chosen field of study. Credit will not count toward graduation in any degree program.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: ESL 099 or placement into ESL 100 Lab fee: \$3.00

**ESL 092 Basic Oral Communication (A, W, SP, SU) 3 credits**

This course will introduce students to the American sound system and quickly expand their working oral vocabulary. It also will equip students to perform vital language-based functions on campus and in the community. The course will be based upon daily classroom participation and the satisfactory completion of each language function. Credit will not count toward graduation in any degree program.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: Placement into ESL 097 Lab fee: \$3.00

**ESL 093 Intermediate Oral Communication (A, W, SP, SU) 3 credits**

This course will help students to increase their effectiveness in social, academic and professional interactions in a U.S. setting. Students will expand their working oral vocabulary, master useful American idioms and improve their pronunciation. Students will examine and practice the conventions of contemporary American communication, both verbal and nonverbal. The course will be based upon daily class participation, oral presentations and evidence of improvement found through a contrast of audio-taped readings. Credit will not count toward graduation in any degree program.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: ESL 098 (may be taken as a corequisite) or placement into ESL 098 Lab fee: \$3.00

**ESL 094 Advanced Oral Communication (A, W, SP, SU) 3 credits**

Students will increase their awareness of the values and beliefs that underlie cultural norms in the U.S. Readings on various aspects of contemporary American culture will provide the springboards to information gathering outside of class (through additional reading and interviews with native speakers), in-class discussions, and four required oral presentations. Students will practice standard American pronunciation and intonation and will master useful vocabulary and idiomatic expressions. Credit will not count toward graduation in any degree program.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: ESL 099 (may be taken as a corequisite) or placement into ESL 099 Lab fee: \$3.00

**ESL 095 Public Speaking for Non-Natives (A, W, SP, SU) 3 credits**

This course will prepare students whose first language is not English to participate effectively in COMM 105 Speech. Students will study and practice public speaking techniques, with particular emphasis on native pronunciation, intonation and delivery. Students will be required to conduct interviews and research in preparation for demonstration and persuasive speeches, presented individually and in groups. Students will receive feedback on their oral production from their instructor and their classmates regularly and will be audio/video taped on occasion. Credit will not count toward graduation in any degree program.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: ESL 100 (may be taken as a corequisite) or placement into ESL 100 Lab fee: \$5.00

**ESL 097 Basic English as a Second Language (A, W, SP, SU)****10 credits**

Students who already have limited command of the English language build upon their vocabulary and begin to eliminate errors through the study of

basic grammar, readings, guided discussions, and written and oral exercises. Credit will not count toward graduation in any degree program.

Lecture: 10 hours – Lab: 0 hours

Prerequisite: Placement test Lab fee: \$5.00

**ESL 098 Developmental English as a Second Language****(A, W, SP, SU)****10 credits**

Students will continue to develop reading, writing, listening and speaking skills through the study of intermediate grammar, readings, guided discussions, and written and oral exercises. Credit will not count toward graduation in any degree program.

Lecture: 10 hours – Lab: 0 hours

Prerequisite: "C" in ESL 097 or placement test Lab fee: \$5.00

**ESL 099 ESL: Reading, Grammar, and Composition****(A, W, SP, SU)****10 credits**

Students will prepare for academic course work through the study of advanced grammar, sentence structure, paragraph organization, and pre-writing techniques and will respond to college level readings in guided discussions, oral presentations and paragraph-length essays. Credit will not count toward graduation in any degree program.

Lecture: 10 hours – Lab: 0 hours

Prerequisite: "C" in ESL 098 or placement test Lab fee: \$5.00

**ESL 100 English as a Second Language: Composition****(A, W, SP, SU)****5 credits**

Students will polish their writing skill through grammar reviews, written exercises, and the study of sentence structure, rhetoric, and essay organization. Students will respond to both the content and technique of college level readings. Students will write essays using description, narration, cause and effect and comparison/contrast. Credit will not count toward graduation in any degree program.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: "C" in ESL 099 or placement Lab fee: \$5.00

**ESL 299 Special Topics in English as a Second Language****(On Demand)****1–5 credits**

ESL 299 offers students a detailed examination of selected topics of interest in English as a Second Language. Special topics courses are offered to meet the special needs or interests of a group of students and pilot new courses.

Lecture: Varies

Prerequisite: Varies Lab fee: \$1.00 to \$5.00

**Environmental Science, Safety and Health (ENVR)****ENVR 101 Introduction to Environmental Science, Safety and Health****(A, W, SP, DL,)****4 credits**

This course is an introduction to the environmental technology field, including an overview of environmental laws and regulations, toxicology, ecology, air pollution, water pollution, water treatment, hazardous materials, solid and hazardous waste, waste site investigation and remediation, and occupational safety and health.

Lecture: 4 hours – Lab: 0 hours

**ENVR 110 Industrial/Municipal Pollution Control (W) 3 credits**

This course is an overview of the management, treatment and disposal practices utilized for pollution control. It addresses the nature of pollution and provides an introduction to air pollution control devices, wastewater treatment techniques, solid and hazardous waste management, treatment and disposal, recycling and pollution prevention.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$18.00

**ENVR 111 Hazardous Materials Management (SP) 3 credits**

This class presents an overview of the management practices for hazardous materials and hazardous waste, including principles of science and technology, occupational health and safety concerns and regulatory compliance. An emphasis will be placed on DOT, OSHA and RCRA requirements.  
Lecture: 2 hours – Lab: 2 hours Lab fee: \$20.00

**ENVR 120 Environmental Aspects of Soils (A, SP, SU) 5 credits**

This course offers a multi-disciplinary overview of soil science. Topics include soil formation and development, classification systems, soil mechanics, soil chemistry and contamination, soil hydrology, agricultural aspects of soil, soil erosion, soil microbiology and soil sampling techniques. Soil characteristics will be explored by means of laboratory examination and elementary testing techniques.  
Lecture: 4 hours – Lab: 2 hours Lab fee: \$15.00

**ENVR 130 Environmental Laws and Regulations (W) 5 credits**

ENVR 130 presents a study of American political institutions and a brief history of the American environmental movements and the resulting environmental regulations, as well as a study of local, state, and federal codes and regulations as they apply to the handling, treatment, storage, and disposal of hazardous materials and wastes. Emphasis on NEPA, the Clean Water and Air Acts, the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund).  
Lecture: 4 hours – Lab: 2 hours Lab fee: \$15.00

**ENVR 158 Environmental Site Assessment (A, SP) 3 credits**

This course explores environmental site assessments, including Phase I ESAs for real estate transactions. Environmental regulations and standard practices will be applied in the analysis of a site-specific project. Additional property assessment issues addressed in this class include Environmental Impact Statements, wetlands, asbestos, lead, mold and radon.  
Lecture: 2 hours – Lab: 2 hours Lab fee: \$12.00

**ENVR 160 OSHA 10-Hour Construction Safety and Health (W, SP) 1 credits**

This course covers the approved Occupational Safety and Health Administration (OSHA) curriculum for the 10-hour Outreach Training Program for Construction Industry Safety and Health. Topics include introduction to OSHA, electrical safety, fall protection, personal protective and lifesaving equipment, materials handling, storage, use and disposal, equipment safety, excavation, stairways and ladder safety and other applicable OSHA standards. Course completion cards will be issued to individuals successfully completing the class.  
Lecture: 1 hour Lab fee: \$10.00

**ENVR 167 OSHA 10-Hour General Industry Safety and Health (On Demand) 1 credit**

This course covers the approved OSHA curriculum for the 10-hour Outreach Training Program for General Industry Safety and Health. Topics include introduction to OSHA, walking and working surfaces, exit routes, emergency action plans, fire prevention plans, fire protection, fall protection, electrical safety, and other applicable safety topics as recommended by OSHA. Course completion cards will be issued to individuals successfully completing the class. Not open to students with credit for ENVR 170.  
Lecture: 1 hour Lab fee: \$10.00

**ENVR 170 General Industry Safety and Health (A) 4 credits**

This course covers the approved Occupational Safety and Health Administration (OSHA) curriculum for the 30-hour Outreach Training Program. Topics include an introduction to OSHA, hazardous materials, walking and working surfaces, fire protection, personal protective equipment, confined space, lockout/tagout, machine guarding, welding and brazing safety, electrical safety, industrial hygiene and other applicable OSHA standards. Course completion cards will be issued to individuals successfully completing the class.  
Lecture: 4 hours Lab fee: \$10.00

**ENVR 220 Environmental Chemistry (On Demand) 5 credits**

Effective solutions to environmental problems require an understanding of the chemical processes that occur in the environment. This course provides a basic knowledge of environmental chemistry including water, soil and atmospheric chemistry. The chemistry of the transport and fate of pollutants in the environment, hazardous material chemistry and toxicology are covered. Related laboratory exercises will be performed including utilizing analytical techniques, instrumentation and quality assurance.  
Lecture: 4 hours – Lab: 3 hours  
Prerequisite: CHEM 111 Lab fee: \$18.00

**ENVR 222 Water Treatment Techniques (SU) 3 credits**

This course is designed to permit the student to attempt the State of Ohio Class One Water Operator's exam. The course will emphasize water quality methods of water treatment and laboratory processes. Practical experience will be emphasized.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisites: High school chemistry or any CHEM course, MATH 102 or a higher math course, or permission of instructor  
Lab fee: \$20.00

**ENVR 223 Wastewater Treatment Techniques (W) 3 credits**

This course is designed to provide the training to permit the student to attempt the State of Ohio Class One Wastewater Operator exam. The course will emphasize types of treatment, equipment, hygiene and public health aspects, sewer systems, and laboratory processes. Practical experiences will be emphasized.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisite: High school chemistry or any CHEM course, MATH 102 or a higher math course, or by permission of instructor Lab fee: \$20.00

**ENVR 224 Environmental Hydrology (SP) 3 credits**

Course studies the occurrence, movement, and behavior of water in the hydrologic cycle. Also presents an introduction to the concepts of controlling the movement of surface water and ground water, and the ways in which these resources can be exploited and/or contaminated.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisite: MATH 102 Lab fee: \$15.00

**ENVR 240 Environmental Analytical Methods (W) 2 credits**

This course provides an overview of the qualitative and quantitative analysis of environmental, waste and building material samples. An overview of laboratory methods will be provided. The emphasis will be on the application of certain analytical methods commonly used in the environmental industry.  
Lecture: 1 hour - Lab: 3 hours  
Prerequisites: CHEM 100 or CHEM 111 Lab fee: \$20.00

**ENVR 250 Environmental Sampling (A) 5 credits**

ENVR 250 covers the techniques and methods used in sampling of environmental media, especially for field investigations. Emphasized is the sampling of air, surface water, ground water, soil and hazardous materials. Topics include the regulatory framework, project coordination, drilling techniques, monitoring well installation, field instrument calibration, decontamination, and supplemental investigative techniques.  
Lecture: 4 hours – Lab: 3 hours Lab fee: \$20.00

**ENVR 252 Health and Safety Training for Hazardous Waste Operations (40-Hour OSHA Training) (W, SP, SU, DL) 3 credits**

Satisfies 29 CFR Part 1910.120(e) under OSHA. A health and safety training course for individuals who may be involved in the investigation, remediation and operation of hazardous waste sites. Topics include hazardous materials chemistry, toxicology, air monitoring instrumentation, air purifying respirators, self-contained breathing apparatus, supplied air respirator systems, protective clothing, decontamination, simulated hazardous materials response incidents, and appropriate problem sets. Students enrolled in the distance version of this course will be required to come to campus for an orientation meeting, completion of hands-on

laboratory exercises, and for the final exam.  
Lecture: 2 hours – Lab: 3 hours Lab fee: \$100.00

**ENVR 253 Environmental Systems Analysis (SP) 3 credits**

This course introduces engineered environmental systems and practical applications of their operation and maintenance. Topics include flow diagrams, schematics, plumbing and piping, pumps, blowers, electrical systems, instrumentation, flow measurements, process control, troubleshooting and safety for engineered systems.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: ENVR 110 Lab fee: \$18.00

**ENVR 254 Subsurface Restoration Techniques (SP) 5 credits**

This course will address subsurface remediation techniques and treatment technologies used at hazardous waste sites. Course topics include the regulatory framework for subsurface restoration, clean-up goals, basic contaminant chemistry and transport, supplemental subsurface investigative techniques, soil and groundwater remediation techniques, and water and air treatment technologies.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: ENVR 250 Lab fee: \$20.00

**ENVR 255 Air Pollution and Monitoring (W) 3 credits**

This course covers the fundamentals of air pollution, such as sources, important atmospheric aspects and the effects of air pollutants. It also focuses on EPA methods for stack and ambient sampling of various air contaminants. Other topics include continuous emission monitoring, air pollution control options, and applicable permitting and reporting requirements.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: CHEM 111 Lab fee: \$23.00

**ENVR 256 Hazardous Materials Refresher Training (W, SU, DL) 1 credit**

This course provides refresher training for site workers and emergency operators who have completed the 24 or 40-hour courses and complies with the 29 CFR 1910.120 refresher training requirements. Emphasis is placed on practical exercises and review of relevant changes in OSHA requirements. Successful completion of the course is based on classroom participation and completion of a written assignment. Students enrolled in the distance version of this course will be required to come to campus to complete the final quiz. This is a repeatable course.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$50.00

**ENVR 265 OSHA 30-Hour Construction Safety and Health (W, SP) 4 credits**

This course covers the approved Occupational Safety and Health Administration (OSHA) curriculum for the 30-hour Outreach Training Program for the Construction Industry Safety and Health. Topics include an introduction to OSHA, safety and fall protection, health hazards, material handling, equipment safety, concrete and masonry construction, welding and cutting, excavation, stairways and ladder safety and other applicable OSHA standards. Course completion cards will be issued to individuals successfully completing the class.

Lecture: 4 hours Lab fee: \$10.00

**ENVR 275 Industrial Hygiene (A) 4 credits**

This course is an overview of the science of industrial hygiene and describes the process of investigating and examining workplace hazards and how those hazards are abated. The laboratory will emphasize the use of instrumentation and important calculations. Topics include introduction to industrial hygiene, principles of toxicology, occupational safety and health standards, occupational skin and noise disorders, indoor air quality, ergonomics, engineering and administrative controls, and personal protective equipment.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: CHEM 111 or permission of instructor Lab fee: \$10.00

**ENVR 282 Sustainable Building Strategies (SP) 3 credits**

This course is an introduction to the field of environmentally-friendly construction. Sustainable architecture and building site principles will be presented, including strategies for energy-efficient heating and cooling, “green” building materials and methods, alternative energy sources, water efficiency and waste management. Topics include the need for sustainability, energy efficient design, construction and controls, site selection, passive solar heating and cooling, “green” building materials and methods, alternative energy sources and water efficiency and waste management.

Lecture: 3 hours Lab fee: \$10.00

**ENVR 283 Ecological Residential Construction (On Demand) 3 credits**

This course addresses the important aspects of building green homes. The topics include environmentally friendly design, the use of alternative materials, and the utilization of sustainable systems.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$10.00

**ENVR 291 Field Experience (SU or On Demand) 3 credits**

ENVR 291 offers an off-campus work experience in the environmental or safety services industry that augments formal education received in the technology with actual work conditions and job experience. “N” credit will not be allowed for this course.

Lecture: 0 hours – Lab: 36 hours Lab fee: \$15.00

**ENVR 299 Special Topics on Environmental Science, Safety and Health (On Demand) 1–5 credits**

ENVR 299 Explores special topics from the environmental or safety industry designed to meet specific needs.

Lecture and/or Lab Hours: Vary

## Finance (FMGT)

**FMGT 101 Personal Finance (A, W, SP, SU, DL) 4 credits**

This course presents a lifetime program of money management for the individual. Topics such as budgets, savings, job search, buying a house, insurance, mutual funds, stock market, real estate investments, taxes, and estate planning are covered. Students will be able to write a basic personal financial plan.

Lecture: 4 hours Lab fee: \$4.00

**FMGT 201 Corporate Finance (A, W, SP, SU, DL) 5 credits**

Course is an introduction to the principles of financial management of private business firms. Topics covered include financial analysis, financial planning, working capital management, financial leverage, sources of financing, capital budgeting and capital markets.

Lecture: 5 hours

Prerequisite: ACCT 106 Lab fee: \$4.00

**FMGT 202 Money and Banking (A, DL) 5 credits**

FMGT 202 is a study of the operation, organization, and economics of U.S. monetary and banking systems. Current trends, the monetary policy process, and the regulation of financial markets also are covered.

Lecture: 5 hours

Prerequisite: ECON 200 Lab fee: \$4.00

**FMGT 211 Investments (W, SP, DL) 4 credits**

This course examines investments for the individual with emphasis on the securities markets. Topics presented include risk and return tradeoffs, sources of investment information, stocks, bonds, mutual funds, options and tax considerations.

Lecture: 4 hours Lab fee: \$4.00

**FMGT 221 Financial Institutions and Markets (On Demand)****4 credits**

This course examines the operation, organization, and structure of the U.S. financial system. Financial markets will be examined along with financial institutions with an emphasis on commercial banking. An analysis of commercial credit will be covered which will include the study of credit control and the management of collections.

Lecture: 4 hours Lab fee: \$4.00

**FMGT 242 International Finance (W, DL)****4 credits**

This course covers the multinational firm, globalization, balance of payments, market for foreign exchange, international monetary system, and global capital markets. Also covered is the study of global debt and equity markets to optimize a firm's financial structure while minimizing foreign exchange exposure.

Lecture: 4 hours Lab fee: \$4.00

**FMGT 251 Finance Research (A, SP, DL)****4 credits**

The student receives exposure to current developments in finance and economics through projects and research papers. FMGT 251 is designed to serve as a capstone course for graduating students.

Lecture: 4 hours

Prerequisite: FMGT 101, 201 and 211

**FMGT 271 Finance Practicum (On Demand)****3 credits**

This course offers a practical work experience in which the student is expected to perform various financial procedures. Emphasis is placed upon analyzing and understanding the work environment.

Practicum: 21 hours

Corequisite: FMGT 272

**FMGT 272 Finance Seminar (On Demand)****2 credits**

This course offers a continued practical work experience in which the student is expected to perform various financial procedures. Emphasis is placed upon analyzing and understanding the work environment, industry and nature of the employing organization.

Seminar: 2 hours

Corequisite: FMGT 271

**Fire Science (FIRE)****FIRE 100 Introduction to Firefighting (A, W, SP)****3 credits**

This course presents a broad overview of a career in the fire service, including the basics of firefighter safety, fire behavior, etc. Not available to students with Fire 117 or equivalent Firefighter I and II certification. Successful completion of this course enables students to take State of Ohio certification exam for volunteer FF (36 hour FF training).

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 100 Lab fee: \$20.00

**FIRE 102 Prevention Practices (On Demand)****3 credits**

This course is an overview of inspection programs, with emphasis on fire protection procedures and practices. Relationships of prevention programs with the government, private sector, codes and arson are discussed.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: FIRE 117

**FIRE 104 Fire Investigation Methods (SU, A)****4 credits**

This course is a study of the principles of fire investigations including recognition, preservation, collection, and presentation of arson evidence. Also covered are arson laws, interrogation of witnesses, application of photography, preparation of reports, and adjustment of insured losses. A

look at the estimation of loss due to fire, smoke and water is included.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: FIRE 100 or 117 or documented Firefighter I and II certification. Lab fee: \$25.00

**FIRE 106 Protection Systems (SU)****3 credits**

This course introduces the design and operation of fire protection systems, including water distribution, direction, alarm, and watchman services and protection systems for special hazards. Carbon dioxide, dry chemical, foam and water spray systems are studied in detail. Also covered are standpipes and sprinkler systems and methods of reestablishment after use.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: FIRE 100 or 117 or documented Firefighter I and II certification. Lab fee: \$5.00

**FIRE 108 Command I Basic Concepts (W)****4 credits**

This course presents NFPA Incident Management System curriculum concepts. The course content is tailored to the person looking to begin a career in firefighting, and the person at the FF level who has no direct command responsibility, but must understand the principles of incident command and their role within it.

Lecture: 4 hours—Lab: 0 hours

Prerequisite: FIRE 100 or 117 or documented Firefighter I and II certification. Lab fee: \$15.00

**FIRE 109 Fire Fighting Command II (SP)****3 credits**

This course covers group operations and command strategy at the chief officer level, preplanning of fire fighting operations, and deployment of personnel and equipment. Specific tactical problems are analyzed. Operations and tactics including mutual and outside aid in fire fighting are presented.

Lecture: 0 hours – Lab: 6 hours

Prerequisites: FIRE 108, FIRE 117 or documented Firefighter I and II certification. Lab fee: \$25.00

**FIRE 117 Firefighter I and II (A, W, SP, SU)****12 credits**

The course covers all of the performance and knowledge objectives in the current NFPA Standard 1001 for Firefighter I and II, including but not limited to: fire department organization, safety, fire alarm, fire behavior, extinguishers, rope, ladders, hose streams, fire control, salvage and rescue. This course is required for employment as a professional firefighter. Successful completion of this course will enable students to take the State of Ohio certification exam for Firefighter I and II levels (240-hour firefighter course).

Lecture: 8 hours – Lab: 14 hours Lab fee: \$300.00

**FIRE 151 Fire Prevention Codes (On Demand)****4 credits**

FIRE 151 is a study of important building construction and fire safety codes, with emphasis on fire prevention and enforcement.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: FIRE 102 and 117

**FIRE 153 Fire Hydraulics (SP)****4 credits**

This course presents an introduction to hydraulic theory. Drafting of water, velocity and discharge, friction loss, engine and nozzle pressure, fire streams, and pressure losses in flowing hydrants are all discussed. Students receive practice in the application of hydraulic principles. Flow and pump testing, as well as the study of water distribution, are covered.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: FIRE 100 or 117 or documented Firefighter I and II certification. Lab fee: \$8.00

**FIRE 156 Building Construction/Collapse: Basic Concepts (A)****4 credits**

This course offers an introduction to present and past practices involved in building construction. It deals with important standard elements of

buildings, the hidden dangers of old and new buildings, what influences structural stability of walls in fires, and how to look for and judge structural dangers. The relationships between construction materials and fire damage to a building are also presented. This course is tailored for the person seeking to begin a career in firefighting, rather than the experienced firefighter.

Lecture: 4 hours—Lab: 0 hours

Prerequisite: FIRE 100 or 117 or documented Firefighter I and II certification. Lab fee: \$20.00

#### **FIRE 160 Legal Issues for Public Safety Personnel (W) 3 credits**

This course presents an introduction to laws, civil and criminal actions, and the judicial system. Topics such as municipal liability for acts of public safety administration and their members, pensions, salary and compensation, and termination are covered, as are the initiation, operation, liability and legal aspects of mutual aid, primary response contracts, and private contracts. Also noted is the duty owed by the public to members of public safety services.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$5.00

#### **FIRE 200 Construction/Collapse for Experienced Firefighters (SP) 4 credits**

An introduction to present and past practices of building construction as it relates to firefighting. Discusses the various hazards of building collapse and how to recognize warning signs of impending disaster. Looks at building construction from the Company Officer and Incident Commander's perspective.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: A minimum of two years active service as a full time, part time, or volunteer firefighter with a recognized fire department. Instructor permission is required for admittance to this class. Lab Fee: \$20.00

#### **FIRE 202 Hazardous Materials II (On Demand) 4 credits**

FIRE 202 is a study of the properties and behavior of various hazardous chemicals in our environment. It presents an overview of the physical and chemical characteristics of toxic, flammable, and reactive substances in the forms of solids, liquids, and gases, combined with practical application of methods for responding to emergencies involving such materials. Emphasis will be placed upon safe approach to incident scenes, positive identification of materials, and accurate analysis of the dangers presented by hazardous materials. Simulation and tabletop emergency exercises will be utilized throughout the course.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: LAWE 268 Lab fee: \$6.00

#### **FIRE 204 Fire Service Rating System (Fire Insurance) (A) 2 credits**

FIRE 204 covers the history of fire insurance and the principles and practices of inspections by the Insurance Services Office. Course details the rating system as used by I.S.O. to determine premium rates and presents an extensive study of methods used by I.S.O. to classify public protection and individual property fire suppression.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: FIRE 100 or 117 or documented Firefighter I and II certification Lab fee: \$5.00

#### **FIRE 205 Fire Service Company Officer: Supervisory Methods (A) 3 credits**

FIRE 205 introduces supervisory techniques as applied to public service personnel. Course covers the need for job descriptions and job procedures, reports, oral and written directions, work evaluation, meetings, discipline, and conference leaders. Also presents effective methods for teaching and motivating personnel.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: FIRE 100 or 117 or documented Firefighter I and II certification Lab fee: \$5.00

#### **FIRE 206 Administration of a Fire Department (SP) 3 credits**

FIRE 206 looks at the contemporary fire protection agency, its functions,

structure, and operational techniques. Course covers the principles of organization, staffing, budgeting, controlling, coordinating, planning, and research in fire protection. Also suggests ways to develop and maintain liaison/cooperation between fire and police departments.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: FIRE 205, FIRE 100 or FIRE 117 or documented Firefighter I and II certification Lab fee: \$5.00

#### **FIRE 207 Customer Service for the Fire Services (A) 3 credits**

This course studies the psychology of relations between public service employees and the general population. It presents the policies and practices of community relations as they apply to public service agencies. Current national and local community problems are explored.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$5.00

#### **FIRE 209 Fire Fighting Problems (On Demand) 3 credits**

FIRE 209 introduces procedures for fighting aircraft fires. Course details the procedures for fighting fires involving hydrocarbons and LP gas. It presents the hazards of electrical emergencies and the proper procedures for handling them. Examples of disaster and stress involving emergency personnel are discussed.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: FIRE 117 Lab fee: \$3.00

#### **FIRE 211 Incident Command for Experienced Firefighters (SU) 4 credits**

This course discusses the strategies for performing as an Incident Commander on a fire scene. Fire-ground tactics, Command and Company Officer responsibilities, managing fire-ground dangers and risks, and Incident Management Systems are also presented.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: A minimum of two years active service as a full time, part time, or volunteer firefighter with a recognized fire department. Instructor permission is required for admittance to this class. Lab Fee: \$15.00

## **French (FREN)**

#### **FREN 101 Elementary French I (A, W, SP, SU) 5 credits**

FREN 101 presents an introduction to the fundamentals of the French language with practice in listening, reading, speaking and writing. Course also includes selected studies in French culture. FREN 101 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$6.00

#### **FREN 102 Elementary French II (A, W, SP, SU) 5 credits**

This course is a continuation of FREN 101, with further development of listening, reading, speaking and writing skills and further study of French culture. FREN 102 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: FREN 101 with a grade of "C" or better or by placement exam Lab fee: \$6.00

#### **FREN 103 Intermediate French I (A, W, SP, SU) 5 credits**

FREN 103 offers continued study of the French language and development of listening, reading, speaking and writing skills. Readings from contemporary French culture and literature are explored. FREN 103 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: FREN 102 with a grade of "C" or better or by placement exam Lab fee: \$6.00



**FREN 104 Intermediate French II (W, SP, SU) 5 credits**  
FREN 104 focuses on the reading and discussion of French short stories, novels, plays, newspapers and magazines, emphasizing literary appreciation and the development of French culture. FREN 104 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: FREN 103 with a grade of “C” or better or by placement exam Lab fee: \$6.00.

**FREN 299 Special Topics in French (On Demand) 1-5 credits**  
FREN 299 offers students a detailed examination of selected topics in French.  
Prerequisite: Varies Lab fee: \$2.00

## Geographic Information Systems (GIS)

**GIS 100 Acquiring GIS Data (A, W, SP, SU, DL) 3 credits**  
This course introduces students to acquiring geographic data and to learning to recognize and understand different data types used in the GIS applications. GIS 100 is designed for the beginning student who has limited knowledge in accessing existing databases. Students also develop skills for participating in distance learning courses and submitting class projects using the Internet.  
Lecture: 2 hours – Lab: 3 hours Lab fee: \$20.00

**GIS 101 GIS in Emergency Management (A, SP) 3 credits**  
This course is designed for members of the construction and engineering communities. Students in these industries are introduced to the concepts of GIS and how it specifically relates to the construction and engineering industries. In the course, students will also learn the core GIS skills they need to support their organizations’ missions using terminology, exercise scenarios, and data relevant to these industries.  
Lecture: 2 hour – Lab: 3 hours Lab Fee: \$20.00

**GIS 105 Elements of Photogrammetry (W, DL) 2 credits**  
This course focuses on concepts and uses of photogrammetry in GIS. Students learn about the basic types of photogrammetry, examining ways of obtaining photographic data, finding points and performing measurements on aerial photographs, and understanding the limitations and applications.  
Lecture: 1 hour – Lab: 3 hours Lab fee: \$15.00

**GIS 110 Georeferencing and Editing GIS Data (W, DL) 2 credits**  
This course explores georeferencing existing GIS data so that it can be properly spatially referenced within your current GIS system. Students will also discover different methods of editing and creating GIS data. Students will understand different georeferencing and editing methods and errors associated with each method.  
Lecture: 1 hour – Lab: 3 hours  
Prerequisites: GEOG 207 or GIS 251 or instructor’s permission  
Lab fee: \$20.00

**GIS 203 Remote Sensing of Environment (W, DL) 4 credits**  
This course is designed to give students an understanding of the electromagnetic spectrum as used in remote sensing techniques and applications. Students learn to make decisions with remote sensed data.  
Lecture: 3 hours – Lab: 3 hours Lab fee: \$30.00

**GIS 251 GIS Software I: ArcGIS (A, W, DL) 3 credits**  
This course is the first in a two-part series of specific application software usage training using ESRI’s ArcGIS. The students will learn the basics of ArcMap, ArcCatalog and ArcToolbox and explore how these applications

interrelate in a complete GIS software solution. This course covers the fundamental GIS concepts as well as how to create, edit and work with spatial data. Students will manipulate, query, present data in maps and make decisions from the presented information.  
Lecture: 2 hours – Lab: 3 hours Lab fee: \$20.00

**GIS 253 GIS Software II (W, SP, DL) 3 credits**  
This course is the second in a two-part series of specific application software usage training using ESRI’s ArcGIS. The students will learn the basics of ArcMap, ArcCatalog and ArcToolbox and explore how these applications interrelate in a complete GIS software solution. This course covers the advanced applications of the software and reinforces the important concepts and functionality for successfully working with ArcGIS.  
Lecture: 2 hours – Lab: 3 hours  
Prerequisite: GIS 251 Lab fee: \$20.00

**GIS 260 Introduction to Spatial Analysis (A, SP, DL) 4 credits**  
This course explores a range of spatial and analytical techniques and their implementation in GIS software. Students will apply different spatial techniques with the software and become familiar with the essential methodological and practical issues involved in spatial analysis.  
Lecture: 3 hours – Lab: 3 hours  
Prerequisites: GEOG 207 or GIS251 or instructor’s permission  
Lab fee: \$20.00

**GIS 275 Planning and Implementing GIS (A, DL) 3 credits**  
This course focuses on the methodology for planning and implementing a GIS. Class examines the procedures and methods for designing a GIS, evaluating data sources, testing, hardware and software planning, cost benefit analysis, staffing, training, legal issues and system implementation.  
Lecture: 2 hours – Lab: 2 hours Lab fee: \$20.00

**GIS 277 Introduction to ArcIMS (W, DL) 3 credits**  
This course provides specific application software usage training using ESRI’s ArcIMS. The students learn the basics of ArcIMS, how to create and maintain geography Internet sites, how to install and maintain ArcIMS, and explore and customize ArcIMS viewers.  
Lecture: 1 hour – Lab: 4 hours  
Prerequisite: GEOG 207 or instructor’s permission Lab fee: \$20.00

**GIS 278 Introduction to Programming for GIS (SP, DL) 3 credits**  
This course focuses on object-oriented programming and the unique issues relating to spatial objects, customization and syntax. Students learn how to use, find and modify scripts for us in ArcGIS. Students should have some familiarity with ArcGIS.  
Lecture: 1 hour – Lab: 4 hours  
Prerequisite: GEOG 207 or instructor’s permission Lab fee: \$20.00

**GIS 279 Introduction to GIS Databases (A, SP, DL) 3 credits**  
This course focuses on the design, use and maintenance of a GIS database. Students will be introduced to structured query language (SQL) and SQL server as they relate to GIS databases. The course covers ArcGIS personal geodatabases and SDE software. Student should have some familiarity with ArcGIS.  
Lecture: 1 hour – Lab 4 hours  
Prerequisite: GEOG 207 or instructor’s permission Lab fee: \$20.00

**GIS 280 Advanced GIS Applications (SP, DL) 4 credits**  
This is a capstone course utilizing the skills and knowledge learned throughout the curriculum. Students perform research, identify issues, find data and develop a solution to a problem or project in a specific industry or area.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: GIS 253 Lab fee: \$20.00

**GIS 281 Introduction to ArcGIS Server (W, DL) 3 credits**  
This course provides specific application software training for ESRI’s ArcGIS Server. Students will learn the components of ArcGIS Server,

about the available libraries and APIs and server development guidelines, and the development of different types of Web applications. In the course, students will also learn how to install and configure ArcGIS Server. The course concludes with a project in which students will build a centrally managed GIS applications using ArcGIS Server.

Lecture: 1 hour – Lab: 4 hours

Prerequisite: GIS 251 or instructor's permission Lab fee: \$20.00

### **GIS 283 GIS in Emergency Management (SP, DL) 3 credits**

This course is designed for members of the Emergency Management and Homeland Security communities. Students learn how to use ArcGIS tools to perform basic GIS tasks such as accessing, displaying, querying, and editing geographic data. In the course, students will learn the core GIS skills they need to support their organizations' missions using terminology, exercise scenarios, and data relevant to homeland security. The course concludes with project in which students independently apply what they have learned to work through a particular emergency management scenario.

Lecture: 1 hour – Lab: 4 hours Lab Fee: \$20.00

### **GIS 284 GIS in Health (A, DL) 3 credits**

This course is designed to teach GIS to health professionals. Students learn how to use GIS software in the context of health-care scenarios. In the course, students will also learn the core GIS skills they need to support their organizations' missions using terminology, exercise scenarios, and data relevant to the health market.

Lecture: 1 hour – Lab: 4 hours Lab Fee: \$20.00

### **GIS 285 GIS in Business (W, DL) 3 credits**

This course is designed for members of the business community. Students learn how to use ArcGIS tools to perform basic GIS tasks as they specifically relate to marketing. In the course, students will also learn the core GIS skills they need to support their organizations' missions using terminology, exercise scenarios, and data relevant to marketing.

Lecture: 1 hour – Lab: 4 hours Lab Fee: \$20.00

### **GIS 286 GIS in Utilities (SP, DL) 3 credits**

This course is designed for members of the utilities community. Students learn how to use ArcGIS tools to perform basic GIS tasks such as accessing, displaying, querying, and editing geographic data. In the course, students will learn the core GIS skills they need to support their organizations' missions using terminology, exercise scenarios, and data relevant to utilities industries. The course concludes with a project in which students independently apply what they have learned to work through a particular utilities-related scenario.

Lecture: 1 hour – Lab: 4 hours Lab Fee: \$20.00

### **GIS 290 Seminar for GIS (A, W, SP, SU, DL) 1 credit**

GIS 290 offers an opportunity for application of business knowledge to specific areas of on-the job work experience. The student takes this course concurrently with GIS 291.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$5.00

### **GIS 291 GIS Practicum (A, W, SP, SU, DL) 4 credits**

GIS 291 provides an opportunity for an off-campus work experience in GIS that augments formal education received in the technology, with actual work conditions and job experience. "N" credit will not be allowed for this course. The student takes this course concurrently with GIS 290.

Lecture: 0 hours – Lab: 28 hours Lab fee: \$15.00

### **GIS 299 Special Topics in GIS (On Demand) 1-5 credits**

GIS 299 allows the student to explore special topics in GIS to meet needs of the GIS community.

Lecture: 1-5 hour – Lab: 1-5 hours Lab fee: \$15.00

## **Geography (GEOG)**

**Students who enroll in geography courses must have placed in ENGL 101 and are encouraged to either have completed ENGL 101 or be enrolled in that course when scheduling a geography course.**

### **GEOG 200 World Regional Geography (A, W, SP, SU, DL) 5 credits**

This course serves as an introduction to the study of regional geography at the global scale. Students will become familiar with the basic concepts in geography, the topic of uneven development, and the factors (land-forms, climate, population, resources, culture, economic activity and historical evolution) that affect uneven development within and among all the world's major regions. A distance-learning (DL) version of World Regional Geography is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **GEOG 207 Introduction to Geographic Information Systems (A, W, SP, SU, DL) 5 credits**

This course introduces the fundamentals of Geographic Information Systems (GIS) including basic cartographic principles, map scales, coordinate systems and map projections. The uses of hardware and software elements that emphasize vector-based data structures using ArcView Spatial Analysis extension are explored. Various applications of GIS technology used in science, business and government are presented. Specific topics addressed include GIS terminology, raster and vector data structures, data sources and accuracy, methods of data conversion and input, requirements for metadata, working spatial databases (map features and attribute tables), spatial analysis (map overlays, buffers, networks). The above topics are reinforced in a laboratory with hands-on exercises on the use of map scales, coordinate systems, data sources and accuracy, data structures, working with spatial data, map features and attributes, map overlays, manipulation of data bases, creation of charts and graphs, and presentation of data in map overlays. A distance-learning (DL) version of Introduction to GIS is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 3 hours – Lab: 4 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **GEOG 240 World Economic Geography (A, W, SP, SU, DL) 5 credits**

A course that provides a geographical examination of the world economy. Students research the factors affecting a country's socioeconomic development and present findings from a policy maker's perspective. Factors to be covered include location: demographic trends; resource availability and use patterns; industrialization; political and cultural forces; global interdependence, demand and supply, GDP, economic and social development and economic growth. A distance-learning (DL) version this course is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **GEOG 280 Elements of Cartography (W, SP, DL) 5 credits**

This course provides an in-depth introduction to the basic concepts and methods of cartography necessary to design and construct digital maps. Upon completion of the course, students should have a basic understanding

of maps and how to design and construct them in order to provide a tool useful for other courses and later professional work. A distance-learning (DL) version of Elements of Cartography is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 3 hours – Lab: 4 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **GEOG 293 Independent Study in Geography (On Demand)**

**1–5 credits**

GEOG 293 is an individual, student-structured course that examines a selected topic in geography through intensive reading or research. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisite: Permission of the instructor and the chairperson and one course in geography Lab fee: \$3.00

### **GEOG 299 Special Topics in Geography (On Demand) 1–5 credits**

GEOG 299 allows students to examine, in detail, selected topics of interest in geography.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisite: Varies Lab fee: \$4.00

## **Geology (GEOL)**

**Students must complete 60% of the laboratories in a course to receive credit. Courses in this area may require additional hours outside of the scheduled class times.**

### **GEOL 101 Earth Systems I: Geologic Environment**

**(A, W, SP, SU)**

**5 credits**

Geology 101 is an introductory course to understanding earth science. The students will learn about the rocks and minerals that are present on and in the planet, the internal and external processes that work on the planet, including earthquakes and volcanoes, the role of water on the earth and the role of present and future energy producers. Related laboratory and demonstrations.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: Placement into ENGL 101; not open to students with credit for GEOL 121. Lab fee: \$21.00

### **GEOL 121 Physical Geology (A, W, SP, SU)**

**5 credits**

Geology 121 is a course that covers the internal and external processes that produce and shape the Earth's landforms, the role and formation of rocks and minerals, and the structural features of the Earth's crust. Related laboratory and demonstrations.

Lecture: 4 hours – Lab: 3 hours

Prerequisites: MATH 103 and placement into ENGL 101

Lab fee: \$20.00

### **GEOL 122 Historical Geology (W, SU)**

**5 credits**

Geology 122 is a course that is centered around the history of life on the planet. It is the recommended second course in geologic science for a two-course sequence in physical sciences for the A.S. degree. Students will learn about the work of early European and American geologists, the role and structure of rocks on the surface, and the evolution of life from the Precambrian through the present. Related laboratory and demonstrations.

Lecture: 4 hours – lab 3 hours

Prerequisites: GEOL 121 Lab fee: \$26.00

### **GEOL 293 Independent Study in Geology (On Demand) 1–5 credits**

GEOL 293 is an opportunity for a detailed examination of selected topics of interest in geology.

Lecture: 1 to 5 hours – Lab: 0 to 6 hours

Prerequisite: Permission of instructor Lab fee: Varies

### **GEOL 299 Special Topics in Geology (On Demand) 1–5 credits**

GEOL 299 is an opportunity for a detailed examination of selected topics of interest in geology.

Lecture: 1 to 5 hours – Lab: 0 to 6 hours

Prerequisite: Permission of the instructor Lab fee: Varies

## **German (GERM)**

### **GERM 101 Elementary German I (A, W, SP, SU)**

**5 credits**

GERM 101 is an introduction to the fundamentals of the German language with practice in listening, reading, speaking and writing. It also includes selected studies in German culture. GERM 101 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$6.00

### **GERM 102 Elementary German II (A, W, SP, SU)**

**5 credits**

This course is a continuation of GERM 101 with further development of listening, reading, speaking, and writing skills and further study of German culture. GERM 102 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: GERM 101 with a grade of "C" or better or by placement exam Lab fee: \$6.00

### **GERM 103 Intermediate German I (A, SP)**

**5 credits**

GERM 103 continues the study of the German language and the development of listening, reading, speaking, and writing skills. It also highlights readings from contemporary Germanic culture and literature. GERM 103 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: GERM 102 with a grade of "C" or better or by placement exam Lab fee: \$6.00

### **GERM 104 Intermediate German II (W, SU)**

**5 credits**

GERM 104 focuses on the reading and discussion of German short stories, novels, plays, newspapers, and magazines, emphasizing literary appreciation and the development of Germanic culture. GERM 104 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: GERM 103 with a grade of "C" or better or by placement exam Lab fee: \$6.00

### **GERM 105 German Conversation and Composition (On Demand)**

**1 credit**

GERM 105 is conversation course designed to provide students completing the 104 level an opportunity to continue practicing the language. Students discuss current events and personal experiences in the target language. Readings are taken from literary texts, journals, magazines, and newspapers. The course is repeatable for a total of 5 hours of credit.

Lecture: 1 hour – Lab 0 hours

Prerequisite: GERM 104 Lab Fee: \$4.00

**GERM 299 Special Topics in German (On Demand) 1–5 credits**  
GERM 299 offers students an opportunity for detailed examination of selected topics in German.  
Prerequisite: Varies Lab fee: \$2.00

## Health Information Management (HIMT)

### **HIMT 111 Introduction to Health Information Management Tech (A, WI, SP, SU, DL) 3 credits**

The student will be introduced to the various roles of the health information management technician within the health care system and professional organizations in which the health information management technician is affiliated. The educational and credentialing requirements for the HIM professional will be studied. The student will explore the various functions performed under the auspices of health information management. An overview of the health care delivery system in the United States will also be discussed.

This course is the entry point into the Health Information Management Technology (HIMT) degree program and the Medical Coding Certificate program. Therefore, students will be required to complete a drug screening and background check by the end of the second week of the quarter as a requirement for acceptance into the HIMT degree program or Medical Coding certificate program. Students enrolling in this course will be accepted into one of the above mentioned programs contingent upon clear results on a drug screening, a clear background check, and a grade of “C” or above in this course.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: High school biology within the past 5 years or BIO 100 or equivalent college credit; high school chemistry within the past 3 years or CHEM 100 or equivalent college credit; HIMT 121; and CIT 094. A grade of “C” or higher must be achieved in all prerequisite coursework.

Lab fee: \$5.00

### **HIMT 112 Electronic Health Concepts (SU, DL) 2 credits**

This course discusses electronic health concepts as they relate to safety and quality of health care, homeland security, HIPAA and escalating health care costs. These national concerns have brought the electronic health record (EHR) to the forefront of the health care industry and have created several initiatives that are driving the standardization and implementation of the EHR and EHR systems.

Lecture: 1 hour – Lab: 2 hours Lab fee: \$20.00

### **HIMT 113 Managed Care Trends (A, DL) 2 credits**

This course will provide students with an understanding of various issues regarding managed care that have been instrumental in the redesign and remodeling of patient care delivery. Topics discussed include types of plans, analysis of data to determine effects of managed care, evaluation of managed care plans, rules and regulations affecting managed care, implementation of plans and clinical outcomes management.

Lecture: 2 hours – Lab: 0 hours

### **HIMT 121 Advanced Medical Terminology (A, W, SP, SU, DL) 3 credits**

The student will study medical terminology as it relates to word parts, human body structure, procedural terms, abbreviations, directional terms, anatomical planes and regions, and the following: integument system, musculoskeletal system, hematology, immune system, endocrine system, nervous system, special senses, respiratory system, cardiovascular system, gastrointestinal system, urinary system, male reproductive system, female reproductive system, obstetrics and neonatology, mental health and oncology. Recommended: Completion of MULT 101 Medical Terminology

Lecture: 3 hours – Lab: 0 hours Lab Fee: \$5.00

**HIMT 133 Legal Aspects of Health Information (SP, DL) 3 credits**  
The student will study the policies and procedures for processing health records for legal purposes. The importance of the maintenance of confidentiality of health information (both paper and electronic records and databases), the proper handling of requests for, and the transfer of health information will be discussed.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: HIMT 111 with a grade of “C” or higher. Lab fee: \$25.00

### **HIMT 135 Health Data Management (A, DL) 5 credits**

The student will be introduced to filing systems as well as to the computer-based patient record (CPR). The student will study the policies and procedures required to collect, analyze, interpret, report, and maintain health care data. The student will gain knowledge of health record content required to perform chart reviews for quality assessment and abstracting functions.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: HIMT 111 with a grade of “C” or higher. Lab fee: \$25.00

### **HIMT 141 Pharmacology and Health Information Management (W, SP, DL) 3 credits**

This course will survey the major classifications of drugs. The indications and contraindications for use will be presented. Emphasis will be placed on the correlation between drug therapy and disease. The student will be required to use various desk references efficiently. Recommended: Completion of HIMT 121

Lecture: 3 hours – Lab: 0 hours

Prerequisite: BIO 121 or (BIO 261 and BIO 262) with a grade of “C” or higher Lab Fee: \$5.00

### **HIMT 243 Comparative Health Settings in HIM (SP, DL) 3 credits**

The student will study health information systems in nonhospital health care facilities, along with the sources of data for these systems and their uses and users. The appropriate technical aspects and functions within these various systems will be discussed along with the various reporting and accrediting requirements for each of the specific health care facilities discussed. Field trips to various health care facilities may be scheduled.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: HIMT 111 and HIMT 135 with a grade of “C” or higher Lab Fee: \$5.00

### **HIMT 245 ICD-9-CM Coding (A, SP, DL) 5 credits**

The student will be introduced to the nomenclature and major classification and indexing systems in ICD-9-CM utilized in coding medical information. Laboratory experiences will emphasize the application of the related skills with accuracy and completeness.

Lecture: 3 hours – Lab: 4 hours

Prerequisites: BIO 122 or (BIO 261, BIO 262, and BIO 263), HIMT 111 and HIMT 121 with a grade of “C” or higher Lab fee: \$80.00

### **HIMT 245A Intro to ICD-9-CM Coding (A, SP, DL) 1 credit**

HIMT 245A is the first module of HIMT 245. In this module, students are introduced to basic ICD-9-CM coding guidelines and conventions.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$5.00

### **HIMT 255 CPT-4 Coding (W, SU, DL) 5 credits**

The student will be introduced to ambulatory coding and payment systems emphasizing CPT-4 coding. Laboratory experiences will emphasize the application of the related skills with accuracy and completeness.

Lecture: 3 hours – Lab: 4 hours

Prerequisites: BIO 122 or (BIO 261, BIO 262, and BIO 263), HIMT 111 and HIMT 121 with a grade of “C” or higher. Lab fee: \$80.00

### **HIMT 255A Intro to CPT-4 Coding and Evaluation and Management (W, SU, DL) 1 credit**

HIMT 255A is the first module of HIMT 255. In this module, students are introduced to basic CPT-4 coding guidelines and Evaluation and

Management coding.

Lecture: 1 hour – Lab fee: \$10.00

**HIMT 256 Clinical Data Analysis (W, DL) 3 credits**

The student will study clinical information used to support diagnoses and services provided to patients as it pertains to health care data management in coding for reimbursement of health care services, the evaluation of practice patterns, the assessment of clinical outcomes, and the analysis of cost-effectiveness of services provided.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: HIMT 121 with a grade of “C” or higher Lab Fee: \$5.00

**HIMT 257 Introduction to Health Statistics (SP, DL) 3 credits**

The student is introduced to procedures for properly collecting, organizing, displaying and interpreting health care data to meet the needs of various users while complying with the standards of the health care facility. The users of data can include the patient, medical staff, nursing and allied health staff, state and federal regulatory agencies, JCAHO and insurance companies.

Lecture: 2 hours – Lab: 2 hours

Prerequisites: CIT 102, HIMT 111, and HIMT 135 with a grade of “C” or higher, or permission from the instructor for those not enrolled in the HIMT Lab Fee: \$5.00

**HIMT 259 Quality and Resource Management (A, DL) 3 credits**

The student will be introduced to the internal and external requirements for establishing, operating, and maintaining quality improvement and utilization management programs. Accreditation standards pertaining to the quality of health information will be discussed, along with methods used in bench marking, credentialing, critical pathways, monitoring and evaluation, occurrence screening, peer review and risk management.

Lecture: 2 hours – Lab: 2 hours

Prerequisites: CIT 102, HIMT 111, and HIMT 257 with a grade of “C” or higher Lab fee: \$25.00

**HIMT 265 Medical Reimbursement (A, DL) 3 credits**

Students are introduced to basic terminology regarding medical insurance and how coding systems used in outpatient and inpatient health care settings are used to obtain payment for health care services. A discussion of various third-party payers will be presented, as well as reimbursement methodologies used by these payers. Students are introduced to claims processing in the physicians’ office setting. Topics discussed include CMS 1500 and office procedures for posting payments and claims follow-up.

Lecture: 2 hours – Lab: 2 hours

Prerequisites: HIMT 245 and HIMT 255 with a grade of “C” or higher Lab Fee: \$5.00

**HIMT 267 Principles of Management (W, DL) 3 credits**

The student will be introduced to the functions related to planning, organizing, controlling, and evaluating human resources and health information management services. Other topics include the direction and documentation necessary for the supervision of personnel.

Lecture: 3 hours – Lab: 0 hours Lab Fee: \$5.00

**HIMT 270 Case Management in Health Care (W, DL) 2 credits**

This course is designed to introduce the student to the role of the case manager. The five major areas of discussion include coordination and service delivery, physical and psychological factors, benefit systems and cost benefits analysis, case management concepts, and community resources.

Lecture: 2 hours Lab Fee: \$5.00

**HIMT 274 Issues in Health Information Management Technology (SP, DL) 1-3 credits**

This special topics course is designed to provide presentation of topics pertinent topics and current trends in the health information management

field.

Lecture: 1-3 hours – Lab: 0 hours

Prerequisite: HIMT 111, varies with topic offered

**HIMT 275 Intermediate Coding (A, DL) 5 credits**

This course provides the students with continued experience in ICD-9-CM and CPT-4 Coding. An emphasis is placed on practical applications of professional coders. The students will code from case studies and patient medical records.

Lecture: 3 hours – Lab: 4 hours

Prerequisites: HIMT 111, 245, 255, and 256 with a grade of “C” or higher

Co-requisite: HIMT 265 Lab fee: \$130.00

**HIMT 290 Capstone for HIMT (W) 2 credits**

This course is designed to provide opportunities for students to work individually or in groups on HIM projects for community organizations or healthcare facilities. Students incorporate knowledge gained throughout the HIMT curriculum through completion of assigned project(s). Project management skills, continuous quality management skills (CQI), and/or other management concepts are incorporated into the project(s). Students are required to match the appropriate AHIMA competencies (e.g., domains, tasks, subtasks, and knowledge clusters) to the project(s) completed before presenting the project results to facility contacts and/or peers.

Lecture: 1 hour – Lab: 2 hours

Prerequisites: HIMT 292 and HIMT 294 with a grade of “C” or higher

**HIMT 292 Practical Applications in HIMT I (SU) 4 credits**

Students are provided with a professional practice experience (PPE) in which they gain practical skills as they apply to health information storage and retrieval, record completion, and release of information. Students are required to participate in an orientation to an actual health information management department and/or facility. Students will begin preparatory work for the RHIT certification examination and will complete assignments requiring them to apply the fundamentals of English grammar and the writing process.

Lecture: 1 hour – Lab: 6 hours

Prerequisites: CIT 102, HIMT 111, HIMT 121, HIMT 133, HIMT 135, HIMT 243 and HIMT 245 with a grade of “C” or higher and permission from the instructor. Completion of a health record, a 2-step TB test, a clear BCI check, and a clear drug screen are also required.

Co-requisite: HIMT 255 Lab fee: \$50.00

**HIMT 294 Practical Applications in HIMT II (A) 4 credits**

Students will be further exposed to the HIM functions and software applications used in HIM through professional practice experience (PPE). Students will be assigned projects to complete that require the application of concepts studied throughout the HIMT curriculum including the creation of a database. Students continue preparatory work for the RHIT certification examination and will complete assignments requiring them to apply the fundamentals of English grammar and the writing process.

Lecture: 1 hour – Lab: 6 hours

Prerequisites: HIMT 245, HIMT 255, HIMT 257 and HIMT 292 with a grade of “C” or higher and permission from the instructor. Completion of a health record, a 2-step TB test, a clear BCI check, and a clear drug screen are also required.

Co-requisites: HIMT 259 and 265 Lab fee: \$50.00

**HIMT 296 Practical Medical Coding Applications in HIMT (W) 4 credits**

Students are provided continued professional practice experience (PPE) with an emphasis on medical coding and reimbursement activities. Students will begin preparatory work for the CCA certification examination. Students will complete assignments requiring them to apply the fundamentals of English grammar and the writing process.

Lecture: 1 hour – Lab: 6 hours

Prerequisites: HIMT 275 and HIMT 294 with a grade of “C” or higher and permission from the instructor. Note: Medical Coding Certificate students must have completed all coursework from quarters 1-5 in the Medical Coding Certificate plan of study. Completion of a health record, a 2-step TB test, a clear BCI check, and a clear drug screen are also required. Lab fee: \$50.00

## Heating, Ventilating and Air Conditioning Technology (HAC)

### **HAC 116 Piping Systems (W, SU) 3 credits**

This course is a comprehensive study of the UPC, water supply, water treatment, and distribution, to include waste water disposal and sanitation standards. Emphasis will be placed upon mechanical piping design, nomenclature, the physics of metal pipe, tubing, fittings, valves, joining methods, pumps, pump sizing, water flow principles, pressure loss, sizing and terminal units. Boilers, furnaces, chillers and refrigerator systems will be discussed in detail.

Lecture: 1 hour – Lab: 5 hours Lab fee: \$12.00

### **HAC 141 Principles of Refrigeration (A, W) 4 credits**

HAC 141 is a basic refrigeration cycle theory course covering heat thermodynamics, temperature-pressure relationships, mechanical operations of refrigeration equipment and representative application and selection data for Class I refrigerants.

Lecture: 3 hours – Lab: 3 hours Lab fee: \$10.00

### **HAC 152 Instrumentation/Combustion Process (A,W) 4 credits**

This is a course about basic combustion processes, using all the fossil fuels and psychrometric chart work to track the thermal heat transfer. The instruments used to test these processes will also be explained along with the fan laws and psychrometric chart procedures. Instruments used in energy auditing are then explained and preventative maintenance programs written.

Lecture: 2 hours – Lab: 4 hours Lab fee: \$15.00

### **HAC 161 Hand Tools Laboratory (A, SP) 4 credits**

This is an entry-level course building elementary skills in brazing, soldering, threading, cutting, swaging, and other skills that relate to service, installation and maintenance processes in the HAC field. Basic hand tools and meters will be demonstrated and used in lab exercises.

Lecture: 2 hours – Lab: 4 hours Lab fee: \$15.00

### **HAC 183 HAC Wiring Circuits I (A, W) 4 credits**

This course is designed to teach a new student how to read, draw, interpret and understand residential heating and cooling wiring diagram symbols, devices and wire size identification, basic circuit distribution concepts and schematic applications of same.

Lecture: 2 hours – Lab: 4 hours Lab fee: \$10.00

### **HAC 222 Load Calculations I (A, W) 4 credits**

This course is a comprehensive study of the fundamentals of environmental conditioning, energy consumption and operating cost analysis, the properties of air, insulation materials, heat loss and gain calculations, to include the methods of air conditioning, heating and ventilation. Load calculations will be performed using the applicable ACCA manuals and the Right-J, Windows Version 2, computer software program.

Lecture: 2 hours – Lab: 4 hours Lab fee: \$12.00

### **HAC 231 Load Calculations II (W, SP) 4 credits**

HAC 231 covers commercial heat gain/loss calculations, design of systems, and selection of equipment. The systems used in commercial applications will be discussed and compared, along with correct balancing procedures. The factor of sound as it applies to these types of systems

will also be included. This course is one of six that prepares the student to take the HAC Contractor’s License Exam.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: HAC 222 Lab fee: \$12.00

### **HAC 242 HAC Mechanical Standards/Safety (A, SP) 3 credits**

HAC 242 is a basic introduction to HAC safety considerations, first aid, and CPR as well as emergency procedures for on-the-job accidents. Course also introduces the various codes that affect the workplace and jobsite, such as OSHA, NFPA, state and local building codes. In addition, NEC, energy codes and ASHRAE standards will be covered.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: HAC 141 and HAC 152 Lab fee: \$12.00

### **HAC 243 Air Conditioning Systems (SP, SU) 4 credits**

This course is designed for the student with a fundamental knowledge of the refrigeration cycle. Previous training in refrigeration theory, wiring diagrams, control circuits, and tools used in the trade is necessary to enroll in this course. The course is designed around hands-on training and testing of the various component parts of a vapor compression split system

Lecture: 2 hours – Lab: 6 hours

Prerequisites: HAC 161, HAC 141 and, HAC 183 Lab fee: \$20.00

### **HAC 244 Heat Pump Systems (SP, SU) 4 credits**

This is a course designed for the student with a fundamental knowledge of the air conditioning and heating processes. Previous training in refrigeration cycle, wiring diagrams, control circuits, and tools used in the trade is necessary to enroll in this course. The course is structured around hands-on training on the various component parts of an air cycle heat pump system.

Lecture: 2 hours – Lab: 6 hours

Prerequisites: HAC 141, HAC 161, HAC 183 and HAC 243

Lab fee: \$20.00

### **HAC 253 Automatic Controls I (A, SP) 3 credits**

This course introduces HAC residential and light commercial control systems and the components that make up the systems. Emphasis will be placed on operators, sensors, controllers and various pneumatic and electrical devices used in modern control systems along with the logic used to develop their control sequences.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: HAC 141, HAC 152 and HAC 183 Lab fee: \$20.00

### **HAC 254 Heating Systems (A, SU) 4 credits**

HAC 254 is designed for the student with a fundamental knowledge of heat transfer characteristics and air movement properties. The course is designed around hands-on training and testing of the various component parts and accessories that make up gas, electric and fuel oil type forced air furnaces, along with accessories such as humidifiers, air filtration systems, and set-back thermostats.

Lecture: 2 hours – Lab: 6 hours

Prerequisites: HAC 152, HAC 161 and HAC 183 Lab fee: \$20.00

### **HAC 256 Automatic Controls II (W, SU) 3 credits**

HAC 256 is a hands-on laboratory course designed to build practical understanding of control circuit logic and sequence of operation theory. Representative circuits from major environmental control devices employing various forms of energy will be included in the lab exercises.

Lecture: 1 hour – Lab: 5 hours.

Prerequisite: HAC 253 Lab fee: \$15.00

### **HAC 258 Pneumatic Controls I (On Demand) 4 credits**

This course is designed to take a senior level HAC student and teach him/her the fundamentals, installation practices and common application parameters of representative pneumatic controls systems.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: HAC 253 Lab fee: \$15.00

**HAC 266 Advanced Problems (On Demand) 4 credits**

HAC 266 presents a simulation that will allow the student to use his/her educational knowledge on a problem(s) that emphasizes the design or practical service aspects of a heating and cooling system. The instructor will need to give prior approval of the project or projects to be completed by the student. A tutorial course form must be completed by the student.  
Lecture: 0 hours – Lab: 8 hours  
Prerequisite: Permission of instructor Lab fee: \$8.00

**HAC 284 HAC Wiring Circuits II (W, SP) 4 credits**

This course will concentrate on lab experiments designed to teach a student how to properly wire up typical heating and cooling devices into working circuits. Devices such as motors, controllers, contactors, compressors and safety devices will be covered.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: HAC 183 or SKTR 131 Lab fee: \$15.00

**HAC 285 HAC Electronic Controls I (On Demand) 4 credits**

This course uses basic electrical knowledge from HAC 183 and HAC 284, to build a basic understanding of HAC solid state computer controls. This theory course will cover controllers, sensors, relays and HAC electronic operational devices.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: HAC 284 Lab fee: \$10.00

**HAC 287 Boiler Systems (On Demand) 5 credits**

This course uses basic combustion knowledge from HAC 152 and piping system knowledge from HAC 116, along with codes from course HAC 242, to build a basic understanding of boiler types, systems, safety procedures and codes that will prepare a person to take the High Pressure Boiler License Examination.  
Lecture: 2 hours – Lab: 6 hours  
Prerequisites: HAC 116 and HAC 152 Lab fee: \$10.00

**HAC 288 Commercial A/C Systems (On Demand) 4 credits**

This course uses basic piping knowledge from HAC 116, refrigeration cycle theory from HAC 141, codes from HAC 242, and control knowledge from HAC 253 to build a basic understanding of the operational theory and safe operating practices for an industrial Class II ammonia refrigeration system. Entering students should have HAC 161 course content or proficiency credit before enrolling in this class  
Lecture: 3 hours – Lab: 2 hours  
Prerequisites: HAC 116, HAC 141, HAC 242 and HAC 253  
Lab fee: \$10.00

**HAC 291 Field Experience (On Demand) 3 credits**

HAC 291 offers an opportunity for an off-campus work experience in heating, venting and air conditioning industry that augments formal education received in the technology with actual work conditions and job experience. “N” credit will not be allowed for this course.  
Field experience 36 hours – Lab fee: \$15.00

**HAC 299 Special Topics in Heating and Air Conditioning (On Demand) 1–5 credits**

This course offers a refresher maintenance training class covering refrigeration systems, mechanical tools and methods, heating and boilers, electrical, air handling and ventilation, controls and safety. Please see your advisor before scheduling for this course.  
Lecture: Hours vary – Lab: Hours vary (depends upon topic)

**History (HIST)****HIST 290 Capstone Experience in History (On Demand) 3 credits**

HIST 290 is a capstone course in which students will work on devel-

oping techniques and methodologies in the field of history. Students will apply these techniques to a project of their own design and participate in summative testing of their academic skills.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: Open only to AA and AS students preparing to graduate within two academic quarters Lab fee: \$2.00

**Hospitality Management****Dietetic Technician Major (DIET)****DIET 191 Dietetic Technician Practicum I (A) 1.4 credits**

Practical application of information presented in the classroom from MLT 100, HOSP 102, and HOSP 122 to related health care facilities. Skills are developed through supervised learning situations to understand the organizational structure of health care facilities and pertinent regulations, to define the roles of dietetic practitioners, and to maintain and evaluate standards of sanitation and safety. Student must be enrolled in or have completed MLT 100, HOSP 102, HOSP 122.

Lecture: 1 hour – Lab: 2.5 hours

Prerequisite: Permission of instructor Lab fee: \$60.00

**DIET 192 Dietetic Technician Practicum II (W) 2 credits**

Practical application of information presented in the classroom from HOSP 107 and HOSP 109 in related health care facilities. Skills are developed through supervised learning situations to operate and maintain foodservice equipment, to assist in food production and service, and to maintain food quality and portion control. Student must be enrolled in or have completed HOSP 107 and HOSP 109.

Lecture: 1 hour – Lab: 7 hours

Prerequisite: DIET 191 with a “C” grade or higher and permission of instructor Lab fee: \$20.00

**DIET 193 Dietetic Technician Practicum III (SP) 2 credits**

Practical application of information presented in the classroom from HOSP 123 and HOSP 153 in related health care facilities. Skills are developed through supervised learning situations to procure and store food, supplies, and equipment, to calculate food costs, to participate in quantity food production, to develop and/or test products, and to provide for the nutritional needs of customers. Student must be enrolled in or have completed HOSP 123 and HOSP 153.

Lecture: 1 hour – Lab: 7 hours

Prerequisite: DIET 192 with a “C” grade or higher and permission of instructor Lab fee: \$15.00

**DIET 261 Community Nutrition: A Life Cycle Approach (A) 2 credits**

Course provides an introduction to community nutrition programs. Nutrition interventions targeted toward various population groups throughout the human life cycle are identified. Food and nutrition requirements for specific age groups and cultural preferences for foods are examined. The course explores overall program goals, delivery and evaluation, target audiences, funding sources, legislation, and nutrition goals for a variety of community programs. Local, state, and federal food and nutrition programs are addressed. The various roles of the nutritionist/nutrition educator in the community setting are identified.

Lecture: 2 hours

Corequisite: DIET 297 Lab fee: \$10.00

**DIET 263 Nutrition Care Process (A) 2 credits**

DIET 263 is an introduction to the study of nutritional assessment, diet modification, and nutritional care plans. Methods and management of clinical documentation will be emphasized. The student will utilize appropriate nutritional assessment tools and techniques and develop care

plans and chart notes for various disease states utilizing the Nutrition Care Process and model.

Lecture: 2 hours

Prerequisite: HOSP 153 with a minimum grade of "C"

Corequisite: DIET 275 Lab Fee: \$10.00

**DIET 265 Dietetic Technician Seminar (SP) 1 credit**

This course is an in-depth study of recent developments and areas of concern related to providing nutrition care. Each student will select a nutrition topic of current concern, write a research paper, and present an oral report. Information about professional organizations and the ethical practice of dietetics will be discussed. A written exam to assess knowledge attained throughout the seven quarter program will be administered. A grade of "C" or higher is required for graduation.

Lecture: 1 hour

Prerequisite: DIET 298 with a "C" grade or higher and permission of instructor Lab fee: \$2.00

**DIET 275 Medical Nutrition Therapy I (A) 5 credits**

DIET 275 is an introduction to the study of nutritional assessment, diet modification, and nutritional care plans. The rationale for nutritional intervention and related medical conditions and terminology is presented. Calorie controlled and consistency and nutrient modified diets for a variety of medical and/or life cycle-related conditions are studied. The student will identify and utilize appropriate nutritional assessment tools and techniques for specific medical and/or life cycle-related conditions. The student will plan, prepare and/or evaluate menus, meal plans, meals, and nutritional supplements related to these diet modifications. BIO 262 or BIO 122 must be completed or taken as a corequisite.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: HOSP 153 with a "C" grade or higher and permission of instructor Lab fee: \$10.00

**DIET 276 Medical Nutrition Therapy II (W) 5 credits**

This course is a continuation of the study of nutritional assessment, diet modification, and nutritional care plans presented in DIET 275. The rationale for nutritional intervention and related medical conditions and terminology is presented. Calorie and protein supplemented and nutrient modified diets for a variety of medical conditions are studied. The student will identify and utilize appropriate nutritional assessment tools and techniques for specific medical conditions. The student will plan, prepare and/or evaluate menus, meal plans, meals, and nutritional supplements related to these diet modifications. BIO 262 or BIO 122 must be completed before enrolling.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: DIET 275 with a "C" grade or higher and permission of instructor Lab fee: \$10.00

**DIET 296 Dietetic Tech. Registration Exam Review (SU) 1 credit**

This course is designed to prepare Dietetic Technician Majors for success in completing the American Dietetic Association – Commission on Dietetic Registration Examination for Dietetic Technicians.

Lecture: 1 hours – Lab: 0 hours

Prerequisite: DIET 298

**DIET 297 Dietetic Technician Practicum IV (A) 3 credits**

DIET 297 provides an opportunity for practical application of information presented in the classroom from HOSP 153 and DIET 275 in community health programs. Skills are developed through supervised learning situations to understand the services offered by community based organizations, to develop the ability to utilize their services, to meet and serve clients, to obtain and evaluate nutritional data from individuals, and to establish good working relationships with clients and other personnel. Student must be enrolled in or have completed HOSP 225 and DIET 275.

Lecture: 2 hours – Lab: 7 hours

Prerequisite: DIET 193 with a "C" grade or higher and permission of instructor Lab fee: \$104.00

**DIET 298 Dietetic Technician Practicum V (W) 2 credits**

This is an opportunity for further practical application of information presented in the classroom from HOSP 225, DIET 275, and DIET 276 to clients in related health care facilities. Skills are developed through supervised learning situations to interview clients, to evaluate nutritional data collected, to understand the rationale for dietary modification for nutrient and consistency modification, to understand associated medical terminology and to assist in the planning, preparation and service of modified diet meals. Student must be enrolled in or have completed DIET 276 and HOSP 224.

Lecture: 1 hour – Lab: 7 hours

Prerequisite: DIET 297 with a "C" grade or higher and permission of instructor Lab fee: \$10.00

**DIET 299 Dietetic Technician Practicum VI (SP) 2.6 credits**

DIET 299 is another opportunity for practical application of information presented in the classroom from all technical courses to clients in related health care facilities. Opportunities are provided through supervised learning situations to demonstrate proficiency in client interviewing, to evaluate nutritional data, to understand associated medical terminology and the rationale for dietary intervention, and to assist in the planning, preparation and service of modified diet meals. A grade of "C" or higher is required for graduation.

Lecture: 1 hour – Lab: 11.5 hours

Prerequisite: DIET 276 and DIET 298 and permission of instructor Lab fee: \$10.00

## Dietary Manager (DMGR)

**DMGR 101 Dietary Manager Seminar I (A) 4 credits**

This course offers a study of the types of health care facilities, typical health care organizational structures, and roles of the health care team members. Regulations and how they affect food service in health care facilities are examined. Methods and records used in purchasing, receiving, storing, preparing and serving food are explained. Management principles and employment issues are discussed. The student must have passed the ServSafe examination before enrolling.

Lecture: 4 hours

Corequisite: DMGR 194 and permission of instructor

**DMGR 102 Dietary Manager Seminar II (W) 4 credits**

Course presents the principles for planning menus to meet the nutritional needs of people in health care operations. Nutrient requirements, functions and sources of nutrients, and digestion and absorption of food are studied. Diet modification for a variety of health conditions is studied.

Lecture: 4 hours

Prerequisite: DMGR 101 with a "C" grade or higher

Corequisite: DMGR 195 and permission of instructor

**DMGR 103 Dietary Manager Seminar III (SP) 4 credits**

In this class, methods and records used to gather nutrition histories, to determine food needs and preferences, to establish care plans and to do charting are presented. Control measures for maintaining quality, quantity, and cost of nutrition care are discussed. Supervisory characteristics are reviewed. Facility evaluation and plans for improvement are presented. Continued professional development is emphasized. The student must earn a grade of "C" or higher to receive a certificate of completion.

Lecture: 4 hours

Prerequisite: DMGR 102 with a "C" grade or higher

Corequisite: DMGR 196 and permission of instructor

**DMGR 194 Dietary Manager Cooperative Work Experience I (A)**

**2 credits**

Course provides an opportunity for supervised, work-related learning experiences to be performed on the job following material presented in the classroom from DMGR 101. Employment in a health care facility



with a qualified preceptor on the staff is required.  
Lab: 20 hours/week  
Corequisite: DMGR 101 and permission of instructor.  
Lab fee: \$12.00

**DMGR 195 Dietary Manager Cooperative Work Experience II (W) 2 credits**

Course offers supervised, work-related learning experiences to be performed on the job following materials presented in the classroom from DMGR 102. Employment in a health care facility with a qualified preceptor on the staff is required.

Lab: 20 hours/week  
Prerequisite: DMGR 194 with a "C" grade or higher  
Corequisite: DMGR 102 and permission of instructor Lab fee: \$12.00

**DMGR 196 Dietary Manager Cooperative Work Experience III (SP) 2 credits**

Opportunity for more supervised, work-related learning experiences to be performed on the job following materials presented in the classroom from DMGR 103. Employment in a health care facility with a qualified preceptor on the staff is required. The student must earn a grade of "C" or higher to receive a certificate of completion.

Lab: 20 hours/week  
Prerequisite: DMGR 195 with a "C" grade or higher  
Corequisite: DMGR 103 and permission of instructor Lab fee: \$12.00

## School Foodservice Manager (SMGR)

**SMGR 101 Introduction to School Foodservice Management (W) 3 credits**

This course presents a study of the history of school meals, typical organizational structures, and roles of the foodservice team members. Regulations and how they affect foodservice in schools are examined. Foodservice safety and sanitation principles, utilization and care of equipment are studied. Foodservice systems, marketing, customer service and merchandising techniques are examined.

Lecture: 3 hours  
Prerequisites: HOSP 122

**SMGR 102 School Nutrition and Menu Planning (SP) 4 credits**

Course presents the principles for planning menus to meet the nutritional needs of school age children. Nutrition requirements, functions and sources of nutrients and the digestion and absorption food are studied. Diet modification for a variety of health conditions is studied. Food preparation techniques for menu components are studied.

Lecture: 4 hours  
Prerequisite: SMGR 101 with a grade of "C" or higher

**SMGR 103 School Foodservice Management/Human Resources (SU) 4 credits**

Course provides an explanation of the methods and records used in procurement, receiving, and storage of food and related items. Inventory control/methods are studied. Control measures for maintaining quality, quantity, and cost of food production are discussed. Financial management, record keeping and budgets are studied. Management principles, interpersonal skills, employee development and supervisory characteristics are discussed. Facility evaluation and planning for improvements is presented.

Lecture: 4 hours  
Prerequisite: SMGR 102 with a grade of "C" or higher

## Hospitality Management (HOSP)

**HOSP 101 Researching the Hospitality and Tourism Industry (A, W, SP, SU) 3 credits**

HOSP 101 offers a comprehensive look at the fascinating and challenging related fields in the hospitality industry: travel and tourism, lodging, food service, meetings, conventions and expositions, leisure and recreation. Customer service is emphasized, while guest speakers, field trips, and study of trade publications provide information on industry trends and career opportunities.

Lecture: 3 hours

**HOSP 102 Foodservice Equipment (A, W, SP, SU) 2 credits**

In this course, students will learn to operate, clean and describe preventive maintenance of commercial foodservice equipment and apply that knowledge in a laboratory setting. Basic knife skills and cooking techniques, following sanitation and safety guidelines, will be practiced. Appropriate uses for equipment and general equipment layout for safety, sanitation and efficiency will be discussed.

Lecture: 1 hour – Lab: 2 hours Lab fee: \$17.00

**HOSP 106 Food Laboratory I (W, SU) 3 credits**

This is a laboratory course for registered Chef Apprentices. The course includes preparation of stocks, soups, sauces, entrees, starches, vegetables, fruits and breakfast items. Also includes butchery, fish filleting and poultry de-boning. Students will develop and cost recipes, plan menus, requisition food, and prepare menu items.

Lecture: 1 hour – Lab: 4 hours  
Prerequisites: HOSP 102, HOSP 122, and HOSP 107 Lab fee: \$100.00

**HOSP 107 Food Principles (A, W, SP) 5 credits**

This is a course in basic food preparation, including the terminology and definitions used and the scientific principles involved in preparing food products. The course includes a detailed study of the principles of preparation and selection criteria for all categories of foods served in foodservice operations.

Lecture: 5 hours Lab fee: \$5.00

**HOSP 109 Food Production (SP) 3 credits**

In this laboratory course, students will produce and serve marketable food products according to standardized recipes using food production equipment in a commercial kitchen environment. The products will be served in a dining room setting, with emphasis on customer service. The principles of safety and sanitation will be applied.

Lecture: 1 hour – Lab: 7 hours  
Prerequisites: HOSP 102, HOSP 122  
Corequisite: HOSP 107 Lab fee: \$100.00

**HOSP 110 Baking Principles (A) 3 credits**

HOSP 110 is a course in the fundamentals of baking terminology, principles of baking, the characteristics and functions of the main ingredients used in bakery production, and an introduction to the equipment used for baking.

Lecture: 3 hours Lab fee: \$5.00  
Prerequisites: DEV 031

**HOSP 111 Principles of Baking Operations (SP) 3 credits**

This course introduces the principles involved in operating a bakery department including recipe adjustment, recipe costing, purchasing of baking ingredients, storage procedures, and customer service.

Lecture: 3 hours  
Lab Fee: \$5.00  
Prerequisites: HOSP 110, 122

**HOSP 112 Basic Yeast and Quick Breads (W) 4 credits**

This is a laboratory course in which the fundamentals of producing basic yeast-raised and quick breads are studied. White breads, rolls, variety grain breads, specialty breads, sweet yeast-raised products and quick

bread are produced. Emphasis will be given to sanitation, safety, and equipment usage.

Lecture: 1 hour – Lab: 9 hours

Prerequisite: HOSP 110, 122 Lab fee: \$60.00

**HOSP 113 Pies and Pastries (W) 3 credits**

This is a laboratory course in which the fundamentals of preparing a variety of pies and pastries are studied. A variety of pastry doughs and fillings are produced and finishing techniques are practiced. Emphasis will be given to sanitation, safety, and equipment usage.

Lecture: 1 hour – Lab: 4 hours

Prerequisites: HOSP 110, 122 Lab fee: \$60.00

**HOSP 114 Advanced Breads (SP) 4 credits**

This course builds on the skills learned in HOSP 112 Basic Yeast and Quick Breads. Emphasis will focus on the principles and preparation of complex breads, e.g., artisan bread, Danish dough, puff dough, and pâte à choux using safe and sanitary methods. Industry standard products for commercial production will be introduced.

Lecture: 1 hour – Lab: 9 hours

Prerequisite: HOSP 112 Lab fee: \$60.00

**HOSP 115 Cakes, Cookies and Other Desserts (SU) 3 credits**

HOSP 115 is a laboratory course in which the fundamentals of preparing a variety of cakes, cookies and other desserts are studied and produced, utilizing both scratch and convenience techniques. Production of restaurant style desserts, along with specialty or celebration styles, will be emphasized.

Lecture: 1 hour – Lab: 4 hours

Prerequisite: HOSP 110, HOSP 122 Lab fee: \$60.00

**HOSP 116 Baked Goods and Dessert Presentation (SU) 3 credits**

A laboratory course in which the styles of decorating and presenting baked goods is studied. Plate, buffet, and retail presentations are demonstrated and practiced.

Lecture: 1 hour – Lab: 4 hours

Prerequisite: HOSP 110, HOSP 122 Lab fee: \$60.00

**HOSP 122 Hospitality Sanitation and Safety (A, W, SP, SU) 3 credits**

This course presents a detailed study of the HACCP (Hazard Analysis Critical Control Points) procedures which include the control of bacteria, materials handling and safety practices to maintain a safe and healthy environment for the consumer in the food and lodging industry. Examination of laws and regulations related to safety, fire, and sanitation. Students must pass the applied Foodservice Sanitation examination from the National Restaurant Association Educational Foundation. Students will receive certificates from the National Restaurant Association Educational Foundation and from the Ohio Department of Health.

Lecture: 3 hours Lab fee: \$15.00

**HOSP 123 Food Purchasing (A, SP) 3 credits**

This course offers a working knowledge of procurement methods and procedures and record keeping (manual methods and computer applications) when purchasing, receiving, and storing food, equipment and nonfood supplies. Special emphasis is given to writing specifications, determining order quantities, evaluating product quality, and selecting suppliers. Field trips allow the student to see food processing operations and wholesale food markets.

Lecture: 3 hours

Prerequisites: HOSP 107 and DEV 031 or MATH 101 or MATH 102

Lab fee: \$5.00

**HOSP 143 Hospitality and Travel Law (A, SP, DL) 3 credits**

This class provides a general knowledge of the law as it applies to the hospitality and tourism industry.

Lecture: 3 hours

**HOSP 145 Lodging Operations (A, SP) 5 credits**

This course provides students with a basic understanding of the lodging industry. It covers the activities of various hotel operating departments: front office, housekeeping, food and beverage, hotel purchasing, marketing, yield management, engineering, security, and hotel accounting. Emphasis will be placed on guest satisfaction.

Lecture: 4 hours – Lab: 2 hours Lab fee: \$5.00

**HOSP 153 Nutrition for a Healthy Lifestyle (A, W, SP, SU, DL) 5 credits**

HOSP 153 explores the role of nutrition in establishing, promoting and maintaining good health. The composition and functions of foods, nutrition needs throughout the life cycle, and contemporary nutrition concerns are included in the course.

Lecture: 5 hours

Prerequisites: DEV 031 and placement into ENGL 101

Lab fee: \$10.00

**HOSP 154 Destination Geography (SU, W) 5 credits**

This course provides a geographical and cultural study of all major regions of the world with emphasis on the most popular travel destinations. It includes lodging, points of interest, customer profile, and transportation types for each destination.

Lecture: 5 hours

**HOSP 157 Tourism Operations (A, SP) 5 credits**

This course provides students with a basic understanding of the travel and tourism industry. Travel agency operations are covered, with students using a variety of reference materials to develop air and rail itineraries, reserve cars and hotels, calculate fares, and create tours and cruises. Government agencies and organizations that affect the industry are described. Also included is a framework for the development of tourism in the community and region.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: HOSP 154 Lab fee: \$35.00

**HOSP 203 Beverage Management (W, SU, DL) 3 credits**

This course covers the classification, history and control of beer, wines and spirits. It includes Ohio liquor and legal regulations, inventory control, liquor dispensing systems, cash control, drink merchandising and alcohol responsibility. The art of mixology and wine and food affinity are also explored.

Lecture: 3 hours Lab fee: \$20.00

**HOSP 205 Records and Cost Control (A, SP) 4 credits**

HOSP 205 covers the principles and procedures involved in an effective system of food, beverage, labor and sales control. Class emphasizes development and use of standards and calculation of actual costs.

Prerequisite: MATH 101 OR MATH 102

Lecture: 4 hours

**HOSP 206 Management Accounting for Hospitality (W) 4 credits**

This course looks at accounting theory and use of the Uniform System of Accounting as applied to the hospitality industry. It emphasizes development and use of financial statements and provides an overview and understanding of the need for budgets and budgeting.

Lecture: 4 hours

Prerequisite: MATH 101

**HOSP 214 International Cuisine (W, SU) 3 credits**

This course focuses on the cuisines of the world. Students will research diverse countries and regions and cook from recipes that represent a variety of cultures, native foods, seasonings and flavors.

Lecture: 1 hour – Lab: 4 hours

Prerequisites: ENGL 102, HOSP 216 Lab fee: \$100.00

**HOSP 216 Food Laboratory II (A, SP) 3 credits**  
This is a laboratory course to follow HOSP 106 Food Laboratory I for registered Chef Apprentices. It focuses on proper roasting, grilling, poaching, sautéing and braising of meats, seafood, and poultry with appropriate sauces. Classical preparation of consommé, bisque, and cream soups as well as starch and vegetable preparation are presented. Plated desserts are covered, too. Students will research and develop recipes and prepare and serve four-course menus in the required amount of time.  
Lecture: 1 hour – Lab: 4 hours  
Prerequisites: HOSP 106 and HOSP 107 Lab fee: \$100.00

**HOSP 217 Garde Manger (W, SU) 3 credits**  
A laboratory course including preparation and presentation of cold food items commonly produced in a garde manger station. Students will prepare garnishes, appetizers, salads, sandwiches, marinades, relishes, cold sauces and forcemeat items. Course introduces ice carving. Buffet presentation, including platters, bowls and plates, and culinary show guidelines and practices are covered.  
Lecture: 1 hour – Lab: 4 hours  
Prerequisite: Permission of instructor/chair Lab fee: \$100.00

**HOSP 218 Fundamentals of Baking (A, SP) 3 credits**  
This class covers the fundamentals of baking and functions of ingredients for production of baked goods and dessert specialties. Proper use and care of equipment, as well as principles of safety and sanitation are emphasized.  
Lecture: 1 hour – Lab: 4 hours  
Prerequisite: Permission of instructor/chair Lab fee: \$60.00

**HOSP 219 Food Production Management (W) 4 credits**  
This is a capstone laboratory course in which application of foodservice management will occur in a simulated restaurant. Students will plan menus, prepare food items, and serve the public to gain experience in various managerial positions in the front and back of the house. A grade of “C” or higher is required for graduation.  
Lecture: 1 hour – Lab: 8 hours  
Prerequisite: Permission of instructor/chair Lab fee: \$100.00

**HOSP 223 Sports Nutrition (W, SP, DL) 3 credits**  
This course studies the role of sports nutrition in establishing, promoting and maintaining, optimal health for enhanced performance throughout the life cycle. The science of food nutrients, bioenergetics, and current recommendation specific to human performance are also included in this course.  
Lecture: 3 hours  
Prerequisite: HOSP 153 or equivalent

**HOSP 224 Hospitality Supervision and Quality Management (W, SU) 5 credits**  
This course applies supervisory skills and quality management principles to the hospitality/tourism industry and includes the study of organization structures, performance standards, employee selection and retention processes, orientation and training programs, employee appraisal and performance improvement, and quality improvement techniques. A grade of “C” or higher is required for graduation.  
Lecture: 5 hours  
Prerequisite: BMGT 102 Lab fee: \$5.00

**HOSP 225 Menu Development (A, SP, SU) 3 credits**  
This course covers the principles of menu planning for a variety of foodservice operations. It includes merchandising techniques, layout and design, and pricing strategies. Consideration is given to food selection; nutritional requirements; food, labor, and other costs; equipment utilization, and computer application.  
Lecture: 3 hours  
Prerequisites: HOSP 153 and HOSP 107 Lab fee: \$5.00

**HOSP 226 Event Menu Planning (A) 3 credits**  
This course studies the role of nutrition in promoting good health. The composition and functions of foods, and a variety of nutrition concerns and restrictions are incorporated into the course. Principles of menu planning for a variety of events are reviewed. Course includes factors that impact menu item selection, merchandising techniques, layout and design and pricing strategies. Consideration is given to nutritional requirements, food, labor and other factors in menu design. (Does not replace HOSP 225)  
Lecture: 3 hours

**HOSP 227 Garde Manger II (W, SU) 3 credits**  
Students will acquire knowledge and develop competency skills in the preparation and artistic presentation of savory mousses, terrines, pates, galantines, and ballotines. The standards used in this regard are those specified in the Garde Manger section of the Training Log of the National Apprenticeship Training Program for Cooks, published by the American Culinary Federation (ACF).  
Lecture: 1 hour – Lab: 4 hours  
Prerequisites: HOSP 217 Lab fee: \$100.00

**HOSP 246 Hospitality Sales and Marketing (W, SP) 3 credits**  
This course covers selling theory, including all phases of the selling process, from initial contact to closing the sale in a variety of hospitality and tourism settings. Students will be presented with the basic knowledge and skills necessary to work within the marketing plan of a hospitality or tourism organization.  
Lecture: 3 hours Lab fee: \$5.00

**HOSP 257 Global Distribution Systems (W, SU, DL) 3 credits**  
This course is designed to combine student reading materials with hands-on computer experience in a simulated travel agency setting. The state-of-the-art CBL Viasinc GDS Training System APOLLO will be used to develop student skills in the utilization of the Global Distribution System. Working in the networked Windows environment, students will learn how to search for travel information, make airline reservations, and issue tickets.  
Lecture: 1 hour – Lab: 5 hours  
Prerequisite: HOSP 157 and CIT 101 Lab fee: \$40.00

**HOSP 270 Event Management (A, SP) 3 credits**  
This course will describe how event managers design, plan, market, and stage an event of any size. The course will describe the managing of staff and how to handle staffing problems. The course will describe the safety requirements that ensure staff and attendees’ safety. This course will also describe the legal compliance, risk management, financial control, and evaluations of the success of the event. This course will be coordinated with the catering events in HOSP 272 to put into action the planning, marketing, and contracting lessons discussed in HOSP 270.  
Lecture: 3 hours  
Prerequisites: MATH 101 and ENGL 100 Lab fee: \$15.00

**HOSP 272 Catering Services (A, SP) 2 credits**  
Class presents principles of and practice experiences in catered functions, on and off-premise. Students plan, organize and execute catering functions to meet the needs of clients and guests.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisites: HOSP 122 and ENGL 101 Lab fee: \$20.00

**HOSP 273 Casino and Gaming Operations (On Demand) 3 credits**  
This course covers the history of the gaming industry, from its beginning to the present. HOSP 273 familiarizes students with gaming trends and emphasizes the operation and management of the gaming and casino industry. Upon completion of this course, the student should see the necessity of the intricate workings of all departments in a casino organization including marketing, accounting and finance, and customer relations.  
Lecture: 3 hours

**HOSP 285 Baking and Pastry Final Project (SP) 3 credits**

Capstone course in Baking and Pastry Arts required for students registered in the two-year Restaurant and Foodservice Management: Baking and Pastry Arts Track program. Practice preparation of baking and pastry arts skills learned in previous courses, and guided practice of selected baking and pastry arts skills. Review skills with practical application and presentation of Bakeshop or Pastry Kitchens in preparation of pies, cookies, cakes, breads, rolls, desserts or other baked goods. Demonstration of learned professional skills with completion of special project. Culminating evaluation of baking and pastry skills based on standards established by the American Culinary Federation and current industry standards. Completion of ACF Certification examinations, both written and practical, for Certified Pastry Culinarian (CPC). Analysis and documentation of completion of all required training, knowledge and competencies objectives.

Lecture: 1 hours – Lab: 4 hours

Prerequisite: Final Academic quarter or permission of instructor/ chair  
Lab fee: \$100.00

**HOSP 286 Apprenticeship Final Project (SU, W) 2 credits**

This is a capstone course required for students registered in the three-year American Culinary Federation National Apprenticeship Training Program. It involves preparation for and completion of national practical and written examinations. Evaluation of 6000 hours on-the-job training and documentation of completion of all required training objectives.

Lecture: 2 hours

Prerequisite: Permission of instructor/chair Lab fee: \$100.00

**HOSP 291 Hospitality Cooperative Work Experience I (A, W, SP, SU, DL) 3 credits**

This course offers work experience in the hospitality/tourism industry. A minimum of 200 hours will be spent in cooperative work experience, with one classroom hour per week in an on-campus seminar. This course is designed for Travel/Tourism/Hotel Management and Foodservice/Restaurant Management majors.

Lecture: 1 hour – Lab: 20 hours

**HOSP 292 Hospitality Cooperative Work Experience II (A, W, SP, SU, DL) 3 credits**

This is a continuation of HOSP 291 offering work experience in the hospitality/tourism industry. A minimum of 200 hours will be spent in cooperative work experience, with one classroom hour per week in an on-campus seminar. This course is designed for Travel/Tourism/Hotel Management and Foodservice/Restaurant Management majors.

Lecture: 1 hour – Lab: 20 hours

Prerequisite: HOSP 291

**HOSP 293 Hospitality Cooperative Work Experience I (A, SP) 3 credits**

This class presents work experience in the hospitality/tourism industry. A minimum of 200 hours will be spent in cooperative work experience, with one classroom hour per week in an on-campus seminar.

Lecture: 1 hour – Lab: 20 hours

Prerequisite: Chef Apprentice major Lab fee: \$205.00

**HOSP 294 Hospitality Cooperative Work Experience II (A, SP) 3 credits**

This is a continuation of HOSP 293, providing work experience in the hospitality/tourism industry. A minimum of 200 hours will be spent in cooperative work experience, with one classroom hour per week in an on-campus seminar.

Lecture: 1 hour – Lab: 20 hours

Prerequisites: HOSP 293 and Chef Apprentice major

Lab fee: \$100.00

**HOSP 295 Hospitality Cooperative Work Experience III (A, SP) 3 credits**

This course is a continuation of HOSP 293 and HOSP 294 and is required for third year chef apprentices. It offers on-the-job training in the foodser-

vice industry following guidelines of the American Culinary Federation National Apprenticeship Training Program. One classroom hour per week will be spent in an on-campus seminar.

Lecture: 1 hour – Lab: 20 hours

Prerequisite: Permission of instructor/chair Lab fee: \$100.00

**Human Resources Management (HRM)****HRM 121 Human Resources Management (A, W, SP, SU, DL) 4 credits**

This is an introductory course in Human Resources Management including the philosophy, principles, and legal aspects of human resources management and the roles of the manager and the human resources professional/department in this management function. The course focuses on the laws governing policymaking, recruiting, selection, training, evaluation, wage and salary administration, benefit programs, representation, and safety; and the employer's obligations and the employee's rights under these laws. Students use the Internet to research human resources issues.

*Distance Learning Students:* Course content is provided online via streaming audio lectures. Other course materials are provided online and in a packet mailed prior to the beginning of the quarter; graded assignments are returned as .pdf files via e-mail. Hard copies of assignments are returned at the beginning of the next quarter. Fees course mailings are included in the distance learning lab fee.

Lecture: 4 hours

Prerequisite: BMGT 111 or LAWE 252 (Law Enforcement students only) or BMGT 218 (Supply Chain Management students only) and ENGL 102 Lab fee: \$10.00

**HRM 122 Human Resource Policy and Procedure Writing (W, SU) 4 credits**

The course provides an in-depth study of employment law, the recruiting process, and the selection process. It promotes a transition from "term paper writing" to formal policy writing, using the basic application of employment law, business grammar, and policy writing skills through the development of an employment policy, procedure, and employee handbook summary of the policy. The course is offered at night winter quarters and during the day summer quarters.

Lecture: 2 hours – Lab: 5 hours

Prerequisites: HRM 121, BOA 101, CIT 102, and ENGL 102 all completed with a minimum grade of "C". Lab fee: \$10.00

**HRM 124 Personnel Interviewing (A, W, SP, SU) 4 credits**

The course provides an in-depth study of the legal aspects of interviewing, the various types of interviews conducted in business, and interviewing techniques. Students participate, as both an interviewer and an interviewee, in selection, counseling, disciplinary, exit, and performance appraisal interview simulations. Interviewing techniques and skills are evaluated using videotape playback.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: HRM 121 (BMGT and HRM Technology students only) and COMM 105 or COMM 110 Lab fee: \$4.00

**HRM 220 Labor Relations (A, W, SP, SU, DL) 5 credits**

The course provides a study of labor relations including the history of the labor movement; the legislative history of labor law; in-depth study of the four major pieces of private sector collective bargaining legislation; a discussion of the State of Ohio collective bargaining law; the union organizing process and management responses; the collective bargaining process, grievance process, and arbitration process; and the differences in these processes in the public and private sectors. Students participate, as members of labor and management teams, in contract negotiations, a third-step grievance meeting, and grievance arbitration simulations.

*Distance Learning Students:* Course content is provided online via stream-

ing audio lectures. Other course materials are provided online and in a packet mailed prior to the beginning of the quarter; graded assignments are returned via mail. Fees for course mailings are included in the distance learning lab fee.

Lecture: 3 hours – Lab 4 hours

Prerequisites: HRM 121 (completed with a minimum grade of “C”), and MATH 102 or MATH 103 Lab fee: \$10.00

**HRM 221 Staffing Under the Law (A, SP) 4 credits**

The course provides an in-depth study of the laws governing affirmative action, sexual and other forms of harassment, discipline, and termination, and the application of these laws through the development of policies, procedures, rules, regulations, and summary postings for the organization. The course is offered in the afternoon during autumn quarters and at night during spring quarters.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: HRM 121 and HRM 122 (both completed with a minimum grade of “C”), CIT 102, and MATH 135 Lab fee: \$10.00

**HRM 222 Monetary Compensation (A, SP) 4 credits**

The course provides an in-depth study of the history, principles, and theories of a compensation package; the laws governing monetary compensation; and the application of these principles, theories and laws through the development of internal and external equity in monetary compensation including the job analysis process, the development of job descriptions and job specifications, and the job evaluation process. The course also addresses the development of monetary compensation policies and procedures. The course is offered in the afternoon during autumn quarters and at night during spring quarters.

Lecture: 4 hours

Prerequisites: HRM 121 and HRM 122 (both completed with a minimum grade of “C”), CIT 102, MATH 135 Lab fee: \$10.00

**HRM 224 Human Resources Records Manage. (W, SU, DL) 3 credits**

This course provides an in-depth study of the records governing the employment relationship required by federal and state laws and the legal aspects of those records. The course also explores approaches to developing record keeping systems that meet professional and industry standards. Students are required to demonstrate skills through the development of legally sound records management policies and procedures.

NOTE: This course is offered exclusively in an online format.

Lecture: 3 hours

Prerequisites: HRM 121 and HRM 122 (both completed with a minimum grade of “C”), and CIT 102 Lab fee: \$4.00

**HRM 225 Workplace Safety (W, SU, DL) 4 credits**

This course provides the student in the Human Resources Management technology with an in-depth study of alcohol and drug use as they relate to contemporary workplace issues, violence in the workplace, AIDS and other communicable diseases as workplace issues, and management’s obligations and options under OSHA and other safety regulations. The course also focuses on the legal aspects of safety issues. Students make presentations, write executive summaries on the topics, and develop policies, procedures, programs, and handbook summaries in each of the 4 major topic areas. Presentation skills and techniques are evaluated using videotape playback.

NOTE: This course is offered exclusively in a hybrid format with class meetings occurring 5 Saturdays during the quarter, usually from 9:00 a.m. – 4:00 p.m.

Lecture: 3 hours – Lab 2 hours

Prerequisites: HRM 121, HRM 122, and HRM 228 all completed with a minimum grade of “C” Lab fee: \$4.00

**HRM 226 Mandatory Benefits (A, SP) 4 credits**

This course provides an in-depth study of benefits mandated by federal law, including Social Security, Worker’s Compensation, Unemployment Compensation, Family and Medical Leave (FMLA), the Health Insurance Portability and Accountability Act (HIPAA), and the Consolidated

Omnibus Budget Reconciliation Act (COBRA). Students develop policies, procedures, forms, and handbook summaries for each topic.

Lecture: 4 hours

Prerequisites: HRM 121 and HRM 122 (both completed with a minimum grade of “C”), MATH 103, ENGL 101, ENGL 102, and COMM 200 Lab fee: \$10.00

**HRM 227 Voluntary Benefits (A, SP, DL) 4 credits**

This course provides an in-depth study of voluntary benefits: those benefits employers most commonly choose to offer to help attract and retain employees. The course will focus on health insurance options (medical, dental, vision, prescription drug, catastrophic illness) and the types of providers of these options (HMOs, PPOs, traditional carriers, HSAs), life insurance options (basic life, supplemental life, term life, and accidental death and dismemberment), short-term and long-term disability options, pension/retirement plan options, pay-for-time-not-worked options (holidays, vacations, sick leave, personal leave, bereavement leave, jury duty, military leave, and other PTO options), and miscellaneous benefit options (tuition reimbursement, child/elder care, safety equipment, social and sports programs).

Lecture: 4 hours

Prerequisites: HRM 121 and HRM 122 (both completed with a minimum grade of “C”), MATH 103, ENGL 101, ENGL 102, and COMM 200 Lab fee: \$4.00

**HRM 228 Employee Training (W, SU) 4 credits**

This course provides students with the tools needed to develop and present effective training programs for an organization or to identify and evaluate the services of an outside training provider to meet the needs of the organization. Students develop and present training programs using PowerPoint, Audacity, and Camtasia.

NOTE: This course is offered only at night during Summer Quarter and only during the day Winter Quarter.

Lecture: 2 hour – Lab: 4 hours

Prerequisites: HRM 121, HRM 221, CIT 102, ENGL 101, ENGL 102, COMM 105, and COMM 200 (all completed with a minimum grade of “C”) Lab fee: \$8.00

**HRM 240 Administration of Human Resources Management (W, SU) 5 credits**

As a part of the capstone sequence for the Human Resources Management Technology, this course provides a hands-on application environment wherein students serve as a “Board of Directors,” developing the full range of human resources policies, procedures, and programs. To demonstrate the depth and breadth of their knowledge, understanding, and skill, students are assigned three to six individual projects, in the major topic areas (employment, compensation, benefits, performance appraisal, discipline, safety, and training), in the form of presentations, the development of policies and/or procedures as appropriate to the presentation, and the development/securing of documents as appropriate to the presentation. As a group, students review, revise, and approve or reject policy, procedure, and program recommendations made by the presenter.

NOTE: This course is offered only at night during winter and summer quarters.

Lecture: 0 hours – Lab: 10 hours

Prerequisites: HRM 121, 122, 124, 220, 221, 222, 224, 225, 226, 227, and 228 (all completed with a minimum grade of “C”) Lab fee: \$4.00

**HRM 242 Human Resources Management Practicum (A, W, SP, SU) 2 credits**

As a part of the capstone sequence for the Human Resources Management Technology, the course provides a guided work experience (minimum of 14 hours per week) in a human resources office or work environment providing human resources services. The student and the employer/place-ment site supervisor determine exact duties. Students are responsible for securing their own practicum position.

Lecture: 0 hours – Lab: 14 hours

Prerequisites: HRM 121, 122, 124, 220, 221, 222, 224, 225, 226, 227, and 228 (all completed with a minimum grade of "C"), and with permission of Department Chair, requested *two quarters in advance*.

Corequisite: HRM 243 Lab fee: \$1.00

**HRM 243 Human Resources Management Practicum Seminar (A, W, SP, SU) 2 credits**

As a part of the capstone sequence for the Human Resources Management Technology, the course provides for a discussion of the work experience and demonstration of the ability to transfer program skills to a real-world work environment through the completion of written weekly reports and the development of work related projects and assignments.

Lecture: 0 hours – Lab: 4 hours

Prerequisite: HRM 121, 122, 124, 220, 221, 222, 224, 225, 226, 227, and 228 (all completed with a minimum grade of "C"), and with permission of department chair, requested *two quarters in advance*.

Corequisite: HRM 242 Lab fee: \$1.00

## Humanities (HUM)

**Students who enroll in humanities courses must have placed in ENGL 101 and are encouraged to either have completed ENGL 101 or to be enrolled in that course when scheduling a humanities course.**

**HUM 111 Civilization I (A, W, SP, SU, DL) 5 credits**

Civilization I is a survey of the culture, ideas and values of human civilization from its origins in the Ancient World through the 15th century. Emphasis is on the intellectual and artistic achievements of the ancient Middle East, Classical Greece and Rome, the Christian and Arab/Islamic Middle Ages, and Renaissance Italy showing how culture reflects and influences economic, social and political development. Students are exposed to the creative process by reading from primary works of literature and philosophy and critically reviewing works of art, music, theater and dance, both in and out of class. Classes meet three hours per week in small groups for lecture and discussion and in combined sections for two hours per week for group cultural experiences.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$7.00

**HUM 112 Civilization II (A, W, SP, SU, DL) 5 credits**

Civilization II is a study of the development of the culture, ideas and values of the early modern world. Emphasis is on the Protestant Reformation, initial contacts between Europe and other cultures, the rise of modern science, the Enlightenment, the American and French Revolutions, the Industrial Revolution, Baroque, Classical, and Romantic styles in art, music and literature and the revolutionary theories of Karl Marx. Students are exposed to the creative process by reading from primary works of literature and philosophy and critically reviewing works of art, music, theater and dance, both in and out of class. Classes meet three hours per week in small groups for lecture and discussion and in combined sections for two hours per week for group cultural experiences.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$7.00

**HUM 113 Civilization III (A, W, SP, SU, DL) 5 credits**

Civilization III is a survey of the triumphs and failures of modern culture, ideas and values from 1850 to the present. Emphasis is on the conflicts and contradictions between the prevailing spirit of Liberalism, Capitalism, Nationalism and Imperialism from the perspective of the European and non-European worlds, the crises of Western capitalism and democracy and the Fascist and Communist responses, and the major issues confronting world civilization at the turn of the 21st century. Students are exposed to the creative process by reading from primary works of literature and philosophy and critically reviewing works of art, music, theater and dance, both in and out of class. Classes meet three hours per week in small groups

for lecture and discussion and in combined sections for two hours per week for group cultural experiences.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$7.00

**HUM 131 Chinese Civilization (W) 5 credits**

This survey course is an introduction to the study of the history and intellectual, social, cultural, artistic and economic values of China. It explores the origins of the Chinese culture, the expansion and retrenchment of its dynasties, and the upheavals in the political system after 1911. It looks at scientific and technological developments as well as intellectual traditions (especially Confucianism) and how Buddhism influenced those traditions.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$7.00

**HUM 132 Japanese Civilization (SP) 5 credits**

This survey course is an introduction to the study of the history and intellectual, social, cultural, artistic and military values of Japan. It explores the origins of Japanese culture, the adaptation of Chinese culture to Japanese needs, the warrior class, Shinto and Buddhist religions, literature and the visual arts, and Japan's place in the modern world.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$7.00

**HUM 151 American Civilization to 1877 (A, W, SP, SU, DL) 5 credits**

This course is a survey of American History from settlement through the Civil War and Reconstruction. HUM 151 places major emphasis on the relationship between historical events and the literature, art, music, major ideas, and popular culture which made up the American intellectual tradition. Students are exposed to the creative process by reading from primary works of literature and philosophy and critically reviewing works of art, music, theater and dance, both in and out of class.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$7.00

**HUM 152 American Civilization Since 1877 (A, W, SP, SU, DL) 5 credits**

HUM 152 is a survey of the development of the United States from a frontier society to an industrial world power in the 20th century. The course places major emphasis on the relationship between historical events and the literature, art, music, major ideas, and popular culture which have made up the American intellectual tradition. Students are exposed to the creative process by reading from primary works of literature and philosophy and critically reviewing works of art, music, theater and dance, both in and out of class.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$7.00

**HUM 181 World Civilization I: Non-Western, Non-American Civilization to 1500 (A, SP) 5 credits**

This course is a survey of non-Western, non-American civilization to 1500. It serves as an introduction to the study of history and to the intellectual, social, cultural and artistic values of the Far East, India, Middle East, Africa and South America.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$7.00

**HUM 182 World Civilization II: Non-Western, Non-American Civilization from 1500 (W, SU) 5 credits**

This course is a survey of non-Western, non-American civilization since 1500. It serves as an introduction to the study of history and to the intellectual, social, cultural and artistic values of the Far East, India, Middle East, Africa and South America.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$7.00

**HUM 222 Classical Mythology (A, W, SP, SU, DL) 5 credits**  
HUM 222 is an introduction to the world of mythology, the human and the supernatural, the real and the fantastic through a study of myths from Greece and Rome. The course explores some of the religious ideas, traditions and values that distinguish one civilization from another, while also indicating universally shared themes. Attention will be given to cultural expressions of mythical themes in literature and art.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**HUM 224 African-American History from Emancipation (On Demand) 5 credits**  
This course is a survey of African-American history from the Civil War to present. Emphasis will be placed on the struggle for political, social and economic freedom as well as the contributions of African-Americans to the music, art, and literature of the United States. HUM 224 meets Humanities requirement for A.A.S. students.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**HUM 245 Music and Art Since 1945 (On Demand) 5 credits**  
This course presents a survey of the styles and subject matter of important contemporary works of music and visual art. Students will examine the wide spectrum of aural and visual expression that has developed since the Second World War such as aleatoric music, electronic music, abstract expressionism, performance art, pop and op art, minimalism, etc. Students also will examine the major intellectual and social issues of the day and the relationship between these issues and the styles and expressive content of contemporary music and art.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**HUM 251 Latin American Civilization (On Demand) 5 credits**  
This course is a general introduction to the history and cultures of Latin America through the study of literature, film and primary historical texts. HUM 251 will employ an interdisciplinary approach to explore the relationship between culture and the major historical, political and socio-economic developments in Latin America from 1492 to the present.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**HUM 252 The Islamic World and the Middle East (On Demand) 5 credits**  
HUM 252 presents a survey of Islamic civilization from the birth of Muhammad to the destruction of the Ottoman Empire in the 20th century. Emphasis is placed on developing an understanding of the nature and diversity of the Islamic religion, an appreciation of the great cultural achievements of medieval Islam, and an awareness of the complexities of the problems of the contemporary Middle East. HUM 252 meets elective requirements in the Associate of Arts degree program and distributive transfer requirements in history, social sciences and non-Western studies.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**HUM 253 History of China and Japan (On Demand) 5 credits**  
This course is a survey of the economic, social, political and cultural development of China and Japan from earliest times to present. HUM 253 meets elective requirements in the Associate of Arts degree program and distributive transfer requirements in history, social sciences and non-Western studies.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$2.00

**HUM 254 Introduction to African Literature (On Demand) 5 credits**  
HUM 254 offers a general survey of sub-Saharan African literature including the oral traditions that formed its background. Students will examine traditional African artistic expressions such as dance, drama, poetry and short story as well as novels produced by European-educated

writers. Students will read literary texts originally written in English or in English translation.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**HUM 270 Comparative Religions (A, W, SP, SU, DL) 5 credits**  
This course introduces the study of religion through a historical overview and comparison of the major world religions of Judaism, Christianity, Islam, Buddhism and Hinduism through readings in their sacred texts in translation. Attention will be focused on the concepts, categories, theories and methods used by the various religious disciplines and how each of them addresses basic issues of the human condition. Also included will be an examination of Sectarianism and contemporary sects in America and the World. HUM 270 meets elective requirements in the Associate of Arts degree program and distributive transfer requirements in comparative studies, religion and philosophy.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**HUM 299 Special Topics in Humanities (On Demand) 1–5 credits**  
Students explore special topics in humanities designed to meet specific needs.  
Lecture: variable hours – Lab: 0 hours Lab fee: \$2.00

## Interactive Media (IMMT)

**IMMT 100 Digital Literacy (A, W, SP, SU, DL) 2 credits**  
Several noted experts and organizations throughout the world have examined what it means to be ‘Digitally Literate’ in today’s society. Many have come to the same conclusion that we have in this course. Today, to be ‘Digitally Literate’ is to know how to use a computer for a few basic application skills such as word processing, presentations and spreadsheet operations as well as know how to safely use the Internet with its various parts and pieces. To that end, we have tailored our IMMT 100 Digital Literacy course after the well-known and accepted IC<sup>3</sup> (Internet and Computing Core Certification) curriculum. Although this course does not automatically lead to certification, successful students who complete this course should be able to participate in one or all three certification test areas offered by IC<sup>3</sup>.  
Lecture: 1 hour – Lab: 3 hours  
Prerequisites: None Lab Fee: \$20.00

**IMMT 101 Principles of Interactive Media (A, W, SP, SU, DL) 3 credits**  
This is the first of the two course series introducing students to the products, tools, and environment of the interactive multimedia profession. This first course covers elements of communication, marketing, the Internet, Web development, digital media and graphic design. This course relies on industry Web sites to bring state-of-the-art information directly to the student in a timely manner.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: None Lab fee: \$20

**IMMT 102 Fundamentals of Video and Sound 2 credits**  
This course is designed to introduce students about how to use the power of audio and video to communicate. Instruction is delivered using a standard Macintosh computer and powerful Web 2.0 creation programs. Topics covered include media creation using sound, photo production, simple web page design, slide shows and basic video editing. This course is not intended for Interactive Media majors  
Lecture: 1 hours – Lab: 2 hours  
Prerequisite: none Lab fee: \$20

**IMMT 111 Foundations of Digital Media (A, W, SP, SU) 3 credits**

The second of a two-course series that expands on the required disciplines needed to function in the interactive multimedia industry. The primary focus in this course centers on designing, choosing software and scripting the interactive media project. This course details how these disciplines are related to professional job responsibilities and the other team members.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: IMMT 101 Lab fee: \$10

**IMMT 112 Fundamentals of Interactive Design 3 credits**

This course deals with the basics of interactive media software including Fireworks, Dreamweaver and Flash. In Fireworks, students learn how to use the tools of Fireworks to create and edit web graphics, both vector and bitmap, work with layers, interactive buttons, components, symbols, optimization and web page layout. In Dreamweaver, students will learn how to use tables, basic CSS, layout and design for web. In Flash, students will learn to develop a working knowledge of various tools plus critical interface elements such as layers, scenes, nested symbols, and movie clips.

Lecture: 2 hours – Labs: 2 hours

Prerequisite: None Lab Fee: \$29.00

**IMMT 115 Survey of the Digital Gaming Industry (A, SP) 3 credits**

This course is a comprehensive examination of the digital games industry. Topics include: history, economics and structure of the industry, roles and skill sets of practitioners, creative processes and business practices, testing, publishing and marketing.

Lecture: 3 hours

Prerequisite: None Lab Fee: \$5.00

**IMMT 116 Storytelling for Games (W, SP) 3 credits**

This course deals with common writing principles and theories used in the video gaming industry. In addition to basic writing principles students will learn the history of the story, game storytelling devices, character types, and verbal character development. Students will develop an appropriate story line for a game and a three act structured game story with appropriate cut-scenes and dialogue.

Lecture: 3 hours Lab Fee: \$5.00

**IMMT 122 Digital Media Preparation (W, DL) 3 credits**

This is the second of the two-course series on the required disciplines needed to function in the interactive multimedia profession. Primary focus in this course centers on planning, design and the software required in the completion of a multimedia project. This course is not intended for Interactive Media majors.

Lecture: 3 hour – Lab: 0 hours Lab Fee: \$33.00

**IMMT 123 Video Basics (A, W, SU) 2 credits**

This course deals with basic digital editing. Students are introduced to the concepts of digitizing and editing video as well as output and distribution of edited media. This course will also examine basic audio and video editing techniques. Students will learn to successfully edit and distribute simple videos. Components include digital media file types, digitizing, basic editing techniques, compression standards and output options. IMMT 123 is for non-IMMT majors only.

Lecture: 2 hours- Labs: 0 hours Lab Fee: \$20.00

**IMMT 150 Videography and Editing (A, SP) 4 credits**

This course deals with the use of audio and video production techniques to prepare output for various multimedia formats (e.g. DVDs, PDAs, interactive CDs, etc.) so as to achieve integrated marketing communications goals. Students are introduced to basic theories and practices of audio and video production. The audio component includes the use of microphones, mini disc recorders, mixing consoles, and digital audio workstations for a variety of sound collection and processing applications. The video component introduces basic concepts and skills in digital video productions and nonlinear video editing. Students will learn the theory and practice of digital nonlinear editing, including edit list management, off-line and

online editing techniques.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: IMMT 101 Lab Fee: \$36.00

**IMMT 151 Audio Editing and Voice Over (W) 4 credits**

This course is designed to develop an understanding of the relationship of audio production to various related media including multimedia and broadcast. Sound design and the creation and recording of audio assets are stressed. The course is structured around editing in a nonlinear environment and the associated standard digital editing practices. Students will learn how to utilize a digital audio workstation in a typical production environment.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: IMMT 150 Lab Fee: \$36.00

**IMMT 152 Narrative Storytelling and Production (W) 4 credits**

This course provides students with an overview of genre storytelling. Students will analyze specific genres, write an appropriate script for the genre, storyboard, and produce a genre-focused video. In addition to genre storytelling, students will learn the proper video and audio aesthetics for telling a specific story (dialogue framing, planning action scenes, using boom mics, scoring a video). Image capture/digitizing and editing at a digital workstation will be highlighted.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: IMMT 150, IMMT 153 Lab Fee: \$36.00

**IMMT 153 Screenwriting for Digital Video and Sound (A, SP) 3 credits**

This course deals with writing principles and theories used in the digital audio and video fields. In addition to basic writing principles, students will learn to develop a treatment, plan characters, write effective scenes, and a screenplay for use in both audio and video.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: IMMT 101 Lab Fee: \$22.00

**IMMT 155 Foley Art and Sound Design (SP) 4 credits**

This course will cover both the production and post-production techniques associated with the creation of audio assets for use in digital media. Students will be required to plan and produce multimedia programs with audio assets that the individual student creates. The course provides an advanced understanding of audio equipment for digital production in the field and in the recording studio. The use of ProTools technology is emphasized.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: IMMT 151 Lab Fee: \$20.00

**IMMT 157 Sports Broadcasting (A) 4 credits**

This course provides students with an overview of sports broadcasting. Students will analyze sporting events, write an appropriate treatment for the video, create an appropriate blocking plan, and produce videos of Columbus State Sporting events that are broadcast ready. In addition to sport storytelling, students will learn the proper video and audio aesthetics for creating videos of sporting events (action shots, finding drama in the event, shooting live footage, adding proper announcing tracks). Image capture/digitizing, editing at a digital work station, and broadcast video will be highlighted.

Lecture: 4 hours - Lab: 0 hours

Prerequisite: IMMT 150 Lab Fee: \$36.00

**IMMT 158 Motion Graphics (After Effects) (SP) 3 credits**

In this course students will learn fundamentals of how to use After Effects to create motion graphics by integrating interactive media, sound, and video into interesting compositions. Students will learn how to set keyframes on a timeline and work with transform properties, motion paths, masks, and effects.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: IMMT 150, 240 Lab Fee: \$20.00



**IMMT 159 Music Video Production (SP) 4 credits**  
This course provides students with an overview of music video production. Students will analyze music genre specific videos, write an appropriate treatment for the video, storyboard, and produce two music videos (one for a local musician/group). In addition to music video storytelling, students will learn the proper video and audio aesthetics for creating a music video (group shoots, directing the band, shooting live footage, adding proper audio tracks). Image capture/digitizing, editing at a digital work station, and web conversion will be highlighted.  
Lecture: 4 hours - Lab: 0 hours  
Prerequisite: IMMT 150 Lab Fee: \$36.00

**IMMT 188 Introduction to 3D Game Production (W, SU) 4 credits**  
This course is a nondigital introduction to the concepts of game design. Topic covered include what makes a good game, brainstorming game concepts, setting game parameters, allocating point systems and game-play mechanics. Through a variety of individual and group-oriented design challenges, students will develop a better understanding of game theory.  
Lecture: 3 hours – Lab: 2 hours  
Prerequisites: IMMT 115 and IMMT 116 Lab Fee: \$15.00

**IMMT 213 Designing an e-Commerce Website (A, SP) 3 credits**  
(See Computer Information Technology CIT 213.)

**IMMT 214 Web Database Development (W) 3 credits**  
(See Computer Information Technology CIT 214.)

**IMMT 215 Introduction to Video Game Development (W) 4 credits**  
Students will be introduced to the open architecture of a working 3D game engine through lessons in programming, as it applies to the implementation of 3D art and animation. The course will also introduce students to the production pipeline for video game projects. Creating basic levels of design and interactivity in 2D and 3D will also be covered.  
Lecture: 3 hours – Lab: 2 hours  
Prerequisites: IMMT 188 Lab Fee: \$15.00

**IMMT 216 Media Graphics and Optimization (A, W, SP, SU) 4 credits**  
Image input, storage and retrieval using the industry standard Adobe Photoshop/Fireworks are the focus of this course. Each electronic photograph must be handled from digitization, through augmentation and final storage or utilization phases. Files will be transported over the Internet utilizing industry-standard file compression and transmission technologies.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisites: IMMT 111 or GRPH 251 Lab fee: \$30.00

**IMMT 217 Video Editing (W, SU) 3 credits**  
The basic principles of digital video are presented. Course covers the standards and methods for recording/editing and the interconnection of digital video. Concepts of digital conversation, video coding and processing, and digital audio with video are presented.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: IMMT 111 Lab fee: \$33.00

**IMMT 233 3D Environment Design and Development (SP) 4 credits**  
This course covers the process through which video game environments are designed and executed for use in a suitable game engine - from the 2-dimensional concept phase to 3-dimensional modeling, surfacing, creating triggerable events and lighting.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: IMMT 242 & GRPH 116 Lab fee: \$30.00

**IMMT 236 3D Modeling (W, SP) 4 credits**  
This course provides students with an overview of how to model, render, light, and animate in 3D environments using industry standard software. Topics covered include environment navigation, primitive geometry con-

struction, basic lofting, modifier based editing, parametric editing, texture creation, basic texture mapping, basic lighting, particle systems, and basic keyframe animation, Web design and 2D editing tools are also integrated in the course material. Maya software is used in this class.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisites: IMMT 101, IMMT 111 Lab fee: \$36.00

**IMMT 237 Beginning Flash [Design] (A, SP) 4 credits**  
This course provides the students with an overview of how to begin, storyboard, create and design a fully functional Flash Web site. This course surveys the major sources of businesses that use Flash. Topics covered include becoming familiar with the palettes and tool box, new design, and drawing techniques, using Flash as an authoring tool, and understanding and applying Flash's expanded actions and scripting capabilities.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisites: IMMT 216 or GRPH 243 Lab fee: \$33.00

**IMMT 238 Intermediate Flash [User Interaction with ActionScript] (W) 4 credits**  
Scripting is an accessible and powerful form of computer programming that designers and multimedia developers can use to increase the level of interactivity, optimize, and enhance their multimedia web projects. The purpose of the course is to teach the core concepts of scripting as they apply to multimedia and Web development.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: IMMT 237

**IMMT 239 Advanced Flash [Interactive Development-Gaming] (A) 4 credits**  
Building on the previous two courses (IMMT 237, 238), students learn deeper interactive scripting capabilities of Flash. This course briefly details the science of game development using the Flash software, including design, story character development, the physics and motion of a game, and audio issues. Many of the latest features of Flash CS3 are covered, including the new sound channels, bitmap caching, texture pages, and more. Some other important issues will be discussed including, how to add effects to games, including motion blur and depth blur, flow effects, drop shadow, bevel with highlights, and video with alpha. Through this course, a variety of games are created using the power of Flash and the most recent advancements in ActionScript 3.0. With a basic knowledge of Flash and the techniques provided here, developers will be able to enhance their productivity and produce high quality games that make a real impact.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: IMMT 238 Lab fee: \$33.00

**IMMT 240 Documentary Storytelling and Production (SP) 4 credits**  
This course provides students with an overview of documentary storytelling. Students will analyze documentaries, write appropriate scripts for the documentary, storyboard, and produce a documentary video that has relevance to the local area. Students will also learn the proper video and audio aesthetics for telling the documentary (interviewing, developing a narrative from footage, framing shots, documentary assets, etc.). Image capture/digitizing and editing at a digital workstation will be highlighted.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: IMMT 150, IMMT 153 Lab Fee: \$36.00

**IMMT 241 Cascading Style Sheets (On Demand) 4 credits**  
This course deals with basic and intermediate understanding of developing sites using Cascading Style Sheets. Components include CSS essentials, learning to build effective navigation and page layouts, working with typography, colors, backgrounds, and white space. The basics of HTML should be understood before entering this class.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: IMMT 111 Lab Fee: \$15.00

**IMMT 242 Advanced 3D Computer Modeling–MAYA II (A, SP) 4 credits**

This course extends beyond both the 3D computer modeling and animation courses to introduce students to advanced methods and features within the Maya 3D software. Upon completion of this course, students will understand more complex modeling, texturing, lighting, animation, and rendering principles found within this program. Techniques taught within this class will offer more skills to provide them with an understanding what is to be expected within the game development industry and how they operate. Finally, a movie short will be produced through rendering a camera fly-thru within Maya and compiling the rendered frames in a non-linear editing program.

Lecture: 3 hours - Lab: 2 hours

Prerequisite: IMMT 236 Lab Fee: \$15.00

**IMMT 243 3D Character Design and Development (SP) 4 credits**

This course focuses on the production process of character creation for video games – from concept and 3D modeling to surfacing, normal mapping, rigging and animating. Finally, students will explore the use of a scripting language as it applies to character setup and animation. A complete character will be developed for the final project.

Lecture: 3 hours - Lab: 2 hours

Prerequisites: IMMT 245 and GRPH 216 Lab Fee: \$15.00

**IMMT 245 3D Animation (AU, SP) 4 credits**

This course extends beyond the 3D computer-modeling course and introduces students to an overview of animation and rendering through using Maya. Upon completion of this course, students will understand basic animation principles, how to apply technical animation techniques to 3D objects, and create a sense of life within the 3D environment. Finally, a movie short will be produced through rendering their characters within Maya and compiling them in a non-linear editing program.

Lecture: 2 hours - Lab: 4 hours

Prerequisites: IMMT 236 and GRPH 116 Lab Fee: \$30.00

**IMMT 248 Programming for Video Games (A) 4 credits**

This course introduces students to the basics of 2D game programming using the JAVA language. It starts out by explaining the basics of writing a simple 2D vector-based game (i.e., using lines and filled polygons) that evolves into a fully featured sprite-based game by the end of the course. Students will learn about Java's graphics classes, and how to get input from the user and how to play sound effects and music – all within the context of an online game. Previous knowledge of Java is recommended, but not required; students who have never used Java before should be able to keep up if they keep a Java primer or reference book handy.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: IMMT 215 and IMMT 239 Lab Fee: \$15.00

**IMMT 249 Corporate and Instructional Video Production (SU) 4 credits**

This course is designed to expand student understanding of video production in a corporate environment. Students will learn how to tell appropriate corporate and instructional stories. Techniques and aesthetics for corporate videos will be a main focus (framing, steadicam movement, costumes, casting, etc.). Advanced skills in image capture/digitizing, titles, and editing at a digital workstation will be developed through the creation of comprehensive video projects for internal and nonprofit organizations.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: IMMT 150. IMMT 153 and IMMT 152 Lab Fee: \$36.00

**IMMT 250 Document Transfer Using Acrobat (A, SP, DL) 3 credits**

Adobe Acrobat facilitates the creation of PDF documents, the industry-standard format for cross platform document delivery. This course will present an overview of Adobe Acrobat, its use and application in production, with emphasis on generating Acrobat PDF files for integration and delivery in a pre-press environment and on the Web. Students must have access to Adobe Acrobat 6.0 software (not just the reader).

Lecture: 3 hours – Lab: 0 hours Lab Fee: \$22.00

**IMMT 251 Multimedia Practicum (A, W, SP, SU, DL) 4 credits**

This practicum offers supervised, on-the-job application of knowledge and skills acquired in the classroom. Internship applications must be filed with the department at least 2 months prior to internship start date.

Lecture: 0 hours – Lab: 28 hours

Prerequisites: IMMT 101, IMMT 111, IMMT 216, and permission of instructor; contact the Interactive Media Dept. for details

Corequisite: IMMT 252 Lab fee: \$3.00

**IMMT 252 Multimedia Seminar (A, W, SP, SU, DL) 1 credit**

IMMT 252 explores the application of business knowledge to specific areas of on-the-job practicum experience. Internship applications must be filed with the department at least 2 months prior to internship start date.

Seminar: 1 hour

Prerequisites: IMMT 101, IMMT 111, IMMT 216 and permission of instructor; contact the Interactive Media Dept. for details.

Corequisite: IMMT 251 Lab fee: \$3.00

**IMMT 260 DVD Development (SU) 4 credits**

Students will develop a DVD demo reel with the use of Avid software. Topics will include DVD workflow, preparing video assets, compressing video for DVD, DVD menus, and promotion using DVD covers. At the end of the course, students will be able to develop their own DVD demo reel for external use in locating a professional position.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: IMMT 151, IMMT 155, IMMT 249 Lab Fee: \$36.00

**IMMT 262 Web Publishing Site Design (W, SP, SU) 4 credits**

This course provides the student with an overview of how to begin, storyboard, create and design a fully functional Web site. The software Dreamweaver is a professional authoring tool for creating and managing Web pages. Topics covered include becoming familiar with the palettes and tool box, design techniques, using Dreamweaver as an authoring tool, understanding and applying Dreamweaver's expanded scripting capabilities.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: IMMT 101, IMMT 111 Lab fee: \$30.00

**IMMT 263 Video Game Development I (W) 3 credits**

Using the technical skills introduced in IMMT 215, the students in this capstone course will experience a real-world environment of team-based production. Students will practice their communication and collaboration skills in designing and executing a basic game concept.

Lecture: 1 hour - Lab: 4 hours

Prerequisites: IMMT 215 Lab Fee: \$15.00

**IMMT 264 Video Game Development II (SP) 3 credits**

The second capstone course is the continuation of IMMT 263. Team-based projects will continue development and features will be added. Emphasis will be placed on evaluation of code, as well as refinement of placeholder art and animation.

Lecture: 1 hour – Lab: 4 hours

Prerequisites: IMMT 263 Lab Fee: \$15.00

**IMMT 271 Interactive Portfolio Development (A, SP) 4 credits**

Thirty weeks of Flash design and development will assist students in building confidence and focus when marketing themselves. Students will take that knowledge and author their own interactive CD resume for external use in locating a professional job.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: IMMT 239 Lab fee: \$33.00

**IMMT 280 Rich Media Communications (Adobe Flash) (On Demand) 4 credits**

Adobe Flash is one of, if not the leading, Internet technology tool for creating 'Rich Media' Web pages. Statistics show that over 95% of Internet users have Flash-capable Web browsers and designers take advantage of that ubiquity. This course follows the guidance of the **Adobe Certified Associate** program objectives for their 'Rich Media Communications'

certificate. Upon successful conclusion of this course, students will participate in a certification test from Adobe. The fee for this test is included in the lab fee. Successful test takers receive a certificate of accomplishment directly from Adobe in their Adobe Certified Associate program for Rich Media Communications. The course does not guarantee success for students taking the certification test, but is a useful and targeted preparatory tool for them prior to taking that certification test. Students taking this course should have FAMILIARITY WITH COMPUTERS, INTERNET, EMAIL, AND BLACKBOARD and receive permission of instructor (call IMT Department [614] 287-5010).

Lecture: 2 hours – Lab: 4 hours Lab fee: \$52.00

#### **IMMT 283 Web Communications (Adobe Dreamweaver) 4 credits**

Adobe Dreamweaver is one of the leading Web page/site software tools used in the industry today. This course follows a curriculum directed by Adobe, which centers on the Adobe Dreamweaver software application. This course prepares students for testing in the **Adobe Certified Associate ‘Web Communications’** program. Upon successful conclusion of this course material, students will participate in a certification test from Adobe. The fee for this test is included in the lab fee. Successful test takers receive a certificate of accomplishment directly from Adobe in their Adobe Certified Associate program for Web Communications. The course does not guarantee success for students taking the certification test, but is a useful and targeted preparatory tool for them prior to taking that certification test. Students taking this course should have FAMILIARITY WITH COMPUTERS, INTERNET, EMAIL, AND BLACKBOARD and receive permission of instructor (call IMT Department [614] 287-5010).

Lecture: 2 hours – Lab: 4 hours Lab fee: \$52.00

#### **IMMT 288 Post Production (A) 4 credits**

This course teaches the fundamental skills used in post-production. Post production is the term for the final stage in game development in which the raw material (graphics and characters by the design crew and recorded by the production sound crew) is edited together to form the completed game. Post production elements range from quality assurance (QA testing), final packaging and manual, sales presentation, “beta green light”, the release, manufacture and shipping.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: IMMT 241, IMMT 263 and GRPH 265 Lab Fee: \$ 15.00

#### **IMMT 290 Visual Communications (Adobe Photoshop) 4 credits**

Adobe Photoshop is one of the leading Web page/site software tools used in the industry today. This course follows a curriculum directed by Adobe, which centers on the Adobe Photoshop software application. This course prepares students for testing in the **Adobe Certified Associate ‘Visual Communications’** program. Upon successful conclusion of this course material, students will participate in a certification test from Adobe. The fee for this test is included in the lab fee. Successful test takers receive a certificate of accomplishment directly from Adobe in their Adobe Certified Associate program for Visual Communications. The course does not guarantee success for students taking the certification test, but is a useful and targeted preparatory tool for them prior to taking that certification test. Students taking this course should have FAMILIARITY WITH COMPUTERS, INTERNET, EMAIL, AND BLACKBOARD and receive permission of instructor (call IMT Department, [614] 287-5010).

Lecture: 2 hour – Lab: 4 hours Lab fee: \$52.00

#### **IMMT 295 Portfolio Development (SP) 4 credits**

Students will use this course to compile the elements of their professional portfolio. The course also covers related information regarding job interviews, trade shows, professional standards, and contract negotiation.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: IMMT 241 Lab Fee: \$15.00

#### **IMMT 297 Special Topics in Interactive Media (On Demand)**

1–6 credits

This course offers a detailed examination of selected topics in Interactive

Media. Lab fee: \$3.00

#### **IMMT 299 IMMT Internship (A, W, SP, SU, DL) 4 credits**

IMMT 299 is an opportunity for supervised on-the-job application of knowledge and skills acquired in the classroom. Students also report through journal entries and presentations about the practicum experience. Internship applications must be filed with the Department at least two months prior to internship start date.

Lecture: 0 hours – Lab: 4 hours

Prerequisite: IMMT 150, IMMT 216, permission of the instructor; contact the Interactive Media area for details.

Lab fee: \$3.00

## **Interpreting /ASL Education (ITT)**

#### **ITT 110 Introduction to Interpreting (A) 5 credits**

This course is designed to provide students with an overview of the field of interpreting. Topics of study include a historical overview, culture and communication, terminology, interpreter’s role, ethics and decision-making, and career options.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Acceptance into the ITT program after attending one Mandatory Information Session with the program coordinator and completing application

Corequisite: ITT 143 Lab fee: \$15.00

#### **ITT 111 Introduction to the Deaf Community (A, SP) 5 credits**

This course is designed to provide students with an overview of the deaf community, focusing on social, cultural and education experiences. This course also examines employment, local services available to the deaf community, and majority culture’s myths and misconceptions of the deaf community. This class is an Entrance Requirement for admission into the Interpreting Associate Degree program.

Lecture: 5 hours – Lab: 0 hours Lab fee: \$15.00

#### **ITT 123 Specialized Interpreting/Transliterating (SP) 3 credits**

This course introduces the student to special vocabulary, skills, and knowledge needed to interpret in special situations. It looks at the ethical considerations of these settings as well. These situations include artistic interpreting, interpreting for deaf/blind persons, and video relay interpreting.

Lecture: 2 hours – Lab: 2 hours

Prerequisites: ITT 217 Lab fee: \$15.00

#### **ITT 125 Ethics and Decision Making for Interpreters (W) 2 credits**

This course is a continuation of the ethics and decision-making topic introduced in ITT 110. Students will continue to explore the role that ethical decision-making has on them as they enter the interpreting profession. Students will focus on how the RID Code of Professional Conduct and interpreting theories will impact their decision-making.

Lecture: 1 hour – Lab: 2 hours

Prerequisites: ITT 110, 143, 150

Corequisites: ITT 144, 129, 205 Lab fee: \$5.00

#### **ITT 129 Current Research and Theory of Interpreting (W)**

3 credits

As interpreting students begin to learn the skill of interpreting, their knowledge of current interpreting theory is critical. The most relevant and up-to-date research will be examined and discussed as it applies to the profession. Topics will include models of interpreting, processing, prosody, and discourse analysis.

Prerequisites: ITT 110 (grade of “C” or better)

Corequisites: ITT 125, 205, and 144 Lab fee: \$15

101 Lab fee: \$15.00

### **ITT 130 Fingerspelling (W, SU)**

**2 credits**

This course offers students the opportunity to work on expressive and receptive fingerspelling. The emphasis of this course is on using fingerspelling in context. Opportunities are provided for the students to work with videotaped materials as well as live models.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: ITT 141

Corequisite: ITT 142 Lab fee: \$15.00

### **ITT 141 Beginning American Sign Language I (A, SP) 5 credits**

This course begins with a series of visual readiness activities as a way of introducing the students to, and preparing them for, a language in a visual modality. The course utilizes a practical approach to teaching vocabulary, grammar, and the cultural aspects through “real life” conversational experiences. The student is further acclimated to the new modality of this language via classroom experiences conducted without voice. Additional information about the deaf community is introduced via outside readings, class discussion and required cultural experiences outside of class time. This class is an Entrance Requirement for admission into the Interpreting Associate Degree program.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$15.00

### **ITT 142 Beginning American Sign Language II (W, SU) 5 credits**

Beginning ASL II, as a continuation of ITT 141, further acclimates the students to the visual/gestural modality of this language. The course utilizes a practical approach to teaching vocabulary, grammar, and cultural aspects through “real life” conversational experiences. More attention is given to the student’s production of the language than in ITT 141, while receptive/comprehension skills continue to be emphasized. Additional information about the deaf community is introduced via outside readings, class discussions and participation in cultural experiences. This class is an Entrance Requirement for admission into the Interpreting Associate Degree program.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: ITT 141 (grade of “C” or better) and placement into ENGL 101 Lab fee: \$15.00

### **ITT 143 Intermediate American Sign Language I (A, SP) 5 credits**

Intermediate ASL II provides students with additional opportunities to expand their ability to produce and comprehend the language as used in everyday conversational settings. Students continue to recognize the fact that communication is governed by culturally bound rules as they continue to study the culture of the deaf community.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: ITT 142 (grade of “C” or better) and placement into ENGL 101 Lab fee: \$15.00

### **ITT 144 Intermediate American Sign Language II (W, SU)**

**5 credits**

In Intermediate ASL II, students’ production and comprehension skills continue to develop qualitatively and quantitatively as they are exposed to a greater variety of interaction activities. Whereas these activities are based on cultural values of the deaf community, the students’ knowledge of this unique community is expanded.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: ITT 143 (grade of “C” or better) and placement into ENGL 101 Lab fee: \$15.00

### **ITT 145 Advanced American Sign Language I (A, SP) 5 credits**

As the final course in this five-course series, ITT 145 provides students with opportunities to expand their production and comprehension skills with American Sign Language. Communication activities focus on advanced functions of language usage. Study of the cultural aspects of the deaf community is continued.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: ITT 144 (grade of “C” or better) and placement into ENGL

### **ITT 150 Linguistics of ASL and English (A, SP) 3 credits**

This course offers an introduction to general linguistics, and provides an in-depth analysis of the major grammatical features of American Sign Language. Comparisons are made between English and American Sign Language, noting how grammatical functions are performed differently in the two languages.

Lecture: 2 hours – Lab: 2 hours

Corequisite: ITT 143 Lab fee: \$5.00

### **ITT 170 Conversational ASL (On Demand) 2 credits**

This course continues to expand the ASL skills of students beyond ASL V. Students will focus on topics such as narratives, turn-taking, classifiers, and use of space as they apply to ASL conversations.

Lecture: 2 hours – Lab 0 hours

Prerequisite: ITT 145 or permission of instructor Lab fee: \$5.00

### **ITT 171 Gesturing and Visual Readiness (On Demand) 1 credit**

This course examines the role that gesturing plays in ASL. Students will develop their visual readiness and ability to think in pictures, instead of words. The focus is on using the body and face to give meaning.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$5.00

### **ITT 172 History of the Deaf Community (On Demand) 2 credits**

This course provides an in-depth look at the history of the deaf community and how it has impacted the linguistic and cultural development of that community. Students will see how deaf history around the world influences ASL, literature, and education of the deaf.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: ITT 143 or permission of instructor Lab fee: \$5.00

### **ITT 173 Script Analysis and Translation (On Demand) 2 credits**

Using a play script, students will learn the process required to translate the script from written English to signed ASL. Analyzing the script for meaning, examining sign choices, considering character development, and incorporating artistic presence will be developed. For the final project, students perform the translation that they have completed.

Lecture: 1 hour – Lab: 1 hour

Prerequisite: ITT 143 or permission of instructor Lab fee: \$10.00

### **ITT 174 Religious Interpreting (On Demand) 3 credits**

This course examines the challenges that are unique to religious interpreting settings. Students will learn about the basic beliefs, terminology, sacred texts, and worship behaviors of a variety of denominations. Specialized vocabulary for these denominations is emphasized.

Lecture: 2 hours – Lab: 1 hour

Prerequisite: ITT 144 or permission of instructor Lab fee: \$10.00

### **ITT 175 Text Preparation and Analysis (On Demand) 3 credits**

This course gives interpreting majors the opportunity to further develop their ability to prepare and analyze text for interpreting. Topics include comprehension of the source material, multiple meaning, discrimination, and inference as they pertain to determining appropriate message transfer.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ITT 202 or permission of instructor Lab fee: \$10.00

### **ITT 205 Consecutive Interpreting I (W) 4 credits**

This course is a theoretical and practical “hands-on” approach to the process of consecutive sign language interpreting. The student will be actively learning how to identify the message in the source language and convey it accurately into the target language.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: ITT 110, 150, 143 (grades of “C” or better)

Corequisites: ITT 125, 129, 144 Lab fee: \$15.00

**ITT 206 Consecutive Interpreting II (SP) 4 credits**  
This course is a continuation of ITT 205. As such, the students continue the process of actively learning how to identify the meaning of the source message and convey it accurately into the target language. This course places more emphasis on the practical “hands-on” dialogue setting and increasing the accuracy and complexity of the interpreting process.  
Lecture: 3 hour – Lab: 2 hours  
Prerequisites: ITT 205, 125 129, 144 (grades of “C” or better)  
Corequisites: ITT 234 and ITT 145 Lab fee: \$15.00

**ITT 207 Consecutive Interpreting III (SU) 2 credits**  
This course continues to increase students’ knowledge and skills of consecutive interpreting. An increased focus is placed on “real life” situational experiences involving more complex interpreting settings.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisites: ITT 206, 145 and 234 (grades of “C” or better)  
Corequisite: ITT 215, 221 Lab fee: \$15.00

**ITT 215 Simultaneous Interpreting I (SU) 2 credits**  
This course is a theoretical and practical hands-on approach to the process of simultaneous interpreting. The student will actively learn how to identify the meaning of the source language message and render that meaning appropriately into the target language. An emphasis on “real life” situational experiences is used.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisites: ITT 234, 145, 206 (grades of “C” or better)  
Corequisite: ITT 207, 221 Lab fee: \$15.00

**ITT 216 Simultaneous Interpreting II (AU) 3 credits**  
This course is a continuation of ITT 215. Students continue to improve their simultaneous interpreting skills in a variety of “real life” situational experiences  
Lecture: 2 hours – Lab: 2 hours  
Prerequisite: ITT 207, 215, 221 with grades of “C” or better  
Corequisites: ITT 222, 235 Lab fee: \$15.00

**ITT 217 Simultaneous Interpreting III (W) 3 credits**  
This course is a continuation of ITT 216. Students will continue to apply their simultaneous interpreting skills to more complex and demanding interpreting situations.  
Lecture: 2 hour – Lab: 2 hours  
Prerequisites: ITT 216, 222, 235 (grades of “C” or better) Lab fee: \$15.00

**ITT 221 Sign to Voice Interpreting/Transliterating I (SU) 3 credits**  
This course provides students with additional experience with the process of sign to voice interpreting. Students will practice with a variety of deaf and hard of hearing individuals to enhance team and solo voicing skills.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisites: ITT 234, 145, 206, (grades of “C” or better)  
Corequisite: ITT 207, 215 Lab fee: \$15.00

**ITT 222 Sign to Voice Interpreting/Transliterating II (AU) 3 credits**  
As a continuation of ITT 221, students continue to improve their Sign to Voice skills as they experience more complex and demanding settings with a variety of deaf and hard of hearing individuals.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisites: ITT 207, 215, 221 (grades of “C” or better)  
Corequisite: ITT 216, 235 Lab fee: \$15.00

**ITT 234 Health Care Interpreting (SU) 2 credits**  
This course introduces the student to special vocabulary, skills, and knowledge needed to interpret in various health care settings, including medical interpreting, AA, and mental health settings. Ethical considerations of these settings will also be explored.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisites: ITT 125, 129, 144, 205 (grades of “C” or better)

Corequisites: ITT 145, 206 Lab fee: \$15.00

**ITT 235 Educational Interpreting (AU) 3 credits**  
This course provides in-depth information on interpreting in K-12 educational settings. Students will focus on best practices associated with ethics, roles, and responsibilities of interpreting as a team member in the school environment. They will also examine school organization, laws, certification, and other issues that will impact their success as an educational interpreter.  
Lecture: 3 hours  
Prerequisites: ITT 207, 215, 221  
Corequisites: ITT 216, 222 Lab fee: \$15.00

**ITT 265 Special Topics in Interpreting, ASL, Deaf Studies (On Demand) 1–5 credits**  
This course is offered for interpreters who are employed, or are pre-practice interpreters, who have an issue or skill they would like to explore or develop further. Topics may include any issue or skill that is germane to the field of interpreting, ASL, and/or deaf studies, and appropriate for a diverse student population. This course is repeatable up to 10 hours of credit.

**ITT 292 Interpreting/Transliterating Practicum I(A, W, SP, SU) 2 credits**  
Students are provided opportunities to observe interpreting situations. These observations are then discussed and applied to the concepts learned in the classroom and applied to the actual setting. Students are required to observe interpreters in a variety of settings, including individual observations at a practicum placement site, observations of classroom instructor, and/or guest interpreter, and individual guided lab work. A video portfolio and resume will be completed as preparation for Practicum II.  
Lecture: 1 hour – Practicum: 10 hours  
Prerequisites: Completion of all 1<sup>st</sup> through 4<sup>th</sup> quarter courses per the full time Plan of Study, 2.0 GPA technical average and permission of instructor.  
Corequisites: ITT 216, ITT 222, ITT 235 Lab fee: \$30.00

**ITT 293 Interpreting/Transliterating Practicum II(A, W, SP, SU) 4 credits**  
Students are provided opportunities to work in various interpreting situations and to apply the concepts learned in the classroom to the actual setting. Students are supervised by staff interpreters as they assume the role of interpreter, demonstrating professional conduct and appropriate skills. The student processes practicum experience in a weekly seminar.  
Lecture: 1 hour – Practicum: 15 hours  
Prerequisites: Completion of all 1<sup>st</sup> through 5<sup>th</sup> quarter courses per the full time Plan of Study, 2.0 GPA technical average and permission of instructor.  
Corequisite: ITT 217 Lab fee: \$30.00

**ITT 294 Interpreting/Transliterating Practicum III (A, W, SP, SU) 4 credits**  
Students are provided opportunities to work in various interpreting situations and to apply the concepts learned in the classroom to the actual setting. Students are supervised by staff interpreters as they assume the role of interpreter, demonstrating professional conduct and appropriate skills. The student processes practicum experience in a weekly seminar.  
Lecture: 1 hour – Practicum: 15 hours  
Prerequisites: Completion of all 1<sup>st</sup> through 6<sup>th</sup> quarters per the full time Plan of Study, 2.0 GPA technical average and permission of instructor.  
Corequisites: ITT 123 Lab fee: \$30.00

## Italian (ITAL)

### **ITAL 101 Elementary Italian I (A, W, SP) 5 credits**

ITAL 101 presents language instruction through the use of texts, audio/visual, and other selected materials to actively and proficiently communicate in the targeted language. This course also operates on developing student's historical, and cultural consciousness through the use of film, art, music and a wide range of cultural activities particular to the Italian culture. Encourages analytical thinking, individual and group participation and strengthens writing, reading and comprehension skills.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$6.00

### **ITAL 102 Elementary Italian II (W, SP, SU) 5 credits**

This course is a continuation of ITAL 101, with further development of listening, reading, speaking, and writing skills and further study of Italian culture. It meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ITAL 101 with a grade of "C" or better Lab fee: \$6.00

### **ITAL 103 Intermediate Italian I (SP) 5 credits**

ITAL 103 offers continued study of the Italian language and development of listening, reading, speaking and writing skills. Readings from contemporary Italian culture and literature are employed. ITAL 103 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ITAL 102 with a grade of "C" or better Lab fee: \$6.00

### **ITAL 104 Intermediate Italian II (SU) 5 credits**

ITAL 104 focuses on the reading and discussion of Italian short stories, novels, plays, newspapers, and magazines, emphasizing literary appreciation and the development of Italian culture. Course meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature programs.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ITAL 103 with a grade of "C" or better Lab fee: \$6.00

### **ITAL 299 Special Topics in Italian (On Demand) 1–5 credits**

ITAL 299 offers students an opportunity to examine selected topics in Italian in detail.

Prerequisite: Varies Lab fee: \$2.00

## Japanese (JAPN)

### **JAPN 101 Elementary Japanese I (A, W, SU) 5 credits**

Course introduces elements of standard modern colloquial Japanese grammar, with emphasis on oral communications and culture. Students will learn to hear and reproduce the sounds of modern Japanese accurately; handle basic interactive skills such as greetings, invitations and apologies; and learn about cultural factors that are reflected in the language.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$6.00

### **JAPN 102 Elementary Japanese II (W, SP) 5 credits**

This course is a continuation of JAPN 101, with further development of reading and writing skills and further study of culture. JAPN 102 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: "C" or higher in JAPN 101 Lab fee: \$6.00

### **JAPN 103 Intermediate Japanese I (SP) 5 credits**

This course is a continuation of JAPN 102, with further development of reading and writing skills and further study of culture. JAPN 103 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Prerequisite: "C" or higher in JAPN 102

Lecture: 5 hours – Lab: 0 hours Lab fee: \$6.00

### **JAPN 104 Intermediate Japanese II (SU) 5 credits**

JAPN 104 is a continuation of JAPN 103, with further development of reading and writing skills and further study of culture. JAPN 104 meets elective requirements in the Associate of Arts and Associate of Sciences degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: "C" or higher in JAPN 103 Lab fee: \$6.00

### **JAPN 299 Special Topics in Japanese (On Demand) 1–5 credits**

This course offers students an opportunity to examine selected topics in Japanese in detail.

Prerequisite: Varies

Lecture: 5 hours – Lab: 0 hours Lab fee: \$2.00

## Landscape Design/Build (LAND)

### **LAND 100 Intro to Landscape Profession (A, W, SP, SU) 2 credits**

This course is an overview of the American Landscape movement with historical, environmental, design, horticultural and professional applications.

Lecture: 2 hours Lab fee: \$10.00

### **LAND 101 Landscape Principles (A, W, SP, SU) 3 credits**

Landscape principles will study the basic components of landscape design and those elements, that when combined together create such designs.

Lecture: 2 hours – Lab: 3 hours

### **LAND 102 Residential Landscape Design (A, W) 4 credits**

This course will study the application of landscape design principles to construction situations, design vs. style, performing site inventory and analysis, and drafting basic projects.

Lecture: 2 hours – Lab: 6 hours

Prerequisites: ARCH 110, ARCH 112 and LAND 101 Lab fee: \$20.00

### **LAND 104 Specialty Gardens (W) 3 credits**

This course will study the history, development and basic design of gardens including Estate, Victorian, Colonial, Patio, Water, etc. The class will combine both in-class and field experience.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$15.00

### **LAND 105 Spring Landscape Plants (SP, SU) 4 credits**

This course will study the identification parameters, landscape features and growing conditions of trees and shrubs of the Midwest climate zone. This class will combine both in-class and field experience.

Lecture: 3 hours – Lab: 3 hours Lab fee: \$10.00

### **LAND 106 Landscaping for the Home Gardener (A,W,SP,SU) 3 credits**

Landscape maintenance will be discussed with an emphasis on procedures best suited to promote optimum growth of landscape plants.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$10.00

### **LAND 107 Landscape Maintenance (W, SP) 3 credits**

Basic landscape maintenance principles will be discussed with an emphasis on procedures best suited to promote optimum growth and aesthetic quali-

ties of landscape plants. Other areas include soil structure, amendments, pruning and fertilization.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$10.00

**LAND 108 Herbaceous Plants (SP, SU) 3 credits**

This course will study the identification parameters, landscape features and growing conditions of herbaceous flowering plants such as annuals, perennials, bulbs, and herbs. Design of perennial gardens will also be covered.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$15.00

**LAND 109 Landscape Arboriculture (A, W) 3 credits**

This course introduces the basic principles of tree biology and care. Arboricultural practices will be discussed and performed.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: LAND 205 Lab fee: \$15.00

**LAND 110 Landscape Computer Applications (A, SP) 3 credits**

This course will explore current computer applications as they relate to the landscape industry.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: LAND 102, ARCH 112 Lab fee: \$10.00

**LAND 111 Survey of the Landscape Industry (A, W) 2 credits**

This course introduces the student to career possibilities in the landscape industry.

Lecture: 0 hours - Lab: 4 hours

**LAND 117 Landscape Maintenance Laboratory (SP) 2 credits**

This course will expose the student to practical uses in the application of maintenance procedures in commercial and residential landscapes.

Lecture: 0 hours - Lab: 4 hours Lab fee: \$20.00

**LAND 152 Site Planning (A, SP) 4 credits**

This course identifies the elements of a site and covers influences, methods and examples of site planning for environmental design projects. Emphasis is on the interdisciplinary nature of site planning. Regulatory and technical requirements are presented. Creation and evaluation of prototypical site planning projects is included.

Lecture: 2 hours – Lab: 6 hours

Prerequisite: LAND 102 or ARCH 111 or SURV 141 or permission of instructor Lab fee: \$20.00

**LAND 201 Landscape Pest Control (A, SU) 3 credits**

This course will study basic control methods as they apply to insects, fungi, and bacteria, biotic and other pests in the landscape. Identification of pests as well as mechanical, cultural, biological and chemical controls will be discussed.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: LAND 105 or LAND 205 or permission of instructor Lab fee: \$5.00

**LAND 202 Planting Design (W, SU) 4 credits**

This course builds on skills learned in LAND 102 and emphasizes graphic representations of plant materials and landscape structures.

Lecture: 2 hours – Lab: 6 hours

Prerequisites: LAND 152, 206 and 105 and/or 205 Lab fee: \$20.00

**LAND 203 Landscape Irrigation (A, W) 3 credits**

This course will study the design principles of landscape irrigation systems. Cost/estimation factors will also be discussed.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: LAND 102 and MATH 104 or permission of instructor. Lab fee: \$12.00

**LAND 204 Turfgrass Management (W, SP) 3 credits**

Students will learn the basic principles of turfgrass science and culture, specifically turfgrass identification, turf disease diagnosis, turf insect pest

control, turf weed control and specific turfgrass cultural and management practices.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: LAND 101, LAND 201 and BIO 125 or LAND 107 or permission of instructor. Lab fee: \$10.00

**LAND 205 Autumn Landscape Plants (A, SU) 4 credits**

The plants in this course are not the same as those covered in LAND 105. This course will study the identification parameters, landscape features and growing conditions of trees and shrubs of the Midwest climate zone. This class will combine both in-class and field experience.

Lecture: 3 hours – Lab: 3 hours Lab fee: \$10.00

**LAND 206 Landscape Graphics (A, SP) 4 credits**

This course will study the graphic symbols used to create landscape drawings. Included will be such information as color renderings, graphic representation of trees and shrubs, and shadowing.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: LAND 102 Lab fee: \$15.00

**LAND 207 Landscape Construction (A, SP) 4 credits**

This course will study the design and construction principles of landscape decks, patios, site fixtures, etc., and design. Projects of each will be created.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: LAND 152 Lab fee: \$15.00

**LAND 208 Interior Plants (W) 3 credits**

This course will study the features and growing conditions of indoor plant materials and maintenance procedures for same.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$10.00

**LAND 209 Herbaceous Plants II (A) 3 credits**

The purpose of this course is to offer an exploration of plant groups not covered in Herbaceous Plants, (LAND 108.)

Lecture: 2 hours – Lab: 3 hours

Prerequisite: LAND 108 Lab fee: \$10.00

**LAND 210 Evergreen Landscape Plants (W) 4 credits**

This course will study the identification parameters, landscape features and growing conditions of evergreen trees and shrubs of the Midwest climate zone.

Lecture: 3 hours – Lab: 3 hours Lab fee: \$10.00

**LAND 217 Landscape Construction Laboratory (On Demand) 2 credits**

This course will expose the student to the practices and application of landscape construction.

Lecture: 0 hours – Lab: 4 hours Lab fee: \$20.00

**LAND 222 Landscape Operations (W, SU) 4 credits**

This is a capstone course in the Landscape major; students will receive an overview of the technical operations of a landscape design/build firm. Students will work on group and individual class projects simulating the day-to-day business operations of a landscape firm.

Lecture: 3 hours – Lab: 3 hours

Prerequisites: LAND 202, LAND 203, LAND 207 and BMGT 111 Lab fee: \$15.00

**LAND 281 Sustainable Landscape Practices and Design (W) 3 credits**

The purpose of this course is to engage the student in issues that all landscape designers must confront in the current state of affairs in the landscape or “green” industry. We will explore the philosophical underpinnings of the green movement while dealing with the practical day to day issues on how to create livable landscapes that are not at the expense of the environment and other beings on this earth.

Lecture: 2 hours – Lab: 3 hours  
Lab fee: \$10.00

**LAND 291 Field Experience (A, WI, SP, SU) 4 credits**

Course provides an opportunity for an off-campus field experience in the landscape industry. The field experience reinforces formal education received in the landscape program, with actual work conditions and job experience. “N” credit will not be allowed for this course.

Lecture: 0 hours – Lab: 48 hours

Prerequisite: Permission of instructor Lab fee: \$10.00

**LAND 295/296/297 Special Topics (On Demand) 1–5 credits**

These courses allow for landscape special topics to be offered in a timely and responsive way.

Lecture and/or Lab Hours: Vary

Prerequisite: Permission of instructor.

## Latin (LATN)

**LATN 101 Elementary Latin I (A) 5 credits**

LATN 101 is an introduction to the fundamentals of Latin with practice in reading and writing. It includes selected studies in culture. LATN 101 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$6.00

**LATN 102 Elementary Latin II (W) 5 credits**

This course is a continuation of LATN 101, with further development of reading and writing skills and further study of culture. LATN 102 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: LATN 101 with grade of “C” or better Lab fee: \$6.00

**LATN 103 Intermediate Latin I (SP) 5 credits**

LATN 103 is a continuation of LATN 102. This course meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: LATN 102 with grade of “C” or better Lab fee: \$6.00

**LATN 104 Intermediate Latin II (SU) 5 credits**

This course is a continuation of LATN 103. It meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: LATN 103 with grade of “C” or better Lab fee: \$6.00

**LATN 299 Special Topics in Latin (On Demand) 1-5 credits**

LATN 299 provides individual study opportunities in special topics in Latin. Lab fee: \$2.00

## Law Enforcement (LAWE)

**LAWE 101 Introduction to Criminal Justice (A, SP) 3 credits**

This course examines the development of law and the systems and procedures developed by society for dealing with law violations. Emphasis will be placed on the three major components of the system: the police, courts, and corrections.

Lecture: 3 hours – Lab: 0 hours

**LAWE 102 Patrol Procedures (A, SP) 3 credits**

This course covers the basic concepts of police patrol. The purpose of patrol and various patrol strategies will be examined. Calls for service and response tactics as well as arrest techniques, vehicle stops, and prisoner booking and handling are covered.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$ 7.00

**LAWE 104 Government and the Law (A, W, SP, SU) 3 credits**

The role of local government in the community, its structure, organization, and responsibility are covered. Local government politics and the community also are reviewed. Urban, suburban, rural and community structure will be discussed in relationship to delivery of services.

Lecture: 3 hours – Lab: 0 hours

**LAWE 110 Criminal Investigation I (A, SP) 4 credits**

LAWE 110 presents the principles and techniques of criminal investigation, including those used in the investigation of major crimes such as homicide, burglary, robbery, auto theft, arson, and sex offenses.

Lecture: 3 hours – Lab: 2 hours Lab fee: \$5.00

**LAWE 111 Criminalistics I (A, SP) 3 credits**

This course serves as an introduction to criminalistics laboratory techniques, includes the recognition, collection, and preservation of evidence and its preparation for court presentation. An introduction to fingerprint comparison also is presented.

Lecture: 1 hour – Lab: 4 hours Lab fee: \$10.00

**LAWE 112 Criminal Investigation II (W, SU) 4 credits**

This course continues LAWE 110. Emphasis will be placed on the scientific analysis of evidence and proper methods for collection and preservation of trace evidence.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: LAWE 110 Lab fee: \$5.00

**LAWE 113 Criminalistics II (On Demand) 3 credits**

This course advances the study of criminalistics laboratory techniques to include examination techniques for blood, hair and fiber, firearms identification, toolmark comparisons, latent fingerprints, questioned document examination, and trace evidence.

Lecture: 0 hours – Lab: 4 hours Lab fee: \$15.00

**LAWE 115 Community and Personal Relations (W, SU) 3 credits**

This course examines the complex relationship between the police and the public they serve. Areas of potential problems will be discussed and programs and procedures for enhancing the relationship will be presented.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$5.00

**LAWE 120 Criminology (A, SP) 3 credits**

This course explores the issue of crime in the United States. Theories of causation will be analyzed and critiqued.

Lecture: 3 hours – Lab: 0 hours

**LAWE 121 Juvenile Delinquency (SP) 3 credits**

This course studies the nature and causes of delinquent activity by juveniles. Appropriate criminal justice responses can be developed once law enforcement and judicial personnel understand the factors giving rise to juvenile delinquency.

Lecture: 3 hours – Lab: 0 hours

**LAWE 122 Criminal Law (On Demand) 3 credits**

This course studies the development of criminal law in the United States. The common law theories upon which the laws of this country are based will be explored. Specific topics will include parties to crime, capacity to commit crimes, defenses, and the laws defining specific crimes.

Lecture: 2 hours – Lab: 2 hours



**LAWE 124 Penology (A, SP) 3 credits**  
This course offers an introduction to the field of corrections. The history and goals of corrections will be explored, and students will receive an overview of the processing of offenders from arrest through final release.  
Lecture: 3 hours – Lab: 0 hours

**LAWE 125 Traffic Accident Investigation (A, SP) 3 credits**  
LAWE 125 is an in-depth study of the procedure and objectives in accident investigations, including gathering facts from the road, vehicle and witnesses, hit and run investigation, measurements and diagrams, utilization of skid mark evidence, proper recording of accident data, use of accident templates, and a practical application of the recommended method of submitting the Ohio state traffic crash report.  
Lecture: 2 hours – Lab: 2 hours Lab fee: \$3.00

**LAWE 128 Special Category Offenders (A) 3 credits**  
This course will focus on six subject areas: treatment of sex offenders, mentally disordered offenders, mentally retarded offenders, inmates with AIDS, inmates with disabilities, and the substance abuse offender. Further attention will be directed to correctional personnel, impact of political influences, perceptions, training, problems and corrective actions.  
Lecture: 3 hours – Lab: 0 hours

**LAWE 135 Terrorism (A, W, SP) 3 credits**  
This course will examine the underlying issues of the terrorist threat, including an overview of terrorism goals, methods of attack, weapons of mass destruction, and how law enforcement can assess and deal with threats.  
Lecture: 3 hours

**LAWE 145 Self-Defense for Women (On Demand) 2 credits**  
Students will learn to recognize threatening behavior and situations and their appropriate responses. Simple-to-learn, basic physical defense techniques are taught. In addition, defensive devices will be discussed and demonstrated.  
Lecture: 1 hour – Lab: 2 hours

**LAWE 150 The Administration of Justice (A) 3 credits**  
The major institutions and processes in the administration of justice will be covered. The role and function of the courts, the progress of criminal and civil cases, and methods for development of cooperative arrangements with other criminal justice professionals are discussed.  
Lecture: 3 hours – Lab: 0 hours

**LAWE 153 Civil Liability in Law Enforcement (SP) 4 credits**  
Course covers potential areas of liability such as tort law, vicarious liability, and civil rights legislation.  
Lecture: 4 hours – Lab: 0 hours

**LAWE 155 Managing Police Operations (W) 4 credits**  
LAWE 155 discusses managing police operational units such as investigations, patrol, internal investigations, and traffic.  
Lecture: 4 hours – Lab: 0 hours

**LAWE 204 Juvenile Procedures (A, SP) 3 credits**  
This course covers the organization, functions, and jurisdiction of juvenile agencies. Topics include processing and detention of juveniles, statutes and court procedures relating to juveniles, rights and liabilities of minors and their parents, and police services for juveniles and neglected children.  
Lecture: 2 hours – Lab: 2 hours

**LAWE 208 Community Based Corrections (W) 3 credits**  
This course will investigate alternative models of corrections. Various alternatives to incarceration or institutionalization, and the benefits that derive from placing the offender back in the community, will be discussed.  
Lecture: 3 hours – Lab: 0 hours

**LAWE 210 Crisis Intervention (A, SP) 3 credits**  
This course provides the student with intervention strategies for dealing with persons in crisis. The areas of domestic disputes, suicide prevention, and special problems of crime victims will be emphasized.  
Lecture: 3 hours – Lab: 0 hours  
Lab fee: \$10.00

**LAWE 211 Institutional Corrections (A) 3 credits**  
This course explores the development and purposes of correctional institutions. Emphasis will be placed on major correctional facilities at the state and federal levels. Operation of such facilities and the care and treatment of prisoners will be examined.  
Lecture: 3 hours – Lab: 0 hours

**LAWE 212 Ohio Criminal Code (A, SP) 4 credits**  
This course studies the Ohio Code statutes that apply to crime and criminal procedures, with emphasis on the specific elements necessary to constitute individual crimes.  
Lecture: 3 hours – Lab: 2 hours

**LAWE 215 Introduction to Cyberlaw (W) 3 credits**  
The technological advancements associated with computers and the World Wide Web have led to increased criminal activity involving such technology. In addition, laws regulating computer usage, the Web, and intellectual property issues, have become very complex. This course examines these issues and the difficulties associated with investigating such activities.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: CIT 101

**LAWE 218 Supervision of Public Service Personnel (A, SP) 3 credits**  
This course introduces supervisory techniques as applied to public service personnel. Course covers the need for job descriptions and job procedures, civil service requirements, reports, oral and written directions, work evaluation, and conference leadership. Also presents effective methods for teaching and motivating personnel.  
Lecture: 3 hours – Lab: 0 hours

**LAWE 219 Correctional Law (W) 4 credits**  
This course will cover the various Supreme Court rulings that deal with the care and treatment of prisoners confined in institutions. It will include the use of force, the right to have visitors, receive mail, attend religious functions, and the right to treatment. The course will also cover due process of law.  
Lecture: 4 hours – Lab: 0 hours

**LAWE 220 Constitutional Law (A, SP) 3 credits**  
This course is a study of federal and state constitutional law and the Bill of Rights, with emphasis on due process of law, equal protection of the law, jury trial, and assistance of counsel. Course will review interpretations of the Constitution by the U.S. Supreme Court as given in their decisions.  
Lecture: 3 hours – Lab: 2 hours

**LAWE 221 Counseling: Probation and Parole (SP) 4 credits**  
This course covers the responsibilities and duties of the correctional counselor and case worker. Emphasis is placed upon the application of professional standards to casework in the correctional setting. Emphasis is also placed on the functions of the parole and probation officers.  
Lecture: 4 hours – Lab: 0 hours

**LAWE 223 Correctional Administration (SP) 3 credits**  
This course will cover the various phases of administration as they relate to corrections. Three basic stages are covered: executive, mid-management and line operations. Each of these levels will be discussed as they relate to institutions, community-based institutions, and the operation of probation and parole. Problems and their possible solutions will be covered for each division of corrections.  
Lecture: 3 hours – Lab: 0 hours

**LAWE 241 Correctional Internship I (On Demand) 1 credit**

This course offers an opportunity for on-the-job training as the student works in a correctional agency. Activities will include interviewing convicted felons, verification of the information received, and various other duties connected with probation and parole.

Lecture: 0 hours – Lab: 10 hours

Prerequisite: LAWE 205

Corequisite: LAWE 249

**LAWE 242 Community Policing (SP) 4 credits**

Contemporary community policing issues such as crime prevention, community education, and police deployment strategies will be explored. Internal departmental changes and methods of obtaining cooperation and commitment by department personnel will also be examined.

Lecture: 4 hours – Lab: 0 hours

**LAWE 249 Corrections Seminar I (On Demand) 1 credit**

This seminar will cover the pre-sentence investigation report, its purpose, and how it is compiled. Members of the internship program will be able to discuss the problems and events that they have encountered during their work at the probation office with each other and the instructor.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: LAWE 205

Co-requisite: LAWE 241

**LAWE 252 Police Administration (A) 3 credits**

This course will explore the contemporary local law enforcement agency, its functions, structure, and operational techniques. Principles of organization, staffing, budgeting, controlling, coordination, planning and research will be presented as will the development and maintenance of liaison between agencies.

Lecture: 3 hours – Lab: 0 hours

**LAWE 253 Criminal Procedure (W, SU) 3 credits**

This course presents a study of the rules of procedure as they apply to criminal cases and how they affect the ability of the officer to have the evidence he/she collects or prepares presented in court.

Lecture: 2 hours – Lab: 2 hours

**LAWE 254 Correctional Internship II (On Demand) 1 credit**

LAWE 254 offers another opportunity for on-the-job training in the corrections setting. The student will work in a correctional agency performing tasks such as background investigations for a parole board, checking on inmates at various halfway houses, and interviewing persons on parole.

Lecture: 0 hours – Lab: 10 hours

Prerequisite: LAWE 241

Co-requisite: LAWE 255

**LAWE 255 Corrections Seminar II (On Demand) 1 credit**

This course discusses what occurred during the student's internship and clarifies any problems that arose. Student looks at assignment of project and explanation for the project.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: LAWE 249

Co-requisite: LAWE 254

**LAWE 256 Law Enforcement Practicum I (A, W, SP, SU) 2 credits**

LAWE 256 offers a guided work experience in a law enforcement agency. Students will observe and participate in a variety of law enforcement functions. Exact duties will be decided by agreement between student and the law enforcement agency.

Lecture: 0 hours – Lab: 14 hours

Prerequisite: Permission of the chairperson

Co-requisite: LAWE 257

**LAWE 257 Law Enforcement Practicum Seminar I (A, W, SP, SU)****1 credit**

LAWE 257 presents seminar discussions concerning the work experience and on developing strategies to improve work performance.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Permission of the chairperson

Co-requisite: LAWE 256

**LAWE 258 Law Enforcement Practicum II (On Demand) 2 credits**

This is another guided work experience in a law enforcement agency. Students will observe and participate in a variety of law enforcement functions. Exact duties will be decided upon by agreement between student and the law enforcement agency.

Lecture: 0 hours – Lab: 14 hours

Prerequisite: Permission of the chairperson

Co-requisite: LAWE 259

**LAWE 259 Law Enforcement Practicum Seminar II (On Demand)****1 credit**

LAWE 259 facilitates seminar discussions on the work experience and the development of strategies to improve work performance.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Permission of the chairperson

Co-requisite: LAWE 258 Lab fee: \$5.00

**LAWE 260 Criminal Evidence and Trial (A, SP) 3 credits**

In this course, the student will study the rules of evidence as they relate to the introduction of evidence at trial. In addition to the study of rules, students will participate in a mock trial in which evidence they have collected, preserved and processed will be presented.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$5.00

**LAWE 261 Defensive Driving and Emergency Response (SP) 2 credits**

Defensive driving is driving to prevent accidents from occurring in spite of the actions of others or the presence of adverse conditions. Students will learn recommended driving principles and practices through vehicle operation. The student will also learn the skills necessary to administer emergency aid until assistance can be obtained.

Lecture: 0 hours – Lab: 4 hours Lab fee: \$35.00

**LAWE 263 Arrest and Control (SU) 4 credits**

In this course, the student will learn the basic principles and tactics of unarmed self-defense, how to defend against physical attack, and control of aggressive behavior in effecting an arrest using minimum force.

Lecture: 1 hour – Lab: 6 hours

Prerequisite: LAWE 102

**LAWE 264 Police Firearms (SU) 3 credits**

Students will learn to use police firearms safely, including the pistol and shotgun. Shooting decisions and alternatives to firearm use are covered. Successful completion of the course requires compliance with current Ohio Peace Officers Training Council qualification standards.

Lecture: 0 hours – Lab: 6 hours Lab fee: \$50.00

**LAWE 265 Police Physical Fitness (A) 3 credits**

This course will utilize the proven methods developed by the Aerobic Institute in measuring and attaining fitness. A baseline of fitness will be established for each student and an individual exercise program will be decided upon. Class activities may include aerobics, jogging, and if needed, weight training.

Lecture: 1 hour – Lab: 4 hours

**LAWE 266 High Rise Safety (A) 2 credits**

Discussions of the particular problems related to fire safety in high-rise buildings. Students will research and establish life-safety plans for a building. Information gained from previous incidents in high-rise buildings will be utilized.

Lecture: 1 hour – Lab: 2 hours Lab fee: \$5.00

**LAWE 268 Hazardous Materials I (A) 3 credits**  
Course offers an introduction to the properties and behaviors of hazardous chemicals in our environment. Students will learn about the physical and chemical characteristics of toxic, flammable, and reactive substances in the forms of solids, liquids, and gases and receive an overview of methods for safely responding to emergencies involving such materials. Emphasis will be placed on safe approach to incident scenes, positive identification of materials, and accurate analysis of the hazards presented by hazardous materials.  
Lecture: 2 hours – Lab: 2 hours Lab fee: \$6.00

**LAWE 271 Contemporary Issues in Law Enforcement (SP, A) 3 credits**  
This course offers a review of important facts in modern law enforcement along with an examination of current topics and trends.  
Lecture: 3 hours – Lab: 0 hours

**LAWE 272 Alcohol Detection, Apprehension and Prosecution (SP) 2 credits**  
ADAP is the process of identifying and gathering evidence to determine if a suspect should be arrested for a DWI violation. This course is necessary to meet state requirements for Peace Officer Training in Ohio. LAW 272 is open only to Academy Track students.  
Lecture: 1 hour – Lab: 2 hours Lab fee: \$25.00

**LAWE 273 Legal Computing 2 credits**  
Course is designed to focus on legal-style microcomputing for law enforcement and legal assisting personnel. Emphasis is on history, copyright, computer crimes, computer security and legal computer systems.  
Lecture: 2 hours – Lab: 1 hour  
Prerequisite: CIT 101/ Optional LEGL 251

**LAWE 276 Criminalistics III (On Demand) 3 credits**  
This course presents an advanced study of forensic laboratory techniques. The student will perform or view examination techniques for blood, “DNA Profile Analysis”, questioned document examination, autopsy, trace evidence, drug identification, toxicology, and the forensic examination of arson and explosion trace evidence.  
Lecture: 1 hour – Lab: 4 hours Lab fee: \$25.00

**LAWE 277 Emergency Aircraft Assault (On Demand) 3 credits**  
The course trains tactical personnel in aircraft familiarization tubular hostage rescue and negotiation and emergency bomb threat interdiction and evacuation.  
Lecture: 2 hours – Lab: 2 hours

**LAWE 299 Special Topics in Law Enforcement (On Demand) 3 credits**  
Special Topics in Law Enforcement is a course that utilizes a variety of instructional techniques to meet the needs of the constantly changing law enforcement, corrections, and legal community. The course will be designed with the advice of the particular group requesting the course and/or the Law Enforcement faculty and department chairperson.  
Lecture: 3 hours – Lab: 0 hours

## Marketing (MKTG)

**MKTG 101 Introduction to Retailing (A, W, SP, SU, DL) 5 credits**  
This course provides the student with an overview of current and evolving retailing trends and practices. Merchandising, sales promotion, finance, store operations and control are addressed. Special emphasis is given to the growing importance of international retailing, e-Commerce and multi-channel retailing. In addition, the course examines the impact of innovative technologies and methods used by retailers to improve store

operating efficiencies and improve customers’ shopping experiences.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: None Lab fee: \$5.00

**MKTG 102 Branding (W, SU, DL) 3 credits**  
This course provides the student with an overview of current and evolving branding trends and practice. The primary focus is on the importance of brands, their impact on corporate profitability, and effective principles of brand management. In addition, the course describes a disciplined process to create and implement effective brand design, identity and positioning.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: None Lab fee: \$5.00

**MKTG 111 Marketing Principles (A, W, SP, SU, DL) 5 credits**  
This course provides the student with an overview of the marketing function in business. Consideration is given to how effective marketers gain and maintain competitive advantages in a global environment. This course will also focus on the fundamental elements of the marketing mix which includes the product, promotion, price, and distribution. The concepts of effective marketing, competitive strategy, total quality management and relationship marketing are emphasized throughout this course. The course is structured so that students are able to discern the difference between intuitive decision making and sound marketing management.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: ECON 200 Lab fee: \$5.00

**MKTG 122 Web and Electronic Marketing (A, SP, DL) 3 credits**  
An overview of how to use the Internet to gather and evaluate primary and secondary sources of business information for product development, market research, sales, advertising and promotion, and customer service/retention.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisite: None Lab fee: \$15.00

**MKTG 125 Social Networking (W) 3 credits**  
Introduction to emerging Web 2.0 technologies with particular emphasis on the role of the various social networking tools used in the process of marketing to and communicating with consumers. The contemporary marketing toolset has expanded electronically with the mainstreaming of Web 2.0 tools and tactics. Components of the course include online viral (word-of-mouth) marketing, target audience(s) selection, and the integration of Web 2.0 technologies into an Integrated Marketing Communications program. Examples of Web 2.0 features and tools to be explored include online communities, wikis, blogs, vlogs, podcasts, RSS feeds, and mobile communication devices. At the completion of the course, students will have a well-developed understanding of the tools available to marketers in the Web 2.0 environment.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: None Lab fee: \$5.00

**MKTG 131 Market Research Principles (A, SU, DL) 3 credits**  
This course introduces the field of market research with particular emphasis on how to use research data to make better marketing decisions. Topics covered include the market research process, research design and data sources, data collection, and the analysis of marketing research data.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisites: MKTG 111 and MATH 101 (or a higher math) or instructor approval. Lab fee: \$5.00

**MKTG 140 Introduction to Advertising and Promotion (A, SP, DL) 4 credits**  
This course emphasizes the role of advertising and promotion in the marketing communications program of an organization. The field of advertising and promotion is examined from an integrated marketing communications perspective. Attention is given to other promotional areas such as direct marketing, sales promotion, publicity/public relations, and personal selling. The overall marketing process, consumer behavior,

communications theory and the evaluation of advertising and promotion media will be emphasized. Attention will also be given to the regulatory, social and economic factors that influence, and are in turn influenced by, an organization's advertising and promotional program.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: MKTG 111 or instructor approval Lab fee: \$5.00

**MKTG 141 Interactive Marketing Media (W, DL) 4 credits**

Introduction to Interactive Marketing Media with particular emphasis on the integrated marketing communications perspective and the inclusion of electronic and interactive marketing in a comprehensive marketing program. Current industry usage of relationship marketing, cybermarketing, database marketing, testing and electronic direct marketing and other Web 2.0 tactics and tools will be discussed. Components of the course include target audience(s) selection, application of direct marketing strategy to interactive marketing, Direct Response Television and Mobile marketing, Cybermall and the integration of other media. At the completion of the course, students will have developed an understanding of the various Web 2.0 media available to be considered for use in an integrated marketing communications effort.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: MKTG 111 and MKTG 140 or instructor approval

Lab fee: \$5.00

**MKTG 142 Media Buying (SU, DL) 3 credits**

Course introduces media buying and selling with particular emphasis on the role of the various participants in the process: clients, advertising and media agencies, media sales companies, media companies, etc. Current industry selling practices for print and electronic media will be discussed. Components of the course include media plan development, target audience(s) selection, and integration of a media plan into an advertising plan. At the completion of the course, students will have developed portfolio-ready examples of work

Lecture: 3 hours – Lab: 0 hours Lab fee: \$5.00

**MKTG 145 Services Marketing (SU, DL) 3 credits**

This course studies the characteristics of services, their contribution to an economy, service quality, service customer behavior and the relationship between organizational performance and customer retention. Emphasis will be placed on customer satisfaction measurement, coordination issues between marketing and operations in the design and implementation of service delivery, and the utilization of emerging technology.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: MKTG 111 Lab Fee: \$5.00

**MKTG 146 Nonprofit Marketing (SP, DL) 3 credits**

This course will give students an understanding of the basic organizational structures, systems and practices of nonprofit organizations. Emphasis will be placed on identifying the various types of nonprofit organizations, nonprofit marketing mixes, and nonprofit marketing strategies. The role of technology in the delivery of effective service and administration for nonprofit organizations will also be examined.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: MKTG 111 Lab fee: \$5.00

**MKTG 150 Introduction to e-Commerce (A, SP, SU, DL) 3 credits**

This course offers an overview of the marketing and technical aspects of e-Commerce. Students are introduced to basic network concepts and protocols; how various markets (consumer, business-to-business, and government) make use of e-Commerce; the four fundamental marketing considerations of product, price, distribution/place and promotion as informed by interactive media; and the design and financial and ethical aspects of e-Commerce.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$5.00

**MKTG 205 Quantitative Methods for Retailing (A, DL) 5 credits**

This course provides the student with an overview of the impact of merchandising strategies on the fiscal management of store operations.

Special emphasis is given to the mathematical tools that aid in merchandise planning, selection, and pricing. Students will use basic math formulas that are used by buyers, department managers and store owners in order to operate their businesses, stores or departments profitably.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MKTG 101 Lab fee: \$5.00

**MKTG 213 Merchandise Buying and Management (SP, DL) 4 credits**

This course provides the student with an in-depth look at the process of assembling merchandise assortments that appeal to a retail organization's customers, and the management of retail inventories. This course is dedicated to quantitative procedures for planning and analyzing sales, profit, and inventory.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: MKTG 101 Lab fee: \$5.00

**MKTG 221 Consumer Behavior (W, SU, DL) 3 credits**

This course provides a framework for understanding the consumer decision-making process and purchasing behavior. Emphasis is placed on why consumers behave as they do, and how marketers, consumer activists, and public officials use this knowledge to influence consumer behavior.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: MKTG 111 or instructor approval. Lab fee: \$5.00

**MKTG 223 Sales Principles and Practices (A, SP, DL) 4 credits**

An introduction to the sales process and the key role that sales activities play in any consumer or commercial business endeavor. The course deals with the basic components of selling including understanding customer psychology, building customer relationships, working in partnership, the need for adaptable sales presentations, and selling in a culturally diverse marketplace.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: MKTG 111 or instructor approval Lab fee: \$5.00

**MKTG 224 Public Relations (A, DL) 3 credits**

This course provides the student with an in-depth look at the process of assembling merchandise assortments that appeal to a retail organization's customers, and the management of retail inventories. This course is dedicated to quantitative procedures for planning and analyzing sales, profit, and inventory.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: MKTG 111 or instructor approval Lab fee: \$5.00

**MKTG 226 Customer Service Principles and Practices (A, SP, DL) 4 credits**

A study of the important issues facing customer service providers and customer service managers in business. Special emphasis is placed on the mastery of specific skills and analyzing customer attitudes and behaviors to determine the tasks required to deliver excellent customer service.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: MKTG 111 or instructor approval Lab fee: \$5.00

**MKTG 229 Organizational Marketing (A, SP, DL) 3 credits**

This course is designed to provide students with a comprehensive understanding of fundamental marketing principles, practices and strategies utilized in business to business marketing. An empirical approach is taken to deepen the discussion of marketing topics relevant to the dynamics of the business environment. Additional emphasis is placed on organizational marketing, future trends and decisions facing business to business marketing managers.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: MKTG 111 or instructor approval Lab fee: \$5.00

**MKTG 236 Direct Marketing (SP, DL) 3 credits**

This course presents a survey of the direct marketing process including the theory and practice of direct marketing, its function and organization. Topics covered include direct response television/radio, database marketing, list selection and evaluation, direct marketing media and planning.

Special emphasis is placed on how to integrate direct marketing into the overall marketing mix.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: MKTG 111 or instructor approval Lab fee: \$5.00

**MKTG 237 Database Marketing (W, DL) 3 credits**

This course provides an overview of the use of databases in consumer and business-to-business marketing to both acquire and retain customers. Particular emphasis is placed on developing in-house databases, purchasing lists and managing a marketing database.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: MKTG 111 or Instructor approval Lab fee: 5.00

**MKTG 241 Marketing Practicum I (A, W, SP, SU, DL) 4 credits**

This course offers a chance for a supervised, on-the-job application of knowledge and skills acquired in the classroom. Internship applications must be filed with the Department at least 2 months prior to the internship start date. Student must be Marketing major with GPA of a least 2.5, who has completed 12 hours in the technology and has permission of the instructor.

Lecture: 0 hours – Lab: 28 hours

Prerequisite: 12 hours in technology and permission of instructor

Corequisite: MKTG 242 Lab fee: \$5.00

**MKTG 242 Marketing Seminar I (A, W, SP, SU, DL) 1 credit**

MKTG 242 allows for the application of marketing knowledge to specific areas of an on-the-job internship. Internship applications must be filed with the Department at least 2 months prior to the internship start date.

Seminar: 1 hour – Lab: 0 hours

Prerequisite: Open to Marketing students only with permission of instructor

Corequisite: MKTG 241 Lab fee: \$5.00

**MKTG 251 Marketing Practicum II (On Demand, DL) 4 credits**

This course is a continuation of MKTG 241 and is open to Marketing students only. Internship applications must be filed with the department at least 2 months prior to the internship start date. This course is graded on a Satisfactory/Unsatisfactory basis.

Lecture: 0 hours – Lab: 28 hours

Prerequisite: MKTG 241 and advisor approval required the quarter before the student actually begins the internship; open to Marketing students only

Corequisite: MKTG 252 Lab fee: \$5.00

**MKTG 252 Marketing Seminar II (On Demand, DL) 2 credits**

This course allows for the application of marketing knowledge to specific areas of and on-the-job internship. Internship applications must be filed with the department at least 2 months prior to the internship start date. This course is graded on a Satisfactory / Unsatisfactory basis.

Lecture: 0 hours – Lab: 4 hours

Prerequisite: MKTG 242, open to Marketing students only

Corequisite: MKTG 251 Lab fee: \$5.00

**MKTG 263 Direct Marketing Creative and Financial Analysis (A, DL) 4 credits**

This course is designed as an introduction to the creative aspects of the direct marketing process. It will examine the features and practices of good creative development as it is integrated within a carefully planned, full direct marketing program. Both to-the-consumer and business-to-business programs will be considered.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: MKTG 236 or permission of instructor

Lab fee: \$5.00

**MKTG 265 Understanding Interactive Users (SP, DL) 3 credits**

This course presents a comprehensive model for understanding consumer decision making in an interactive environment. Emphasis is placed on the differences and similarities between classic research techniques and traditional consumer behavior models and their interactive complements.

Particular emphasis is placed on the techniques and trends used to conduct online research, including how to leverage existing sources, online chat-based sessions, e-mail feedback, and online focus groups.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$5.00

**MKTG 266 Marketing Communications on the Web (W, DL) 3 credits**

This course explores the marketing communications opportunities and challenges facing Web marketers. Topics covered include developing an online marketing strategy, online selling, Web-based promotion, customer service and publicity. Special emphasis is placed on emerging e-Commerce strategies, such as auditing effective of online advertising, permission marketing, affiliate programs and e-mail strategies.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$5.00

**MKTG 270 Global Marketing (A, SP, DL) 5 credits**

This is a capstone course designed to develop a broader understanding of the marketing function and its relationship to business strategy in the context of a global marketing environment.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: 12 hours of Marketing or Supply Chain Management courses, CIT 101, FMGT 201 or ACCT 106 and permission of instructor

Lab fee: \$5.00

**MKTG 285 Advertising and Promotion on the Web (A, SP, DL) 1 credit**

This course provides the student with an overview of how the Internet can be used as part of an organization's advertising and promotional strategy. The focus is on the Internet as another means of communicating with an organization's various target markets.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$5.00

**MKTG 286 Customer Service on the Web (A, SP, DL) 1 credit**

This course provides the student with an opportunity to see how the Internet can be used to improve the basic delivery of customer service and to improve customer relations for business organizations.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$5.00

**MKTG 287 Public Relations on the Web (A, SP, DL) 1 credit**

The focus in this course is on the real world use of the Internet in developing organizational objectives. Students will use the Internet to examine trends, basic concepts and current practices in public relations.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$5.00

**MKTG 288 Marketing Research on the Web (A, SP, DL) 1 credit**

Students will use the Internet to gather information on customers, business organizations, and nonprofit institutions. Attention will be given to using the Internet as a tool to find the best sources of information to solve real-world marketing problems.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$5.00

**MKTG 289 Direct Marketing on the Web (A, SP, DL) 1 credit**

Students will use the Internet as a tool in the direct marketing process. The focus will be on using the Internet as a vehicle to create databases and as a direct response mechanism for target markets.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$5.00

**MKTG 290 Government Marketing on the Web (SP, DL) 1 credit**

This course studies government characteristics and its use of emerging technology to market services to, and communicate with, citizens. The course will examine the relationships between government and citizens with an emphasis on the use of Web-based technology to enhance those relationships.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$5.00

**MKTG 292 Nonprofit Marketing Using the Web (SU, DL) 1 credit**

A study of the characteristics of nonprofit organizations and their use of emerging technology to market services, raise funds, and communicate with people. The course will examine the relationships between nonprofit

organizations and service consumers and funding agents with an emphasis on the use of Web-based technology to enhance those relationships.

Lecture: 1 hour – Lab: 0 hours Lab fee: \$5.00

**MKTG 297/298 Special Topics in Marketing (On Demand, DL)**  
**1–3 credits**

These courses offer an opportunity for detailed examination of various topics in marketing.

Prerequisites: Vary Lab fees: Vary

Lecture: 1 to 3 hours – Lab: 0 hours

## Massage Therapy (MASS)

**MASS 235 Principles of Massage Law and Business (AU, W, SP, SU, DL)**  
**4 credits**

This course provides a general overview of the legal system, including criminal and civil law. An in-depth review of the statutes and administrative rules that govern massage therapy in Ohio are provided. The course also will study basic business principles as they apply to the massage therapist.

Prerequisites: Acceptance into the program

Lecture: 4 hours

**MASS 236 Medical Ethics for Massage Therapy (A, SP) 3 credits**

This course is an introduction to the professional practice of health care including the role of the practitioner, relationships with other health care providers, privacy and confidentiality, the concepts of liability, malpractice and negligence.

Prerequisite: MASS 262

Lecture: 3 hours – Lab: 0 hours Lab fee: \$5.00

**MASS 261 Massage Technique I (A, SP) 6 credits**

MASS 261 is an introduction to the professional practice of massage therapy including hygiene, touch, stroking, friction, kneading, vibration, and percussion.

Lecture: 3 hours – Lab: 6 hours

Prerequisite: Acceptance into the program

Corequisite: MASS 271 Lab fee: \$50.00

**MASS 262 Massage Technique II (W, SU) 6 credits**

This course provides an introduction to the professional practice of massage therapy including the effects, indications, and contraindications of massage upon various body systems.

Lecture: 3 hours – Lab: 6 hours

Prerequisite: MASS 261

Corequisite: MASS 272 Lab fee: \$50.00

**MASS 271 Massage Anatomy and Physiology I (A, SP) 5 credits**

This course provides an investigation of the various human body systems, their structure and function as required by the State Medical Board of Ohio for licensure as a Massage Therapist.

Lecture: 4 hours – Lab: 3 hours

Prerequisites: BIO 261 and acceptance into the program

Corequisite: MASS 261 Lab fee: \$25.00

**MASS 272 Massage Anatomy and Physiology II (W, SU) 5 credits**

MASS 272 offers an investigation of the various human body systems, their structure and function as required by the State Medical Board of Ohio for licensure as a Massage Therapist.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: MASS 271 Lab fee: \$25.00

**MASS 273 Massage Anatomy and Physiology III (AU, SP) 5 credits**

MASS 273 is an investigation of the various human body systems, their structure and function as required by the State Medical Board of Ohio for licensure as a Massage Therapist.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: MASS 272 Lab fee: \$25.00

**MASS 274 Massage Anatomy and Physiology IV (W, SU) 5 credits**

This course offers an investigation of the various human body systems, their structure and function as required by the State Medical Board of Ohio for licensure as a Massage Therapist.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: MASS 273 Lab fee: \$25.00

**MASS 280 Nationwide Children's Hospital Advanced Studies (A, W, SP, SU) 3 credits**

This course is a clinical experience conducted in connection with Nationwide Children's Hospital. The student will have the opportunity to work with the massage therapy staff of Nationwide Children's Hospital in the care and treatment of patients of the hospital in a variety of the clinical specialty units. The care unit students may work in include but are not limited to: General Surgery, Burns, Hematology/Oncology, Pulmonary Rehabilitation, Cardiac Rehabilitation, Heart & Lung Transplant, Pediatric Intensive Care, Physical Medicine & Rehabilitation and Pain Clinic. The course will also discuss issues surrounding death and dying of patients.

Lecture: 1 hour – Lab: 6 hours

Prerequisite: Permission of instructor and completion of Massage Therapy Certificate program.

**MASS 281 Hot Stone Massage (A, SP) 3 credits**

This course is designed to offer the massage therapist the opportunity to gain skill and understanding in the efficient, systematic use of hot and cool stones in a full body therapeutic massage, as well as the specified use of stones for deep tissue work. Tools and equipment are discussed in detail to instill confidence in its use, safety and sanitary procedures.

Lecture: 3 hours

Prerequisite: MASS 262 and MASS 272 Lab fee: \$50.00

**MASS 282 Trigger Point I (W, SU) 3 credits**

Introduction to trigger point therapy including fascial release, stretch and spray, post isometric muscle release, and advanced Swedish techniques.

Lecture: 3 hours

Prerequisite: MASS 292 Lab Fee: \$ 50.00

**MASS 283 Trigger Point II (A, SP) 3 credits**

Continuation of trigger point therapy including fascial release, stretch and spray, post isometric muscle release, and advanced Swedish techniques.

Lecture: 3 hours

Prerequisite: MASS 282 Lab fee: \$50.00

**MASS 284 Sports Massage (A, SP) 3 credits**

This course serves to bring together concepts discussed in previous program courses. Topics of discussion will revolve around exercise prescription for special populations including some disease states. Development and modification of institutional programming based on individual and group needs. Resources, content and delivery of health promotion programs will also be discussed.

Lecture: 3 hours

Prerequisite: MASS 262 and MASS 272 Lab fee: \$ 50.00

**MASS 285 Aromatherapy Basics for Massage Therapy (W, SU) 3 credits**

This course is designed for the massage therapist/massage student that has an interest in aromatherapy in combination with massage.

Lecture: 3 hours

Prerequisite: MASS 262 and MASS 272 Lab fee: \$50.00

**MASS 286 Spa Services for Massage Therapists (W, SU) 3 credits**

This course is designed to familiarize the massage therapist with treatments offered in a spa setting. Wet-room techniques and equipment are discussed, but the focus is on the delivery of spa treatments in a dry-room setting allowing the student to use spa treatments in a variety of settings (i.e. private practice or day spa) without the need for expensive wet-room equipment.

Lecture: 3 hours

Prerequisite: MASS 262 Lab fee: \$50.00

**MASS 292 Massage Practicum I (A, SP) 5 credits**

This course is an introduction to the clinical practice of massage therapy. The student will learn new techniques with specific applications for clinical situations. Students will have the opportunity to hone their clinical skills with experience gained in the student clinic.

Lecture: 3 hours – Lab 6 hours

Prerequisites: Successful completion of MASS 262 and MASS 272 or permission of the instructor Lab fee: \$50.00

**MASS 294 Massage Practicum II (W, SU) 5 credits**

This course is a continuation of MASS 292. The topics to be covered include, but are not limited to, different therapeutic approaches to the treatment of conditions that may benefit from the application of massage. This course includes additional clinical experience affording students the opportunity to refine their treatment skills and professional approach to the practice of massage therapy.

Lecture: 3 hours – Lab 6 hours

Prerequisites: Successful completion of MASS 292 and MASS 273 or by permission of the instructor Lab fee: \$50.00

**MASS 296 Massage Therapy Board Review (A, SP) 2 credits**

This course provides an overview of the Basic Sciences and Limited Branch sections of the Massage Therapy Program. The course is designed to assist in a massage student's preparation for the State of Ohio Medical Board licensure exam for Massage Therapy.

Lecture: 2 hours - Lab: 0 hours

Prerequisite: MASS 274

Corequisite: MASS 294 Lab fee: \$0

**MASS 298 Special Topics in Massage (On Demand) 1-3 credits**

This course brings together concepts discussed in previous program courses. Topics of discussion will revolve around massage therapy techniques other than Swedish Massage. Also covered will be the development and modification of institutional programming based on individual and group needs.

Lecture: 1-3 hours – Lab: 0 hours

Prerequisite: MASS 262

Co-requisite: MASS 272 Lab fee: \$50.00

**MASS XXX Massage Therapy Electives (A, W, SP, SU) 5 credits**

These courses provide massage therapy students with the ability to personalize their training program to better aid them once in the workforce. The approved technique elective courses are SES 231 and 236, SES 241, MULT 103, NURC 175, NURC 176, NURC 177, and MASS 298.

Lecture: 2–5 hours – Lab: 0

Prerequisites: Acceptance into the program

## Mathematics (MATH)

**MATH 100 Calculations and Dosages (A, W, SP, SU) 2 credits**

Course presents a review of the fundamental operations of arithmetic with fractions and decimal fractions; ratio and proportion calculations; an introduction to the metric and apothecary systems of measures; metric-

apothecary conversions; strengths of solutions; oral dosages and parenteral dosages; pediatric dosages by body weight; intravenous calculations.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: DEV 030 with a grade of “C” or higher Lab fee: \$2.00

**MATH 101 Business Mathematics (A, W, SP, SU, DL) 5 credits**

Course covers percents and the percent formula; gross earnings; FICA and withholding; trade discounts; mark-up and mark-down; simple and compound interest and present value; simple discount notes; annuities and loan amortization; inventory valuation methods and depreciation schedules. Also offers an introduction to descriptive statistics, mean, median, mode, and graphs. MATH 101 includes applications labs using Excel. This course has traditional and Web section offerings and meets degree requirement for the A.A.S. degree in several technical programs.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: DEV 031 with a grade of “C” or higher, or by placement Lab fee: \$6.00

**MATH 102 Beginning Algebra I (A, W, SP, SU, DL) 4 credits**

This course is a remedial preparatory course designed to improve the student's algebra and problem solving abilities. The course includes the real number system; order of operations; simplifying expressions; solving linear equations and inequalities in one variable; applications and modeling; an overview of graphing; linear equations in two variables; and relations and functions. These topics are taught using an approach that integrates algebraic, graphic and numeric methods whenever possible. This course has traditional, hybrid, and Web section offerings. It is not open to students with credit for MATH 103 or above. A TI-83/84 graphing calculator is required.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: DEV 031 with a grade of “C” or higher, or by placement Lab fee: \$4.00

**MATH 103 Beginning Algebra II (A, W, SP, SU, DL) 4 credits**

This course is a continuation of MATH 102 and is a remedial preparatory course designed to improve the student's algebra and problem-solving abilities. MATH 103 includes functions; systems of equations in two variables; applications and modeling; properties of exponents; scientific notation; polynomial arithmetic, factoring and equation solving; rational expression arithmetic and simplification; and complex fraction simplification. These topics are taught using an approach that integrates algebraic, graphic and numeric methods whenever possible. This course has traditional, hybrid and Web section offerings. It is not open to students with credit for MATH 104 or above. A TI-83/84 graphing calculator is required.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: MATH 102 with a grade of “C” or higher, or by placement Lab fee: \$4.00

**MATH 104 Intermediate Algebra (A, W, SP, SU, DL) 5 credits**

This course is a remedial preparatory course designed to improve the student's algebra and problem-solving abilities. The course includes interval notation; absolute value, rational, radical and quadratic equations; absolute value and polynomial inequalities in one variable; linear inequalities in two variables; compound inequalities in one and two variables; operations on radical expressions and expressions containing rational exponents; complex number system introduction; and applications and modeling. These topics are taught using an approach that integrates algebraic, graphic and numeric methods whenever possible. This course has traditional, hybrid, and Web section offerings. Not open to students with credit for MATH 110, 111, 112, 113, 116, 125, 130, or 148 and above. A TI-83/84 graphing calculator is required.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 103 with a grade of “C” or higher, or by placement Lab fee: \$4.00

**MATH 105 Fundamental Mathematics Concepts for Teachers I (A, W, SP, SU) 5 credits**

This course is designed to introduce the basic concepts of arithmetic and problem solving as appropriate for primary and middle school teachers. Development of these concepts will focus on the Ohio Standards and the Grade Level indicators. Instruction will also focus on the development of these concepts through the use of hands-on manipulatives, calculators and other appropriate technology. The role of technology and the NCTM Standards for the teaching and learning mathematics will be demonstrated, explored and discussed.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 104 or MATH 110 with a grade of “C” or higher, or by placement Lab fee: \$3.00

**MATH 106 Fundamental Mathematics Concepts for Teachers II (A, W, SP, SU) 5 credits**

MATH 106 is a continuation of MATH 105. This course develops the basic concepts of inductive geometry, deductive geometry, measurement, and informal logic as appropriate for primary and middle school teachers. Development of these concepts will focus on the Ohio Standards and the Grade Level indicators. Instruction will also focus on the development of these concepts through the use of hands-on manipulatives, calculators, and other appropriate technology. The role of technology and the NCTM Standards for the teaching and learning of mathematics will be demonstrated, explored and discussed.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 105 with a grade of “C” or higher Lab fee: \$3.00

**MATH 107 Condensed Algebra I (A, W, SP, SU) 5 credits**

This course is intended for those students who need a quicker review of algebra than provided in MATH 102 and 103. MATH 107 is a remedial preparatory course designed to improve the student’s algebra and problem-solving abilities. This course includes the real number system; order of operations; simplifying expressions; solving linear equations and inequalities in one variable; applications and modeling; overview of graphing; linear equations in two variables; relations and functions; compound inequalities in one and two variables; absolute value equations and inequalities in one variable; linear inequalities in two variables; systems of equations in two variables; properties of exponents; scientific notation; and polynomial arithmetic. These topics are taught using an approach that integrates algebraic, graphic and numeric methods whenever possible. A TI-83/84 graphing calculator is required. MATH 107 is not open to students with credit for MATH 110, 111, 112, 113, 116, 125, 130 or 148 and above.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: DEV 031 with a grade of “A”, or by placement Lab fee: \$4.00

**MATH 110 Condensed Algebra II (A, W, SP, SU) 5 credits**

This course is intended for those students who need a quicker review of algebra than provided in MATH 103 and 104. This course is a continuation of MATH 107 and is a remedial preparatory course designed to improve the student’s algebra and problem-solving abilities. This course includes properties of exponents; scientific notation; polynomial arithmetic; factoring and equation solving; rational expression arithmetic and simplification; complex fraction simplification; rational, radical and quadratic equations; polynomial inequalities in one variable; operations on radical expressions and expressions containing rational exponents; complex number system introduction; and applications and modeling. These topics are taught using an approach that integrates algebraic, graphic and numeric methods whenever possible. Not open to students with credit for MATH 111, 112, 113, 116, 125, 130 or 148 or above. A TI-83/84 graphing calculator is required.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 107 with a grade of “C” or higher, or by placement Lab fee: \$4.00

**MATH 111 Technical Mathematics I (A, SP) 4 credits**

A brief review of scientific notation and other algebraic concepts; dimensional analysis; significant digits; introduction to complex numbers; solutions to quadratic equations and applications of the quadratic function; solving formulas; ratio and proportion; direct and inverse variation; algebraic functions and rectangular coordinates; solutions to 2 x 2 linear systems; right triangle trigonometry. Lab work with a TI-83/84 Plus graphing calculator will be included. Not open to students with credit for MATH 148. Course meets degree requirement for Electronic Engineering, Mechanical Engineering, Computer Electronics, Quality Assurance, Electro-Mechanical and Aviation Maintenance technologies.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: MATH 103 with a grade of “C” or higher, or by placement Lab fee: \$3.00

**MATH 112 Technical Mathematics II (W, SU) 4 credits**

MATH 112 explores periodic functions with emphasis on graphing the sine and cosine curves; exponential and logarithmic functions; finding products, quotients, and roots of complex numbers in rectangular, polar, and exponential form; vectors and oblique triangles using the Law of Sines and the Law of Cosines; sequences, series, and summation notation; solving radical equations and equations in quadratic form; the equations of lines and circles and parabolas as conic sections. Lab work with the TI-83/84 Plus graphing calculator will be included. Not open to students with credit for MATH 150. Course meets degree requirement for Mechanical Engineering, Quality Assurance, and Electro-Mechanical Technologies.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: MATH 111 with grade of “C” or higher Lab fee: \$3.00

**MATH 116 Mathematics for the Liberal Arts (A, W, SP, SU, DL) 5 credits**

MATH 116 is a survey of modern mathematical topics relevant to everyday life intended for students who are not majoring in the physical sciences. This course applies critical thinking and problem solving skills to topics such as elementary graph theory, the mathematics of voting and apportionment, and probability. A TI-83/84 graphing calculator is required. This course is designed for the student who does not intend to take additional courses in mathematics. This course has traditional and Web section offerings. Course meets the general education requirement for the A.A. degree. Not open to students with credit for MATH 130 or 148 or above.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 104 with a grade of “C” or higher, or by placement Lab fee: \$4.00

**MATH 130 Mathematical Analysis for Business (A, W, SP, SU) 5 credits**

MATH 130 presents a review of applications of equations, inequalities and function notation. Course serves as an introduction to: graphs of functions, translations and reflections of graphs of functions; modeling of linear, quadratic, exponential, and logarithmic functions; matrices; addition, subtraction, multiplication, row reduction, and solving linear systems using row reduction; and the mathematics of finance: compound interest, annuities, amortization and sinking funds. Business applications evidenced throughout. A TI-83/84 graphing calculator is required. Not open to students with credit for MATH 116, 148, or MATH 150. Course meets the general education requirement for the A.A. degree for a student planning to transfer to a business college at a four-year university.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 104 or MATH 110 with a grade of “C” or higher, or by placement Lab fee: \$3.00

**MATH 131 Business Calculus I (A, W, SP, SU) 5 credits**

MATH 131 offers an introduction to differential calculus: limits, continuity, derivatives, rules for differentiation, derivatives of logarithmic and exponential functions, extrema, concavity and applied maxima and minima problems. Business applications evidenced throughout. A TI-83/84 graphing calculator is required. Not open to students with credit



for MATH 151. Course meets the general education requirement for the A.A. degree for a student planning to transfer to a business college at a four-year university.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 130 or MATH 148 with a grade of “C” or higher  
Lab fee: \$3.00

**MATH 132 Business Calculus II (A, W, SP, SU) 5 credits**

This course is an introduction to integral calculus and multivariable calculus; anti-derivatives, definite integrals, areas under a curve; Fundamental Theorem of Calculus; techniques of integration; differential equations; functions of several variables; partial derivatives; and extrema of functions of two variables. Business applications are evidenced throughout. A TI-83/84 graphing calculator is required. Not open to students with credit for MATH 152. Course meets general education requirement for the A.A. degree for a student planning to transfer to a business college at a four-year university.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 131 with grade of “C” or higher Lab fee: \$3.00

**MATH 135 Elementary Statistics (A, W, SP, SU, DL) 5 credits**

This course is designed to acquaint students with statistical methods used in gathering and analyzing data. The course includes sampling methods and data classification; descriptive statistics; percentiles and z-scores; basic concepts in probability; binomial and normal probability distributions; the Central Limit Theorem; estimating population parameters; hypothesis testing; and linear correlation and regression. A TI-83/84 graphing calculator is required. Not open to students with credit for MATH 233. This course has traditional, hybrid, and Web section offerings. Course meets basic related requirements for several A.A.S. degree technical programs. MATH 135 may be available as an honors class.

Lecture: 5 hours – Lab: 1 hour

Prerequisite: MATH 103 with grade of “C” or higher, or by placement  
Lab fee: \$7.00

**MATH 147 Trigonometry Module (A, SP) 1 credit**

This course is an introduction to angles and their measures, and trigonometric functions. Topics include: angle measurement, right triangle trigonometry, special angles, and applications of trigonometry. A TI-83 graphing calculator is required. Calculators that can do symbolic manipulations are not allowed. This module is intended to prepare students who have an adequate algebra background but lack the necessary trigonometry to succeed in Physics 117, Physics 181 or Physics 183. This course has Web section offerings.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: MATH 104 or MATH 110 with a grade of “C” or higher  
Lab fee: \$1.00

**MATH 148 College Algebra (A, W, SP, SU, DL) 5 credits**

This course is a continuation of the study of functions. The concept of transformations is used to graph and analyze quadratic, higher degree polynomial, power piecewise, rational, exponential, logarithmic functions. The function concept is applied to solving related equations and inequalities and applications regarding these types of functions. The concept of functions is extended to include composition of functions and inverse functions. Circles are defined and analyzed. Calculators that can do symbolic manipulations are not allowed. This course has traditional, hybrid, and Web section offerings and meets general education requirement for A.A. degree. Not open to students with credit for MATH 150 and above. This course can be substituted for MATH 130.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 104, MATH 110, or MATH 111 with a grade of “C” or higher, or by placement Lab fee: \$3.00

**MATH 150 Pre-Calculus (A, W, SP, SU) 5 credits**

MATH 150 presents a study of the trigonometric functions, vectors, and conic sections. Topics include right triangle trigonometry; trigonometry of general angles; the unit circle; the graphs of trigonometric functions;

analytical trigonometry; inverse trigonometric functions; verifying identities; solving trigonometric identities; the Law of Sines; the Law of Cosines; applications of trigonometry; polar equations and their graphs; geometric and algebraic vectors; vector applications; the conic sections are defined and analyzed algebraically and graphically. A TI-83/84 graphing calculator is required. Calculators that can do symbolic manipulations are not allowed. Course meets general education requirement for A.A. degree. Not open to students with credit for MATH 151 or above.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 148 with a grade of “C” or higher  
Lab fee: \$3.00

**MATH 151 Calculus and Analytic Geometry I (A, W, SP, SU) 5 credits**

Introduction to differential calculus: functions, limits, continuity, derivatives, differentiation rules, derivatives of the trigonometric and transcendental functions, related rates, extrema, curve sketching, optimization, and antiderivatives. Course topics have applications to problems in science and engineering. MATH 151 meets general education requirement for A.S. and A.A. degrees. MATH 151 may be available as an honors contract.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 150 with grade of “C” or higher, or by placement  
Lab fee: \$2.00

**MATH 152 Calculus and Analytic Geometry II (A, W, SP, SU) 5 credits**

MATH 152 is an introduction to integral calculus: antiderivatives, definite integral, areas under a curve, Fundamental Theorem of Calculus, integration of exponential, logarithmic, trigonometric, inverse trigonometric and hyperbolic functions; volume and surface area of solids of revolution, arc-length, and methods of integration. Also includes L'Hopital's Rule and improper integrals. Course topics have applications to problems in science and engineering. Course meets general education requirement for A.S. and A.A. degrees.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 151 with grade of “C” or higher Lab fee: \$2.00

**MATH 153 Calculus and Analytic Geometry III (A, W, SP, SU) 5 credits**

Course is a continuation of differential and integral calculus: infinite sequences and series, conic sections, plane curves and polar coordinates, vectors in the plane and in space, and analytic geometry in space. Course topics have applications to problems in science and engineering. An introduction to vector valued functions is included. MATH 153 meets general education requirement for A.S. and A.A. degrees.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 152 with grade of “C” or higher Lab fee: \$2.00

**MATH 207 Topics in Mathematics for Teachers (A, W, SP, SU) 5 credits**

MATH 207 is a continuation of MATH 106. It develops basic concepts of number theory, combinatorial counting, probability, statistics, functions, sequences and series as appropriate for primary and middle school teachers. Development of these concepts will focus on the Ohio Standards and the Grade Level indicators. Instruction will also focus on the development of these concepts through the use of hands-on manipulatives, calculators, and other appropriate technology. The role of technology and the NCTM Standards for the teaching and learning of mathematics will be demonstrated, explored and discussed. Course meets general education requirements for the A.S. and A.A. degrees.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 106 with grade of “C” or higher Lab fee: \$2.00

**MATH 233 Statistics for Business (A, W, SP, SU) 5 credits**

This course is designed to acquaint students with statistical methods used in gathering and analyzing data. The course includes: designing samples and experiments; descriptive statistics with graphs and numbers; correlation and regression; concepts in probability binomial, normal, and other probability distributions; the Central Limit Theorem; confidence

intervals; tests of significance; and hypothesis testing. Applications in business, management and economics are emphasized. A TI-83/84 graphing calculator is required. MATH 233 meets general education requirement for A.S. and A.A. degrees.

Lecture: 5 hours – Lab: 1 hour

Prerequisite: MATH 132 or MATH 152 with grade of “C” or higher Lab fee: \$7.00

#### **MATH 254 Multivariable Calculus (A, W, SP, SU) 5 credits**

MATH 254 presents an introduction to multivariable calculus. Topics includes vector valued functions and motion in the plane and in space, functions of several variables, partial derivatives, directional derivatives, gradients, extrema, multiple integrals, line integrals and Green’s Theorem. Course topics have applications to problems in science and engineering. Meets general education requirement for the A.S. and A.A. degrees.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 153 with a grade of “C” or higher Lab fee: \$2.00

#### **MATH 255 Elementary Differential Equations (SU) 5 credits**

MATH 255 is a study of the basic concepts and methods of solving ordinary differential equations, first and second order, higher order linear equations, Laplace transform methods, series solutions, and numerical solutions of differential equations. Topics have applications to the physical sciences and engineering. MATH 255 meets general education requirements for the A.S. and A.A. degrees.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 254 with grade of “C” or higher Lab fee: \$2.00

#### **MATH 266 Discrete Mathematical Structures (W, SP, SU) 5 credits**

This course covers mathematical formalization and reasoning; logic; sets, functions; methods of proof, recursive definitions; mathematical induction; elementary counting techniques, probability theory; relations; equivalence relations; Boolean algebra, logic gates and elementary counting principles. Course meets general education requirements for the A.S. and A.A. degrees.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 152 with a grade of “C” or higher Lab fee: \$2.00

#### **MATH 268 Elementary Linear Algebra (W, SU) 5 credits**

Students will learn about linear systems, matrices, and determinants; vector spaces,  $\mathbb{R}^N$  and its subspaces; eigenvalues, eigenvectors, and applications; orthogonal matrices; linear transformations; complex scalars and applications. MATH 268 meets general education requirement for the A.S. and A.A. degrees.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 254 with a grade of “C” or higher, or department chairperson approval Lab fee: \$2.00

#### **MATH 277 Probability and Statistics I (A, W) 5 credits**

MATH 277 introduces probability theory, discrete and continuous random variables, probability distributions, expected value, the Normal Distribution, and descriptive statistics. Applications to problems in science, engineering, computer science, and related areas explored. The MATH 277-278 sequence is intended primarily for students majoring in science, engineering, mathematics, or computer science, or for any student needing a calculus-based sequence in probability and statistics.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 254 with grade of “C” or higher Lab fee: \$2.00

#### **MATH 278 Probability and Statistics II (SP) 5 credits**

MATH 278 continues MATH 277 and covers statistical estimation and sampling distributions, one and two sample estimation; one and two sample hypothesis tests for proportions, means, variances; simple linear regression and correlation; discrete data analysis; analysis of variance; and selected topics from nonparametric statistics, multiple linear regression; and statistical quality control. Topics have applications to problems in science, engineering, computer science, and related areas. The MATH 277-278 sequence is intended primarily for students majoring in science,

engineering, mathematics, or computer science, or for any student needing a calculus-based sequence in probability and statistics.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MATH 277 with grade of “C” or higher Lab fee: \$2.00

#### **MATH 285 Ordinary and Partial Differential Equations**

(A, W, SP, SU)

**6 credits**

Course covers ordinary and partial linear and nonlinear differential equations, Fourier series, separation of variables in partial differential equations. Applications to engineering and the physical sciences are noted. Not open to students with credit for MATH 255. Course meets general education requirement for the A.S. and A.A. degrees.

Lecture: 6 hours – Lab: 0 hours

Prerequisite: MATH 254 with a grade of “C” or higher or department chairperson approval Lab fee: \$2.00

## **Mechanical Engineering Technology (MECH)**

#### **MECH 112 Computer Applications in Manufacturing**

(A, W, SP, SU)

**3 credits**

This is an introductory level computer course for Engineering Technology students. The course introduces computer technology critical to the subsequent success in studies of CAD, CAM, Numerical Control Machining and Computer Programming for Technicians. Students will complete assignments in Microsoft Office as well as cover DOS commands and applications, Windows, the Web and the basic hardware of the computer.

Lecture: 2 hours – Lab: 3 hours Lab fee: \$10.00

#### **MECH 115 Engineering Graphics (A, SP)**

**4 credits**

This course is designed to give the beginning engineering technology student a basic foundation in blueprint reading, manual drafting, and beginning AutoCAD.

Lecture: 2 hours – Lab: 4 hours Lab fee: \$15.00

#### **MECH 120 Mechanical Drafting I (W, SU)**

**3 credits**

This course is an introductory drafting and blueprint reading course that teaches students how to draw and interpret orthographic and isometric views of various objects and components. Dimensioning, fasteners, section views, assembly and sub-assembly drawings, and Bills of Material are examined in depth. Emphasis is placed on interpretation of drawings as well as being able to do simple manual construction of views.

Lecture: 1 hour – Lab: 5 hours Lab fee: \$10.00

#### **MECH 130 Statics (A, SP)**

**4 credits**

This course deals with the principles of trusses, frames, machines and machine components. The course will offer the student experience in dealing with coplanar load systems that are concurrent, parallel and coplanar.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: PHYS 117 Lab fee: \$15.00

#### **MECH 145 2D Computer Aided Drafting (W, SU)**

**4 credits**

This course introduces students to Computer Aided Drafting using AutoCAD software. Two-dimensional drafting techniques are utilized to teach fundamental and intermediate concepts of computer aided drafting. Course presents commands and functions applicable to all computer aided drafting systems. Students apply this knowledge to drawings related to the field of mechanical engineering, alternative energy, and other two-dimensional drawings.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: MECH 115

**MECH 150 Manufacturing Materials and Processes (W, SU)****4 credits**

This is a course that will acquaint the technician with the nature, properties, performance, characteristics, manufacturing processes, and practical uses of various engineering materials. Materials such as ferrous and nonferrous metals as well as polymers, ceramics, and composites will be covered. Both primary and secondary processes will be covered.

Lecture: 2 hours – Lab: 4 hours Lab fee: \$15.00

**MECH 175 3D Computer Aided Drafting (A, SP)****4 credits**

This course is an extension of MECH 145. Course includes the study of practical applications of computer graphics with isometric and three-dimensional drawing techniques to solve mechanically related problems and to produce mechanical drawings.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: MECH 145

**MECH 215 Parametric CAD (A, SP)****4 credits**

This is an advanced course in 3D design and production oriented information. Students will create production drawings and documentation required to take a product from concept to design, sales, prototyping, production, and final assembly. Students will be utilizing AutoCAD, Inventor, and additional software operating in conjunction with AutoCAD. Lecture: 2 hour– Lab: 4 hours Prerequisite: MECH 175 Lab Fee: \$30.00

**MECH 240 Machine Tools (A, W, SP, SU)****4 credits**

This course features hands-on operation of mills, lathes, shapers, and grinders in addition to instruction in safety practices and related theory needed for operating these machines. Additional instruction will be given on cutting tool materials and geometry, feeds and speeds, and associated bench practices.

Lecture: 2 hours – Lab: 6 hours Lab fee: \$30.00

**MECH 242 Strength of Materials (W, SU)****4 credits**

This course is a study of the application of external loads to rigid bodies and the analysis of the resulting stresses produced within those bodies. Study will be devoted to thermal expansion, bolted and welded joints, thin-walled pressure vessels, beam stresses and deflection, beam design, column stresses and column design.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: MECH 130 Lab fee: \$15.00

**MECH 243 Robotics (W, SU)****4 credits**

This course presents robotic operations and system configurations. Students are required to flowchart, code, compile, and debug programs using the Fanuc Karel programming language. Hands-on experience with robotic systems is gained through teaching and executing the programs on an articulated 6 axis Fanuc S-6 robot.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: MECH 112 Lab fee: \$10.00

**MECH 252 Computer Programming for Technicians-Python (W, SU)****3 credits**

A course designed to instruct students in the use of Python in solving engineering problems. Students will design, flowchart, code, compile, and debug programs in this course. Hands-on experience is gained through interfacing digital I/O boards using Python.

Lecture: 1 hour – Lab: 5 hours

Prerequisites: MECH 112 and placement into MATH 103 or higher

Lab fee: \$10.00

**MECH 253 Numerical Control (SP)****4 credits**

This course is designed for the beginning student and covers manual computer numerical control programming. Each student will prepare numerical control programs in both absolute and incremental positioning systems using standard industrial G and M codes. Students will program for state-of-the-art computerized numerical control equipment including

mills and lathes. Each student will prepare and debug programs and setup and operate computer numerical controlled equipment in the lab.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: MATH 112 and MECH 240 Lab fee: \$25.00

**MECH 260 Basic Mechanisms (WI, SU)****4 credits**

This course is a study of common industrial mechanisms (linkages, gears, and cams). In addition, support components (bearings, clutches, couplings, brakes, and springs) and drive systems (belt drives, chain drives, and gear drives) are examined.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: MECH 115 Lab fee: \$10.00

**MECH 261 Machine Design (SP, SU)****4 credits**

This course is designed as a capstone experience for Mechanical Engineering Technology students. Students are required to demonstrate their ability to solve engineering problems using skills and knowledge gained through their course work. The class, as a team, will participate in designing and prototyping a machine or mechanism related to the field.

Lecture: 2 hours – Lab: 6 hours

Prerequisites: MECH 242 Lab fee: \$25.00

**MECH 270 Engineering Statistics (A, SP)****4 credits**

This course provides a broad overview of statistical methods in data analysis and process control practices in the industrial environment. Course includes presentation of the philosophy and practices of modern quality control principles, sampling methods and data classification, descriptive statistics, percentiles and z-scores, linear correlation and regression, basic probability, control chart applications, acceptance sampling, frequency distributions, and process capability studies.

Lecture: 3 hours – Lab: 3 hours Prerequisites: Math 103

## Medical Assisting (MAT)

**MAT 100 Introduction to Medical Assisting (A)****3 credits**

This course provides an overview of the medical assisting profession, introducing the student to the history of medicine. Emphasis is placed on professionalism, communication, medical specialties, and medical law and ethics. The importance of professional organizations at the national, state and local levels is examined, as well as the credentialing of the medical assistant.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Placement into MATH 102 or completion of MATH 101 with a grade of 'C' or higher and acceptance into the program

**MAT 111 Clinical Procedures–Lecture (A)****3 credits**

This course introduces the student to the entry-level skills typically performed by the medical assistant in the clinical area of the medical office. Discussion of the Standard Precautions and compliance with federal regulatory agencies is included. Competency-based skills are instructed through theoretical presentations and will include infection control, sanitization, sterilization using the autoclave, hand-washing, measuring and recording vital signs, measuring height and weight, setting up the physical examination tray, positioning patients and assisting the physician in examinations. The guidelines for OSHA compliance are discussed.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Acceptance into the program

**MAT 113 Clinical Procedures–Lab (A)****2 credits**

This course will demonstrate the entry-level skills and allow the students to perform them hands-on to a competency level. The students will be expected to explain the theory and demonstrate the practical aspects of the clinical skills following a check-off format outlined by the instructor.

Lecture: 0 hours – Lab: 6 hours

Prerequisite: Acceptance into the program Lab fee: \$45.00

**MAT 121 Advanced Medical Assisting (W) 5 credits**

This course will instruct the medical assisting student in the skills beyond the basic entry-level. The advanced skills will include electrocardiography, minor surgery in the medical office, rehabilitation and physical therapy, radiology in the medical office, nutrition and diet therapy and the importance of accurate patient education. The student will explain and demonstrate the practical aspects of the advanced skills following a check off format outlined by the instructor. Diseases, medical conditions and illnesses treated in the medical office by the various medical specialties will be studied.

Lecture: 3 hours – Lab: 6 hours

Prerequisite: MAT 111/113, MAT 100 Lab fee: \$70.00

**MAT 122 Advanced Office Procedures–Lecture (W) 3 credits**

This course will instruct the student on the administrative skills expected of the entry-level medical assistant through theoretical presentations. Topics to be covered and demonstrated to competency-level are communications, computer concepts, medical records management, screening and processing mail, scheduling and monitoring appointments, office inventory and supplies, operating office equipment, telephone technique and managing practice finances. Application of ICD (diagnosis) and CPT (procedural) coding and insurance claim submission will be included. Discussion and application of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) will be included as well as the importance of patient confidentiality.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: MAT 100

**MAT 123 Advanced Office Procedures–Lab (W) 1 credit**

This course introduces the student to advanced aspects of the medical office through practical presentations. Topics include communications, computer concepts, medical records management, screening and processing mail, scheduling and monitoring appointments, operating office equipment and managing practice finances.

Lecture: 0 hours – Lab: 3 hours

Prerequisites: MAT 100 Lab fee: \$18.00

**MAT 230 Pharmacology (SP) 4 credits**

This course introduces the pharmacology of commonly prescribed drugs in the medical office. The lecture portion allows the student to learn drug laws, brand and generic drug names, prescription abbreviations, prescription format, drug uses and body reactions. The laboratory section will include the demonstration, technique and theory of administration of medications in the medical office setting; included will be intradermal, subcutaneous, and intramuscular routes as well as oral, topical, sublingual, vaginal and rectal administration. The theory and principal of IV medication therapy is discussed. The accuracy of recording medications in the medical record is emphasized. Student will be expected to perform to competency level the pharmacological skills in check-off format outlined by the instructor.

Lecture: 3 hours – Lab: 3 hours

Prerequisites: MATH 100 with a grade of “C” or better, MAT 111/113, MAT 121 Lab fee: \$60.00

**MAT 238 Computer Application for the Medical Office (SP) 3 credits**

This course introduces the medical office computer package to the student. The theory of the utilization of a medical office computer package is demonstrated and includes creating a physician data base, preparing patient demographics and daily appointment scheduling, as well as preparing daily, monthly and yearly billing cycles. A complete review of coding diagnosis and procedures and insurance claim submissions is included. Internet research of physician and medical practices Web sites is demonstrated. The lab portion includes allowing the student to practice the principals of the medical office computer package through hands-on production of office

simulations discussed in the lecture portion. The student will be expected to prepare a portfolio of the medical office package to competency level in check-off format as directed by the instructor.

Lecture: 1 hour – Lab: 6 hours

Prerequisite: MAT 100, MAT 122/123 Lab fee: \$10.00

**MAT 240 Physician’s Office Laboratory (SP) 5 credits**

This course provides the student with an overview of the procedures utilized to collect and process specimens in a physician’s office setting. Emphasis is placed on methods of collection, processing of specimens and quality control. Additionally, the student is introduced to the microscope, the techniques of capillary puncture and venipuncture (vacutainer method), urinalysis, blood typing, microbiology procedures, and understanding the normal ranges and the various laboratory reports.

Lecture: 3 hours – Lab: 6 hours

Prerequisite: MAT 111/113, MAT 121, BIO 121/122 Lab fee: \$150.00

**MAT 260 Ethical and Professional Principles in the Medical Office (SU) 2 credits**

MAT 260 examines the medical ethical, legal and bioethical issues encountered in today’s medical office. The course will focus on legal/ethical aspects of medicine. Additional focus will be placed on current legislative statutes that affect the practicing medical assistant.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: MAT 240, Corequisites: MAT 290, 296

**MAT 290 Practicum (SU) 2.5 credits**

MAT 290 offers an opportunity for practical experience in a physician’s office combining the administrative, clinical and laboratory skills of patient care under the supervision of a licensed physician or a certified medical assistant. Students will be placed in various health care facilities and will serve 180 *unpaid* externship hours.

Lecture: 0 hours – Lab: 18 hours

Prerequisites: Completion of all administrative and clinical MAT courses. Lab fee: \$50.00

**MAT 296 Seminar (SU) 2 credits**

MAT 296 offers group discussion of topics related to practicum experiences as well as current trends and topics in the medical assisting profession. Students will be responsible for projects and simulations of daily medical office activities. Students will participate with a review of the CMA exam and present a professional portfolio of individual competency check-off sheets and completed projects.

Lecture: 2 hours – Lab: 0 hours

Prerequisites: MAT 122, MAT 123, MAT 238, MAT 230, MAT 240

Lab Fee: \$7.50

## Medical Laboratory Technology (MLT)

**Lab fees: Lab supply fees are waived for Distance Learning courses.**

**MLT 100 Introduction to Health Care (A, W, SP, SU, DL) 3 credits**

This course provides a general introduction to health care in the U.S., covering topics such as the history of Western medicine, legal and ethical issues, alternative medicine, safety issues, and the evolution of hospitals, medical education, and insurance. The course is taught through a combination of in-class and online materials and will provide students in health-related fields with the background necessary to pursue further studies.

Lecture: 3 hours

Prerequisite: Placement into ENGL 100

**MLT 120 Introduction to MLT (SU, DL) 2 credits**

This course will provide an in-depth examination of the role and responsibilities of the Medical Laboratory Technician as an important professional in the delivery of quality health care. Discussions will include such topics quality assurance, the general organization and operational activities of a clinical laboratory, and career opportunities for MLT graduates. In addition, students will be introduced to specimen collection and processing techniques, equipment used in the clinical laboratory, safety policies and procedures, and the application of laboratory mathematics.

Lecture: 2 hours

Prerequisites: Acceptance into the MLT program

Corequisite: MLT 121

**MLT 121 Introduction to MLT Lab (SU, DL) 1 credit**

This course provides lab component to complement MLT 120. Students will have an opportunity to visit a clinical laboratory and meet with practicing laboratory personnel. Students will be introduced to specimen collection and processing procedures, principles of math, quality assurance, safety and the laboratory operational activities.

Lab: 3 hours

Prerequisites: Acceptance into the MLT program

Corequisite: MLT 120 Lab fee: \$50.00

**MLT 130 Immunology (SU, DL) 3 credits**

This course studies the immune system, the nature of immune responses, and the application of immunological reactions to a variety of diagnostic laboratory procedures including but not limited to: Cold Agglutinin Titer Tests, Heterophile Testing, Serological Tests for Syphilis, Anti-Streptolysin O Tests, Tests for C-Reactive Protein and the Rheumatoid Factor, and various tests for pregnancy. Also included are discussions of precipitation tests, labeled immunoassays, and the etiology and diagnosis of immunologically mediated diseases.

Lecture: 3 hours

Prerequisites: MLT 141, MLT 142 completed with a grade of C or higher

Corequisite: MLT 131

**MLT 131 Immunology Lab (SU, DL) 2 credits**

This course provides a lab component to complement MLT 130. Emphasis is placed on commonly performed serological tests including but not limited to: Cold Agglutinin Titer Tests, Heterophile Testing, Serological Tests for Syphilis, Anti-Streptolysin O Tests, Tests for C-Reactive Protein and the Rheumatoid Factor, and various tests for pregnancy. Students will also learn the basics of laboratory glassware, pipetting, and making dilutions and cell suspensions.

Lab: 4 hours

Prerequisite: MLT 141, MLT 142 completed with a grade of C or higher

Corequisite: MLT 130 Lab fee: \$175.00

**MLT 141 Hematology I (SP, DL) 3 credits**

This course is an introduction to theoretical concepts in Hematology that includes basic laboratory techniques and procedures; the study of the origin, formation, and differentiation of blood formed elements, and an introduction to the process of hemostasis. Included are the manual and automated techniques and principles used in evaluating red blood cells, white blood cells, platelets, reticulocytes, erythrocyte sedimentation rate, hemoglobin, hematocrit, and normal white blood cell differentials. The basic process of coagulation will be discussed, and will include the principles and methods of the prothrombin time (INR), and activated partial thromboplastin time screening tests.

Lecture: 3 hours

Prerequisite: Acceptance into the program

Corequisite: MLT 142

**MLT 142 Hematology Lab (SP, DL) 3 credits**

This course presents the application of introductory Hematology laboratory skills that include basic laboratory techniques and procedures; the study of the origin, formation, and differentiation of blood formed elements,

and an introduction to the process of hemostasis. Included are techniques (manual and automated) used in evaluating red blood cells, white blood cells, platelets, hematocrit, hemoglobin, and normal white blood cell differentials. Reticulocytes, erythrocyte sedimentation rate, and the basic coagulation screening tests prothrombin time (INR), and activated partial thromboplastin time are also included.

Lab: 9 hours

Prerequisite: Admission to program

Corequisite: MLT 141 Lab fee: \$175.00

**MLT 180 Special Topics in Medical Laboratory (On Demand) 1 credit**

Students work independently on a research project related to the field of clinical laboratory science and present their findings.

Lecture: 1 hour

Prerequisite: Permission of coordinator

**MLT 181 Special Topics in Medical Laboratory (On Demand)****2 credits**

Students work independently on a research project related to the field of clinical laboratory science and present their findings.

Lecture: 2 hours

Prerequisite: Permission of coordinator

**MLT 182 Special Topics in Medical Laboratory (On Demand)****3 credits**

Students work independently on a research project related to the field of clinical laboratory science and present their findings.

Lecture: 3 hours

Prerequisite: Permission of coordinator

**MLT 220 Immunohematology (SP, DL) 4 credits**

MLT 220 presents the theory (lecture) portion of Immunohematology that must accompany the laboratory skills used to accurately perform, interpret, and report the routine serological procedures used in pretransfusion testing according to AABB (American Association of Blood Banks) standards. These procedures include: ABO and Rh phenotyping, antibody screening, and the proper selection and crossmatching of donor blood. Studies also include discussions of other common blood group systems, identification of unexpected antibodies, and resolution of the most commonly encountered serological difficulties. In addition, time is spent studying donor blood collection and processing for component therapy, blood transfusion practices, adverse effects of blood transfusion, investigation of transfusion reactions, Hemolytic Disease of the Newborn, and the administration of Rh Immune Globulin.

Lecture: 4 hours

Prerequisites: MLT 130, MLT 131 completed with a grade of C or higher

Corequisite: MLT 223

**MLT 223 Immunohematology Lab (SP, DL) 3 credits**

MLT 223 presents the actual hands on (laboratory) portion of Immunohematology to teach the laboratory skills needed to accurately perform, interpret, and report the routine serological procedures used in pretransfusion testing according to AABB (American Association of Blood Banks) standards. These procedures include: ABO and Rh phenotyping, antibody screening, and the proper selection and crossmatching of donor blood. Also included is laboratory application of other common blood group systems, identification of unexpected antibodies, and resolution of the most commonly encountered serological difficulties. In addition, students perform and interpret case studies involving the investigation of transfusion reactions, Hemolytic Disease of the Newborn, and the administration of Rh Immune Globulin.

Lab: 9 hours

Prerequisites: MLT 130, MLT 131 completed with a grade of C or higher

Corequisite: MLT 220 Lab fee: \$250.00

**MLT 240 Hematology II (SU, DL) 2 credits**  
This course presents an advanced theoretical study of Hematology. Anemias, hemoglobin disorders, benign disorders of leukocytes, leukemias, cytochemistry, and hemostasis will be covered. Abnormal morphologic characteristics of cells will be correlated with other laboratory results and disease processes. The study of Hematology instrumentation will include interpretation of abnormal histograms and scatterplots that are correlated clinically. Clinical interpretation and correlation is also included in the study of instrumentation that evaluates coagulation status and platelet function.  
Lecture: 2 hours  
Prerequisites: MLT 141, MLT 142 completed with a grade of C or higher  
Corequisite: MLT 245

**MLT 242 Body Fluids (W, SU, DL) 2 credits**  
This course presents the theoretical study of the physical, chemical, and microscopic evaluation of urine, feces, cerebrospinal fluid, synovial fluid, serous fluid, amniotic fluid, and seminal fluid. Results of the physical, chemical, and microscopic evaluation of these body fluids will be correlated clinically.  
Lecture: 2 hours  
Corequisite: MLT 243

**MLT 243 Body Fluids Lab (SU, DL) 2 credits**  
This course presents the application of the physical, chemical, and microscopic evaluation of urine, feces, cerebrospinal fluid, synovial fluid, serous fluid, amniotic fluid, and seminal fluid. Results of the physical, chemical, and microscopic evaluation of these body fluids will be correlated clinically.  
Lab: 4 hours  
Corequisite: MLT 242 Lab Fee: \$100.00

**MLT 244 Medical Laboratory Case Studies (SU, DL) 3 credits**  
This capstone course provides a cumulative review of clinical laboratory procedures and theoretical concepts from all phases of laboratory testing. Emphasis is placed on recall and application of theory, correlation, and evaluation of all areas of clinical laboratory science. Upon completion, students should be prepared for national certification examinations and for their clinical practicum.  
Lecture: 3 hours  
Prerequisite: All technical courses completed with a grade of C or higher

**MLT 245 Hematology II Lab (SU, DL) 2 credits**  
This course presents the application of the advanced study of Hematology. Anemias, hemoglobin disorders, benign disorders of leukocytes, leukemias, cytochemistry, and hemostasis will be covered. Abnormal morphologic characteristics of cells will be correlated with other laboratory results and disease processes. The study of Hematology instrumentation will include interpretation of abnormal histograms and scatterplots that are correlated clinically. Clinical interpretation and correlation is also included in the study of instrumentation that evaluates coagulation status and platelet function.  
Lab: 4 hours  
Prerequisites: MLT 141, MLT 142 completed with a grade of C or higher  
Corequisite: MLT 240 Lab fee: \$150.00

**MLT 250 Clinical Microbiology (W, DL) 4 credits**  
This course presents an introduction to the theoretical study of laboratory identification and correlation of microbial agents associated with disease in man. Techniques utilized to isolate, identify, and evaluate the presence of clinically significant microorganisms will be presented. The course also includes an introduction into the study of medical mycology, parasitology, and virology.  
Lecture: 4 hours  
Prerequisite: BIO 215  
Corequisite: MLT 251

**MLT 251 Clinical Microbiology Lab (W, DL) 4 credits**  
This course is a practical introduction to the laboratory identification of microbial agents associated with disease in man. Techniques utilized to isolate, identify, and evaluate the presence of clinically significant microorganisms will be presented and practiced. The course also includes an introduction into the study of medical mycology and parasitology.  
Lab: 12 hours  
Prerequisite: BIO 215  
Corequisite: MLT 250 Lab fee: \$250.00

**MLT 260 Clinical Chemistry (A, DL) 3 credits**  
This course presents the theory of biochemistry to laboratory medicine and the understanding of the human in health and disease. Analytical procedures utilized to determine chemical constituents in blood, urine and other body fluids will be presented. The chemical principles of the methods will be discussed as well as the correlation of test results as indicators of presence or absence of disease.  
Lecture: 3 hours  
Prerequisite: CHEM 113 and BIO 122

**MLT 261 Clinical Chemistry Lab (A, DL) 3 credits**  
This course presents the application of biochemistry to laboratory medicine and the understanding of the human in health and disease. Analytical procedures utilized to determine chemical constituents in blood, urine and other body fluids will be presented. The chemical principles of the methods will be discussed as well as the correlation of test results as indicators of presence or absence of disease.  
Lab: 9 hours  
Prerequisite: CHEM 113 and BIO 122  
Corequisite: MLT 260 Lab fee: \$250.00

**MLT 270 Clinical Practicum (A, W, SP, SU) 5 credits**  
This course provides students with entry-level clinical laboratory experience in a supervised laboratory setting. Students participating in the on-campus program will be placed in one of several clinical affiliates within an approximate 60 mile radius of Columbus. Students will be required to provide their own transportation. Upon completion, students should be able to demonstrate competency in career entry-level areas.  
Lecture: 0 hours – Lab: 35 hours  
Prerequisite: All technical courses completed with a grade of C or higher  
Corequisite: MLT 271 Lab fee: \$45.00

**MLT 271 Clinical Seminar (A, DL) 2 credits**  
This course surveys professional issues in preparation for career entry. Students share selected case studies and other problem solving experiences they have encountered during their practicum. In addition, guest speakers are provided to prepare students for credentialing examinations, postgraduate studies, employment opportunities, and to introduce the latest technological advances in the clinical laboratory science field.  
Lecture: 2 hours – Lab: 0 hours  
Corequisite: MLT 270

## Clinical Laboratory Assisting Certificate

**CLA 100 Laboratory Theory for Health Related Industries (W, SU, DL) 2 credits**  
This course is designed to provide theoretical concepts for individuals in the health related industries who may be interested in learning an additional set of medically related skills. This knowledge and skill set is intended to enhance current job proficiency or for potentially increasing employability in entry-level health-related positions. The course is designed to encourage phlebotomists, medical assistants, nursing assistants, and other health-oriented industry personnel to achieve competencies requiring basic laboratory testing as a part of the facility's services.  
Lecture: 2 hours

Prerequisites: Placement into ENGL 101 or ENGL 111 or completion of ENGL 100 with a grade of “C” or better, high school biology (“C” or better) within the last five years, or completion of BIO 100 (“C” or better), completion of MLT 100 (“C” or better), HIMT 245A (“C” or better), Placement into NO READING REQUIRED  
Corequisite: CLA 101

### **CLA 101 Laboratory Techniques for Health-Related Industries (W, SU) 2 credits**

This course is designed to provide the application of theoretical concepts for individuals in the health-related industries who may be interested in learning an additional set of medically related skills. This knowledge and skill set is intended to enhance current job proficiency or for potentially increasing employability in entry-level health-related positions. The course is designed to encourage phlebotomists, medical assistants, nursing assistants, and other health-oriented industry personnel to achieve competencies requiring basic laboratory testing as a part of the facility’s services.

Lab: 4 hours

Prerequisites: Placement into ENGL 101 or ENGL 111 or completion of ENGL 100 with a grade of “C” or better, high school biology (“C” or better) within the last five years, or completion of BIO 100 (“C” or better), completion of MLT 100 (“C” or better), HIMT 245A (“C” or better), Placement into NO READING REQUIRED

Corequisites: CLA 100 Lab Fee \$300.00

## **Mental Health/Addiction Studies/ Developmental Disabilities (MHAD)**

### **MHAD 111 Introduction to Mental Health (A, W, SP, SU) 4 credits**

This entry-level course provides the student with a comprehensive overview of the mental health field as it relates to historical and contemporary issues impacting the mental health field, as well as service delivery components and barriers. The student acquires knowledge of clinically-based mental health skills needed to understand and contribute to the assessment process. This course must be completed with a “C” or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 or 111, placement out of DEV 044 and 031 Lab fee: \$12.00

### **MHAD 112 Introduction to Developmental Disabilities (A, W, SP, SU) 3 credits**

This entry-level course provides the student with an overview of the developmental disability field as it relates to contemporary and historical issues impacting persons with disabilities and the service delivery system. Students will gain knowledge of definitions, causes, and characteristics of a variety of developmental disabilities as well as the services available to individuals with developmental disabilities. Principles of self-determination, behavior supports, and advocacy will be discussed. This course must be completed with a “C” or higher.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 or 111, placement out of DEV 044 and 031 Lab fee: \$12.00

### **MHAD 114 Intro to Addiction Studies (A, W, SP, SU) 4 credits**

This is an entry-level course providing the student with an overview of the field of addiction studies. Personal, historical and cultural influences and models utilized to understand substance use disorders and the DSM IV diagnostic criteria are explored. Common drugs of abuse and their impact on the individual, family and society are presented. Students also explore community resources available to persons with substance use disorders and their family members. Legal, ethical, personal and professional challenges are explored. Students completing this course meet the 40 hours of chemical dependency education required by the Ohio Chemical Dependency Professionals Board for the Chemical Dependency Counselor

Assistant (CDCA). This course must be completed with a “C” or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 or 111, placement out of DEV 044 and 031 Lab fee: \$12.00

### **MHAD 115 Introduction to Counseling (A, W, SP, SU) 4 credits**

This introductory course focuses on the development of basic interviewing, rapport building, and active listening skills for the beginning student. Confidentiality and its meaning in the field of human services is also explored. The student gains a beginning understanding of the process and principles in establishing effective helping relationships using attending behaviors, effective questioning, empathy, and self-awareness. Students are also exposed to the skills needed to effectively evaluate themselves following a simulated active listening session. This course must be completed with a “C” or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 or 111, placement out of DEV 044 and 031 Lab fee: \$12.00

### **MHAD 117 Intro to Documentation Skills (A, W, SP, SU) 2 credits**

The emphasis in this introductory course is on the use of behavioral writing to document services delivered to clients. Students learn beginning skills needed to maintain records, including writing progress notes. This course must be completed with a “C” or higher.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 or 111, placement out of DEV 044 and 031 Lab fee: \$15.00

### **MHAD 135 Intervention Strategies (A, W, SP, SU) 4 credits**

This core course focuses on understanding individual behavior. Students will learn skills and strategies for de-escalating, resolving, and preventing conflict, aggression, and violence between people within agencies and their programs. Topics include building healthy relationships, proactive interaction, the crisis cycle, effects of trauma, purpose and appropriate use of physical interaction, positive behavior support, the stages of change, behavior support plans, and teaching healthy choices. This course must be completed with a “C” or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: Admission to the program Lab fee: \$16.00

### **MHAD 150 Pharmacology in Human Services (A, W, SP, SU) 2 credits**

This is a required course in all three tracks in the MH/AS/DD program. This course examines the composition, uses and effects of various psychoactive and psychotropic drugs. Commonly used psychotropic medications, the psychiatric conditions for which they are prescribed, and frequently experienced side effects are discussed. An overview of the central nervous system and drug/neurotransmitter interactions is also covered. This course may be taken to meet licensure/continuing education requirements. This course must be completed with a “C” or higher.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Admission to the program Lab fee: \$12.00

### **MHAD 191A Fundamentals in Human Service Practice: Helping Process (A, W, SP, SU) 4 credits**

Emphasis in this core course is on understanding and applying the helping process. Students learn to make clinical observations, to apply data collection techniques and assess the data, treatment planning, action/implementation, and evaluation skills. This course must be completed with a “C” or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: Admission to the program Lab fee: \$12.00

### **MHAD 191B Fundamentals in Human Service Practice: Practicum (A, W, SP, SU) 4 credits**

Emphasis in this core course is on observing and participating in the delivery of services to clients served by an agency. The student practices initial helping skills, including data collection, assessment, and action

planning under the supervision of an agency professional. The student processes practicum experiences in a weekly seminar. This course must be completed with a "C" or higher.

Lecture: 2 hours – Lab: 14 hours

Prerequisites: Admission to the program Lab fee: \$38.00

**MHAD 236 Foundations in Prevention (On Demand) 4 credits**

This course familiarizes the student with the historical perspectives, theoretical approaches, current program models, and research in ATOD. This course must be completed with a "C" or higher.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$8.00

Prerequisite: MHAD 114

Corequisite: MHAD 191B

**MHAD 237 Program Planning and Evaluation (On Demand) 3 credits**

This course focuses on the role of the community and leaders in the community in the development and implementation of prevention services. Methods for evaluating program effectiveness, impact and outcomes of prevention services are explored. This course must be completed with a "C" or higher.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: MHAD 236 Lab fees: \$8.00

**MHAD 239 Advanced Prevention Practicum (SP, SU) 3 credits**

This practicum course allows students to become involved in the community to access, develop, implement, and evaluate prevention services. This course must be completed with a "C" or higher.

Lecture: 2 hours – Lab: 0 hours

Practicum: 10 hours

Prerequisite: MHAD 237 Lab fee: \$35.00

**MHAD 241 Counseling Skills (A, W) 4 credits**

This core course focuses on theoretical and practical aspects of effective helping through the counseling relationship with clients who are mentally ill, have addiction issues or who have a developmental disability. Following a microtraining model, skills which form the foundation of effective communication are emphasized. Motivational Interviewing is introduced. Critical thought and creativity is also stressed. Course emphasizes practicing skills in small groups and interplay/simulations. This course must be completed with a "C" or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: MHAD 191A and B Lab fee: \$18.00

**MHAD 245 Assessment and Treatment of Addictions I (A, W) 4 credits**

This course is offered in the Addiction Studies Track. Various strategies and approaches to the assessment and treatment of addictions, recognition of signs and symptoms, treatment interventions and levels of care are explored. The 12 core functions of a substance abuse counselor are woven throughout the course. Students integrate classroom learning with associated field practicum to complete a bio-psychosocial assessment, identification of client stage of change, diagnostic summary and didactic presentation with clients with substance use disorders. Students deepen their experience and understanding of utilizing community support groups. The OCDP code of ethics is utilized to review common ethical situations. Licensed individuals with active involvement with clients with substance use disorders may be eligible to take this course for licensure renewal pending approval from lead instructor. This course must be completed with a "C" or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: MHAD 191A and B

Corequisites: MHAD 241 and MHAD 293 Lab fee: \$18.00

**MHAD 247 Teaching and Supporting Strategies (A, W) 4 credits**

This course provides a comprehensive overview of the principles and techniques for teaching and supporting people with diverse needs. Topics covered include habilitation/rehabilitation programming, self-determination, person-centered planning, teaching and learning styles,

community connecting, task and process analysis, development of teaching plans and supported employment. This course must be completed with a "C" or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: MHAD 191A and B

Corequisites: MHAD 241 and 291 Lab fee: \$18.00

**MHAD 251 Social Policy and Programs (W, SP) 4 credits**

This course examines social welfare policies/programs at national, state, and local levels in fields of MH/AS/DD. The student will use an ecological model for social change to collect, synthesize, and evaluate data on a variety of social problems. Throughout the course, the student documents analysis of visits to agencies and organizations. This course must be completed with a "C" or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: MHAD 245/293 or MHAD 247/291 Lab fee: \$18.00

**MHAD 253 Therapeutic Group Work Skills (W, SP) 4 credits**

This course, offered as a part of all three tracks in the program, is focused on knowledge and experiential learning using the group as the unit of attention. Course content includes process, stages of development, leadership skills, therapeutic factors, and problematic issues for groups of clients who are mentally ill, developmentally disabled, struggling with addiction or who have co-occurring disorders. The student participates as a member in a peer group to complement classroom theoretical constructs. This course must be completed with a "C" or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: MHAD 241 and MHAD 247/291 or MHAD 245/293

Corequisite: MHAD 295 Lab fee: \$20.00

**MHAD 258 Service Coordination/Case Management (SP, SU) 4 credits**

This course provides the human service student with a comprehensive overview and analysis of a service coordination/case management system. Student receives an in-depth exposure to newly defined skills, treatment approaches, and contemporary issues impacting the service coordination/case management delivery field. This course must be completed with a "C" or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: MHAD 253 and 295

Corequisite: MHAD 298 Lab fee: \$18.00

**MHAD 265 Advanced Addiction Studies (SP, SU) 4 credits**

This is an advanced course offered in the Addiction Studies Track. The focus of this course is working with clients with co-occurring disorders and relapse prevention strategies. The 12 core functions of a substance abuse counselor continue to be discussed. Stage wise treatment and the use of Motivational Interviewing strategies and skills are explored and practiced. Students develop a treatment/relapse prevention plan, discharge plans and consider the impact of co-occurring disorders. Community resources, case management needs and appropriate referrals are discussed. Students complete necessary documents needed for chemical dependency licensure. Professional, legal and ethical dilemmas are considered. This course must be completed with a "C" or higher.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: MHAD 253 and 295

Corequisite: MHAD 296 Lab fee: \$18.00

**MHAD 274 Special Studies in MH/AS/DD (On Demand) 1–12 credits**

This course is designed to meet specific needs of students who wish to pursue in-depth training in the MH/AS/DD field. Typical subject areas include theory and skills in helping individuals who are addicted, severely mentally disabled, dually-multi diagnosed, or persons with developmental disabilities. Instructional methods may include clinical experience, seminar format, field placement, lecture, research, video recording, online discussion boards and role play. Students enroll in this course with permission of faculty or clinical coordinator. This course must be completed



with a “C” or higher.

Lecture: Varies – Lab: Varies Lab fee: \$20.00

### **MHAD 284 Special Studies in MH/AS/DD (On Demand)**

**1–4 credits**

This course is designed to meet specific needs of students who wish to pursue in-depth training in the MH/AS/DD field. Typical subject areas include theory and skills in helping individuals who are addicted, severely mentally disabled, dually-multi diagnosed, or persons with developmental disabilities. Instructional methods may include clinical experience, seminar format, field placement, lecture, research, videotape and role play. Students enroll in this course with permission of faculty or clinical coordinator. This course must be completed with a “C” or higher.

Lecture: Varies – Lab: Varies Lab fee: \$20.00

### **MHAD 291 Practicum in Teaching and Supporting Strategies (A, W)**

**4 credits**

This is a clinical experience for the student specializing in the Mental Health and Developmental Disabilities tracks which takes place in a community agency. The student practices the skills needed to teach and support people in vocational or community settings with an emphasis on habilitation/rehabilitation programming, self-determination, person centered planning, community connecting, teaching plans and job coaching. The student is expected to assume the role of service provider and is responsible for professional conduct and appropriate work habits. The student processes practicum experiences in a weekly seminar. This course must be completed with a “C” or higher.

Lecture: 2 hours – Lab: 14 hours

Prerequisites: MHAD 191A and B

Corequisite: MHAD 247 Lab fee: \$45.00

### **MHAD 293 Practicum in Assessment and Treatment of Addictions I (A, W)**

**4 credits**

This is a required clinical placement experience for students in the Addiction Studies track. The student is placed in an agency that provides services for persons with substance use disorders. Students begin to take the role of a service provider and participate in the 12 core functions of a substance abuse counselor focusing on screening, intake, assessment, orientation, treatment planning, counseling, client engagement strategies, client education, consultation with other professionals and documentation. Students participate in a variety of community support services. Students demonstrate professional conduct and appropriate work habits, and participate in a weekly seminar to process clinical experiences. This course must be completed with a “C” or higher.

Lecture: 2 hours – Clinical: 14 hours

Prerequisites: MHAD 191A and B

Corequisite: MHAD 245 Lab fee: \$45.00

### **MHAD 295 Practicum in Therapeutic Group Work (W, SP) 4 credits**

This is a clinical experience for the student in all three tracks in the MH/AS/DD Program. In a community agency, the student leads or co-leads a group using skills learned in the classroom and in previously completed classes. In addition, weekly one-on-one contact with an identified agency client is also required, focusing on individualized needs identified by the agency or specified in an existing treatment plan. The student assumes the role of service provider, demonstrating professional conduct and appropriate work habits. This course must be completed with a “C” or higher.

Lecture: 2 hours – Lab: 14 hours

Prerequisites: MHAD 241 and MHAD 247/291 or MHAD 245/293

Corequisite: MHAD 253 Lab fee: \$50.00

### **MHAD 296 Practicum in Advanced Addiction Studies (SP, SU)**

**4 credits**

This is a required placement experience for student in the Addiction Studies track. The student is placed in an agency that provides services for persons with substance use disorders. Participation in the 12 core functions of a substance abuse counselor continues with a focus on counseling, crisis intervention, group facilitation, case management and

referral. Students participate in a variety of community support resources. Students demonstrate professional conduct and appropriate work habits and participate in a weekly seminar to process clinical experiences. This must be completed with a “C” or higher.

Lecture: 2 hours – Clinical: 14 hours

Prerequisite: MHAD 253 and 295

Corequisite: MHAD 265 Lab fee: \$50.00

### **MHAD 298 Practicum in Service Coordination/Case Management (SP, SU)**

**4 credits**

This is a clinical experience for the Mental Health and Developmental Disabilities track student. The student practices service coordination and case management skills with emphasis on interdisciplinary treatment planning, assessment writing, and the implementation of appropriate referrals. The student assumes the role of service provider and is responsible for professional conduct and acceptable work habits. This course must be completed with a “C” or higher.

Prerequisites: MHAD 253 and 295

Corequisite: MHAD 258 Lab fee: \$35.00

### **MHAD 299 Portfolio Completion Capstone MH/AS/DD (SP, SU)**

**1 credit**

This course will provide the student with the opportunity to assemble, edit, and ready for presentation in portfolio format the collected assignments from each course in the major. Feedback regarding each course is solicited from the student. In addition, the content areas of ethical concerns in human services, effective team participation and avoiding “burnout” are addressed. This course must be completed with a “C” or higher.

Lecture: 1 hour – Lab: 0 hours

Corequisite: Fourth and last technical course paired with practicum

Lab fee: \$40.00

## **Multi-Competency Health (MULT)**

### **MULT 101 Medical Terminology (A, W, SP, SU, DL) 2 credits**

This introductory course provides an overview of medical language. Emphasis will be placed on terms that are practical and commonly found in the day-to-day work of all allied health professions. This concise course gives basic principles for understanding the language with an overview of terms from many areas of medicine.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$5.00

### **MULT 102 Cardiopulmonary Resuscitation (CPR) (A, W, SP, SU)**

**1 credit**

Cardiopulmonary resuscitation and foreign body airway obstruction removal for adults, children and infants. This course includes training on the use of bag valve masks, automated external defibrillators (AED) and cricoid pressure. Students completing this course are eligible for American Heart Association Healthcare Provider certification. This course follows 2005 Emergency Cardiac Care (ECC) guidelines and is professional level CPR; only students in a pre-health or health program may take this course. This is a one-day course held on main campus. Certification is good for two years. It may be repeated only with an instructor/coordinator signature.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$40.00

### **MULT 103 Responding to Emergencies (A, W, SP, SU) 2 credits**

Requirements for Red Cross Certification including artificial respiration, bleeding control, treatment of shock, and care of fractures are presented. This course includes MULT 102, American Heart Association CPR-Basic Life Support.

Lecture: 1 hour – Lab: 2 hours Lab fee: \$55.00

**MULT 104 Adult and Pediatric CPR (for Non-Health Care Providers) (A, W, SP, SU) 1 credit**

This course is based on the guidelines and standards set forth by the American Heart Association (AHA) in Heartsaver AED CPR. This course covers Adult and Pediatric Cardiopulmonary Resuscitation (CPR), Automated External Defibrillation (AED) and care to relieve a foreign body airway obstruction (FBAO) for the non-health care professional audience. Guidelines 2005 for CPR and Emergency Cardiovascular Care are presented and practiced by the student.  
Lecture: 1 hour – Lab: 0 hours Lab fee: \$40.00

**MULT 105 Exploring the Healthcare Professions (A, W, SP, SU, DL) 1 credit**

This course encourages the learner to explore a personal interest in the health care field. The health care profession has many career pathways to consider and this course is designed to help the learner to understand his/her personal and professional interest as a health professional. The course will also address special topic and current issues related to health care.  
Lecture: 1 hour  
Prerequisite: Placement into ENGL 101

**MULT 110 Basic Electrocardiography (EKG) (A, SP) 6 credits**

This course is designed to provide the necessary information to correctly perform the twelve lead EKG, instrumentation source of error, explanation of result, introduction to health care, anatomy and physiology of the heart, and basic dysrhythmia recognition. This course includes 24 hours of clinical experience.  
Lecture: 5 hours – Lab: 2 hours  
Prerequisites: Placement into ENGL 101 and completion of a health record. Lab fee: \$38.00

**MULT 114 Phlebotomy Practicum II (A, W, SP) 1.5 credits**

This course is designed to be a continuation of MULT 115 by providing an additional 60 hours clinical phlebotomy experience and requiring an additional 60 successful blood collections in a hospital in central Ohio or surrounding county. Phlebotomy Practicum II is designed for students who intend to be a professional phlebotomist and will be arranged individually. MULT 114 and MULT 115 completes the NAACLS approved program.  
Lecture: 0 hours – Clinical: 60 hours total  
Prerequisites: Completed health record and completion of MULT 115 with a “C” or better Lab fee: \$10.00

**MULT 115 Phlebotomy (W, SU) 4.75 credits**

This course is the first of a 2 course sequence required to be eligible for a national exam which will qualify the student as a certified phlebotomist. The course will include various blood collection and handling procedures, using a variety of techniques and equipment. To support these skills, other topics included in this courses include safety, health care system, quality assurance, and professionalism. A 40-hour clinical experience at a local clinical facility will take place throughout the course. Fingerprinting for a background check and drug screen are requirements for the clinical experience.  
Lecture: 3 hours – Lab: 3 hours – Clinical: 40 hours total  
Prerequisites: Completed health record, fingerprinting, attendance at a mandatory information session, MULT 101, and placement above or credit for ENGL 100 Lab fee: \$55.00

**MULT 116 Venipuncture for Health Care Providers (A, SP) 2 credits**

Basic blood collection techniques using vacuum tubes and syringes will be covered and practiced in a laboratory and clinical setting. Emphasis is on basic skills, safety and infection control. Not open to students who have credit for MULT 114 and MULT 115 This course includes a 30-hour clinical experience and at least 50 successful blood collections in a central Ohio health care facility.  
Lecture: 1 hour – Lab: 4 hours  
Prerequisite: Completed health record and be enrolled in Medical Laboratory Technology Program. MLT 250 Lab fee: \$28.00

**MULT 127 Patient Care Assistant for the Workforce (A, W, SP, SU) 5 credits**

This is a workforce training course for employees of health care systems which have a partnership with CSCC. Students gain knowledge and skills to function as patient care assistants.  
Lecture: 3 hours – Lab: 4 hours  
Prerequisite: Employee of health care system having a partnership with CSCC Lab fee: \$30.00

**MULT 128 Introduction to Patient Care Assistant for the Workforce (A, W, SP, SU) 5 credits**

This is a workforce training course for employees of health care systems which have entered into a partnership with CSCC. The student learns nurse aide training skills (basic patient care skills such as bathing, feeding, etc.) in order to work with patients prior to taking the Basic PCA/MSP training.  
Lecture: 2 hours – Lab: 6 hours  
Prerequisite: Employee of health care system having a partnership with CSCC

**MULT 135 Basic PCA/MSP Training for the Workforce (A, W, SP, SU) 4 credits**

This is a workforce training course for employees of health care facilities which have entered into a partnership with CSCC. In classroom, laboratory and clinical settings, students learn sterile techniques and patient care skills.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: NATP or MULT 128 and current employee of health care facility having a partnership with CSCC

**MULT 136 Advanced Patient Care Assistant for the Workforce (A, W, SP, SU) 2 credits**

This is a workforce training program for employees of health care facilities which have entered into a partnership with CSCC. In classroom, laboratory, and clinical settings, students learn advanced patient care skills such as tracheostomy care.  
Lecture: 1 hour – Lab: 2 hour  
Prerequisite: MULT 135 and employee of health care facility having a partnership with Columbus State

**MULT 137 Phlebotomy Training for the Workforce (A, W, SP, SU) 4 credits**

This is a workforce training program for employees of health care facilities which have entered into a partnership with Columbus State. In classroom, laboratory and clinical settings, students learn the skills of drawing blood.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: MULT 135 or permission of instructor and employee of health care facility having a partnership with Columbus State

**MULT 138 EKG Training for the Workforce (A, W, SP, SU) 2 credits**

This is a workforce training program for employees of health care facilities which have entered into a partnership with Columbus State. In classroom, laboratory and clinical settings, students learn the skill of performing electrocardiograms.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisite: MULT 135 or permission of instructor and employee of facility having a partnership with Columbus State

**MULT 139 Basic PCA Training for the Workforce (A, W, SP, SU) 4 credits**

This is a workforce training program for employees of health care facilities which have entered into a partnership with Columbus State. In classroom and laboratory settings, students learn basic patient care skills.  
Lecture: 2 hours – Lab: 4 hours  
Prerequisite: Employee of facility having a partnership with Columbus State

**MULT 140 Patient Care Technician Training for the Workforce (A, W, SP, SU) 3 credits**

This is a workforce training program for employees of health care facilities which have entered into a partnership with Columbus State. In classroom and laboratory settings, students learn sterile technique and advanced patient care skills.

Lecture: 2 hour – Lab: 2 hours

Prerequisite: MULT 139 or permission of instructor and employee of health care facility having a partnership with Columbus State

**MULT 150: Histologic Techniques (A, DL) 3 credits**

This course provides an examination of all of the procedures that take place at the beginning of preparing a tissue sample for examination by the pathologist. These procedures include embedding techniques, tissue fixation, principles of microtomy and tissue processing.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: “C” or better in MATH 102, MULT 101, BIO 261, and CHEM 113, placement into ENGL 101, and acceptance into the Histology Program

Corequisite: MULT 151, 152

**MULT 151: Histologic Techniques Clinical (A) 2 credits**

In this course, the student will apply the theory of the basic histologic techniques examined in MULT 150 in an authentic clinical setting.

Practicum: 15 hours/week

Prerequisites: “C” or better in MATH 102, MULT 101, BIO 261, and CHEM 113, placement into ENGL 101, and acceptance into the Histology Program

Corequisite: MULT 150, 152 Lab fee: \$25.00

**MULT 152 Tissue Identification (A, DL) 3 credits**

The structure and identification of tissue systems is emphasized at a cellular level. The student will develop skills that will assist them in identification of different tissue sources. Subsequently, the tissue source will be correlated with tissue function.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: “C” or better in MATH 102, MULT 101, BIO 261, and CHEM 113 and acceptance into the Histology Program.

Corequisite: MULT 150, 151

**MULT 154 Chemistry of Stains I (W, DL) 3 credits**

This course addresses the fundamentals and clinical significance of routine and special histological staining.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: MULT 150 and MULT 152 with a “C” or better and MULT 151 with an “S”

Corequisite: MULT 155

**MULT 155 Chemistry of Stains I Clinical (W) 2 credits**

In this course, students will apply the concepts from MULT 154 in an authentic clinical setting.

Practicum: 15 hours/week

Prerequisites: MULT 150 and MULT 152 with a “C” or better, and MULT 151 with an “S”

Corequisite: MULT 154 Lab fee: \$25.00

**MULT 156 Chemistry of Stains II (SP, DL) 3 credits**

This course is a continuation of MULT 154 and will include special histology staining procedures including immunohistochemistry, and basic and advanced troubleshooting techniques.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: MULT 154 with a “C” or better and MULT 155 with an “S”

Corequisite: MULT 157

**MULT 157 Chemistry of Stains II Clinical (SP) 2 credits**

In this course, students will apply the concepts from MULT 156 in an authentic clinical setting.

Practicum: 15 hours/week

Prerequisites: MULT 154 with a “C” or better and MULT 155 with an “S”

Corequisite: MULT 156 Lab fee: \$25.00

**MULT 171 Current Issues: HIV Infection (A, W, SP, SU, DL) 1 credit**

MULT 171 is an introductory course covering the psychological, social, legal, and epidemiologic issues surrounding HIV infection. MULT 171 is offered as a term course.

Lecture: 1 hour – Lab: 0 hours

Prerequisites: Placement into ENGL 101

Reading Placement: no reading required on placement Lab fee: \$9.00

**MULT 270 Human Resource Management for Health Services (W, SU, DL) 4 credits**

The focus of this course is the application, analysis, synthesis, and evaluation of human resource management principles and practices for health care managers. Practical application to past and current life/work experience is provided and emphasized. Case studies are used as simulations to provide future application in the real work setting.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: ENGL 101 Lab fee: \$5.00

**MULT 272 Health Care Resource Management (W, S, DL) 4 credits**

This course is designed to provide management approaches to health care resources (budget, equipment, supplies, etc.). It is intended for health care managers with limited financial skills.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: ENGL 101 Lab fee: \$5.00

**MULT 274 TQM/UM/Accreditation (A, SP, DL) 4 credits**

This course prepares health care professionals to apply, analyze, synthesize, and evaluate principles and practices of Total Quality Management (TQM), Utilization Management (UM), and Accreditation. TQM focuses on methods and systems to identify and resolve problems that interfere with optimal care and explore continuous quality improvement processes. UM enlightens the health care manager to their essential involvement in the review process and examines the meaning of utilization review to institutional performance. Accreditation process is presented in a practical manner to approach a very complex concern of health care managers. Health care managers will be more knowledgeable of and compliant with external accreditation processes.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: ENGL 101 Lab fee: \$5.00

**MULT 276 Legal Aspects and Risk Management (A, SP, DL) 3 credits**

This course provides a basic overview of the legal aspects of health services management and develops a general framework for managers to understand the legal dimensions of problems. The legal implications of Health System Organizations (HSOs) and Health Systems (HSs) management have increased and are likely to continue to do so. This trend requires that managers have a basic understanding of the law as it affects the HSO/HS and how to interact effectively with legal counsel. As with the practice of medicine, prevention is more efficient than solving legal problems after they occur. Because the dimensions of legal problems are frequently a result of liability exposure, or risk, the topic of risk management is addressed. It is intended for health care practitioners preparing to enter supervisory positions.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 101 Lab fee: \$5.00

## **MULT 290 Special Topics in Health Care (A, W, SP, SU)**

**1–5 credits**

This is a workforce training course for employees of health care facilities which have entered into a partnership with CSCC. Various current and timely topics will be offered to give students an opportunity to expand their knowledge and/or skill level in a special area of interest.

Lecture: 1-5 hours (maximum of 10) – Lab: 0 hours

Prerequisite: Permission of instructor and employee of facility having a partnership with CSCC

## **MULT 291 Special Topics in Health Care for the Workforce (A, W, SP, SU)**

**1–5 credits**

This is a workforce training program for employees of health care facilities which have entered into a partnership with CSCC. Students will discuss various current and timely topics related to patient care.

Lecture: 1-5 hours (maximum of 10) – Lab: 0 hours

Prerequisite: Permission of instructor and employee of facility having a partnership with CSCC

## **Clinical Laboratory Assisting Certificate**

### **CLA 100 Laboratory Theory for Health Related Industries (W, SU, DL)**

**2 credits**

This course is designed to provide theoretical concepts for individuals in the health related industries who may be interested in learning an additional set of medically related skills. This knowledge and skill set is intended to enhance current job proficiency or for potentially increasing employability in entry level health related positions. The course is designed to encourage phlebotomists, medical assistants, nursing assistants, and other health-oriented industry personnel, to achieve competencies requiring basic laboratory testing as a part of the facility's services.

Lecture: 2 hours

Prerequisites: Placement into ENGL 100 or ENGL 111 or completion of ENGL 100 with a grade of "C" or better, high school biology ("C" or better) within the last five years, or completion of BIO 100 ("C" or better), completion of MLT 100 ("C" or better), HIMT 245A ("C" or better)

Corequisites: CLA 101

### **CLA 101 Laboratory Techniques for Health Related Industries (W, SU, DL)**

**2 credits**

This course is designed to provide the application of theoretical concepts for individuals in the health related industries who may be interested in learning an additional set of medically related skills. This knowledge and skill set is intended to enhance current job proficiency or for potentially increasing employability in entry-level health related positions. The course is designed to encourage phlebotomists, medical assistants, nursing assistants, and other health-oriented industry personnel, to achieve competencies requiring basic laboratory testing as a part of the facility's services.

Lab: 4 hours

Prerequisites: Placement into ENGL 100 or ENGL 111 or completion of ENGL 100 with a grade of "C" or better, high school biology ("C" or better) within the last five years, or completion of BIO 100 ("C" or better), completion of MLT 100 ("C" or better), HIMT 245A ("C" or better)

Corequisites: CLA 100 Lab Fee: \$300.00

## **NURC (Nursing Certificate)**

### **NURC 101 Nurse Aide Training Program (A, W, SP, SU) 5 credits**

The Nurse Aide Training Program is designed to instruct students in the knowledge and skills needed to provide basic care for clients in long-term care settings. The 76-hour course includes 60 hours of classroom/lab

instruction and 16 hours of clinical preparation, which meet the requirements for nurse aide training in Ohio. Students who complete this course are eligible to state test.

HOWEVER, the online hybrid NURC 101 does NOT meet the requirements for the state approved nurse aide class in Ohio. Students who complete the hybrid version of this class will NOT receive a "certificate of class completion" and will NOT be eligible to take the state test for nurse aides. Both the traditional and hybrid versions of this course satisfy the NURC 101 prerequisite for specific health technologies at Columbus State Community College.

Lecture: 3 hours – Lab: 6 hours

Prerequisites: Completed health record, placement into ENGL 101, and placement into DEV 031, or permission of instructor. Lab fee: \$38.00

### **NURC 102 Patient Care Skills (A, W, SP, SU) 4 credits**

This course presents the rationale for and practice of skills commonly used by patient care technicians in an acute care setting. It is a combination of lecture and laboratory skills demonstration and practice. Major topics include wound care, specimen collection, airway care, oxygen administration, enteral nutrition, and elimination assistance. Because this is a skills-based course, classroom and laboratory attendance is mandatory.

Lecture: 2 hours – Lab: 6 hours

Prerequisites: NURC 101 with a grade of "C" or better, placement into ENGL 101, and placement into DEV 031. Lab fee: \$35.00

### **NURC 175 Principles of Homeopathy (A, W, SP, SU) 4 credits**

This course is designed to introduce students to the principles and theories behind the use of homeopathic preparations to treat most disease and disorders.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$5.00

### **NURC 176 Fundamentals of Herbology (A, W, SP, SU) 4 credits**

This course outlines the uses of herbs in the healing process from ancient history to the present day. Herbs will be discussed in relation to both flow-ers and in cooking. Emphasis will be on therapeutic self-care first aid.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$5.00

### **NURC 177 Holistic Healing Methods (A, W, SP, SU) 4 credits**

This course offers an introduction to the fundamentals of holistic healing, which includes philosophical and theoretical foundations, alternative methods and their uses for health maintenance and development of personal healing capacities.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$5.00

### **NURC 179 Pranic Healing Level I (A, W, SP, SU) 2 credits**

This course provides the foundation of theory and skills of the MCKS Pranic Healing System. Course topics include principles of self-recovery and life force, energetic anatomy, the relationship of energy centers to body systems, energy field scanning techniques, procedures for correcting energy imbalances associated with pain, stress and common ailments, breathing/physical exercises to restore well-being, energetic hygiene for practitioners, stress reduction through meditation, as well as self-healing, environmental healing and long-distance healing. Students earn a grade of satisfactory or unsatisfactory.

Lecture: 2 hours – Lab: 0 hours Lab fee: \$75.00

### **NURC 180 Pranic Healing Level II – Advanced Pranic Healing (A, SP) 3 credits**

This course is designed to further enhance the student's knowledge and skill in the art and science of the MCKS Pranic Healing System. It is a specialized course for students interested in becoming more effective healers. The course includes the use of color pranas and additional techniques/skills as advanced scanning, advanced cleansing and advanced energizing..

Lecture: 3 hours – Lab: 0 hours

Prerequisite: NURC 179 Pranic Healing Level I Lab fee: \$75.00

**NURC 181 Pranic Healing Level III - Mental & Emotional Well-Being (W) 2 credits**

This course provides the foundational theory and technique for the MCKS Pranic Healing System for Mental and Emotional Well-Being. Course topics include: advanced cleansing and energizing techniques, chakral and auric shielding as well as protocols for stress, fear, and other mental and emotional health issues. Instruction also includes numerous methods for self healing and relationship healing.

Lecture: 2 hours – Lab: 0 hours - Lab fee: \$75.00

Prerequisites: NURC 180 Pranic Healing Level II

**NURC 245 RN First Assistant Program (A, SP) 5 credits**

This is an intensive training program which is designed to provide the experienced perioperative nurse with the advanced preparation and study necessary to assume the role of first assistant. The course is based on AORN's official statement of the RNFA role.

Lecture: 3 hours – Directed Practicum: 10 hours

Prerequisites: Current RN licensure; two years current perioperative experience; CNOR certified or eligible; current ACLS or CPR; liability insurance; two letters of recommendation Lab fee: \$125.00

**NURC 246 RNFA Experiences in the Operating Room (W, SU) 5 credits**

This course provides the student with continued practicum for completion of the RN First Assistant Program.

Lecture: 3 hours – Directed Practicum: 10 hours

Prerequisite: NURC 245 Lab fee: \$8.00

**NURC 250 NATP Train the Trainer (A, W, SP, SU) 3 credits**

This course prepares qualified nurses to teach, coordinate, and supervise a Nurse Aid Training Program, meeting federal and state of Ohio requirements.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: Current RN/LPN licensed in Ohio; minimum of two years experience in caring for elderly or chronically ill. Lab fee: \$39.00

**PNUR 191 Introduction to Relaxation Techniques (On Demand) 1 credit**

The student will be introduced to various relaxation, stress reduction and coping techniques.

Lecture: 1 hour

Prerequisites: Admission to Practical Nursing Program

## Music (MUS)

**MUS 101 History of Western Music (A, W, SP, SU) 5 credits**

Course offers a survey of Western music from earliest times to the present, including the development of notation in music, the development and limitations of standard instruments, the role of patronage in musical developments, the relationship of changes in music to changes in society, and a consideration of the attributes of "great" music in any time or age. MUS 101 meets elective requirements in the Associate of Arts and Associate of Science degree programs and distributive transfer requirements in history, humanities and the arts.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**MUS 102 Introduction to Vocal Technique (A, W, SP, SU) 1 credit**

MUS 102 provides an introduction to vocal technique for nonmusic majors. This class will develop basic skills for both solo and group singing through the use of traditional song materials. Course is repeatable for a total of 2 credits.

Lecture: 0 hours – Lab: 2 hours Lab fee: \$2.00

**MUS 103 Vocal Technique II (A, W, SP, SU) 1 credit**

This class is a continuation of MUS 102, offering continued development of skills for solo and group singing through traditional song material. Course is repeatable for a total of 2 credits.

Lecture: hours – Lab: 2 hours

Prerequisite: Admission by audition Lab fee: \$2.00

**MUS 110 Basic Keyboard and Music Fundamentals I (A,W, SP, SU) 2 credits**

MUS 110 introduces the fundamentals of keyboard technique combined with the development of music reading and basic aural skills. This course is for those without prior musical experience.

Lecture: 1 hour – Lab: 2 hours Lab fee: \$2.00

**MUS 111 Basic Keyboard and Music Fundamentals II (A, W, SP, SU) 2 credits**

MUS 111 continues the development of keyboard technique and basic musical theory.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: MUS 110 or permission of instructor Lab fee: \$2.00

**MUS 120 Intro to Electronic Music (On Demand) 3 credits**

This course will introduce students to the fundamentals of synthesized music. The origin, development and present day applications of computerized sound manipulations will be studied. Prototypical synthesizing, MIDI sequencing and digital sampling will be discussed, demonstrated and used in class. Instruction is through a combination of lecture and hands-on experience.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: MUS 110 or permission of instructor Lab fee: \$3.00

**MUS 121 Fundamentals of Music Theory (On Demand) 5 credits**

MUS 121 introduces the elements of music for nonmusic majors, including notation and the basic skills necessary for listening and performance. The class is designed to acquaint students with the elements and procedures necessary for the composition and performance of music.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$2.00

**MUS 122 Beginning Musical Composition (On Demand) 5 credits**

MUS 122 offers a course in basic techniques and principles of standard musical composition in the 21st century. Building upon foundational music theory, formal compositional methods of contemporary music will be explored and creative expressions developed.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: MUS 121 or permission of instructor Lab fee: \$6.00

**MUS 130 Electronic Music Lab (On Demand) 2 credits**

This course is a continuation of MUS 120. The emphasis here is more on hands-on studio experience. Repeatable up to a total of 6 credits.

Lecture: 1 hour – Lab: 2 hours Lab fee: \$3.00

**MUS 135 Electronic Music Ensemble (On Demand) 1 credit**

Admission is through audition or permission of instructor. Class consists of a select group of musicians rehearsing, arranging, and performing music on electronic instruments. Repeatable for a total of 6 credits.

Lab: 2 hours Lab fee: \$3.00

**MUS 140 World Music (On Demand) 5 credits**

This course presents a survey of non-Western musical traditions, including forms of music, instrumental development and function, and the role of music and the musician in society. MUS 140 meets elective requirements in the Associate of Arts Degree program and distributive transfer requirements in history, humanities and the arts.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$2.00

**MUS 160 Concert Band (A, W, SP) 1 credit**  
Admission is by audition. Participants prepare a variety of wind literature for performance. Prior experience in instrumental music is expected. Elective credit offered for Associate of Arts degree. Repeatable for a total of 6 credits.  
Lecture: 0 hours – Lab: 2 hours Lab fee: \$5.00

**MUS 165 Small Instrumental Ensemble (A, W, SP) 1 credit**  
Placement is through audition. MUS 165 allows a specialized ensemble to concentrate on specific instrumental techniques and/or to explore specialized musical literature. Prior experience in instrumental music is expected. Elective credit offered for Associate of Arts degree. Repeatable for a total of 6 credits.  
Lecture: 0 hours – Lab: 2 hours Lab fee: \$5.00

**MUS 170 Gospel Vocal Ensemble (A, W, SP) 1 credit**  
Admission is by audition. Participants practice and prepare for concert performance of music from the gospel and African-American vocal/choral traditions. Music reading ability not required. Repeatable for a total of 6 credits.  
Lab: 2 hours Lab fee: \$3.00

**MUS 180 Vocal Ensemble (A, W, SP) 1 credit 1 credit**  
Admission is by audition. Participants practice and prepare a variety of music for concert performance. Ability to read music is helpful but not required. It is suggested that new Ensemble members take MUS 102 concurrently. Repeatable for a total of 6 credits.  
Lecture: 0 hours – Lab: 2 hours Lab fee: \$5.00

**MUS 221 Musicianship I (A) 5 credits**  
Course covers the elements of music and musical notation; analytical concepts and terminology; major and minor scales; fundamentals of harmony and melody as well as the development of basic aural skills, sight singing and dictation. MUS 221 is for students intending to major in music or those with strong interest in music.  
Lecture: 3 hours – Lab: 4 hours  
Prerequisite: MUS 121 or permission of instructor Lab fee: \$3.00

**MUS 222 Musicianship II (W) 5 credits**  
MUS 222 presents the principles of diatonic harmony and nonchordal melodic technique, an introduction to chord structures and the continued development of aural skills.  
Lecture: 3 hours – Lab: 4 hours  
Prerequisite: MUS 221 or permission of instructor Lab fee: \$3.00

**MUS 223 Musicianship III (SP) 5 credits**  
Musicianship III continues with the study of diatonic modulation and secondary dominants, modal and pentatonic harmonic patterns and pentatonic and blues scales. Continued development of aural skills is also emphasized.  
Lecture: 3 hours – Lab: 4 hours  
Prerequisite: MUS 222 or permission of instructor Lab fee: \$3.00

**MUS 224 Contemporary and Jazz Theory (On Demand) 5 credits**  
Chord structures, form, and chord-scale relationships of the jazz idiom will be studied, as will jazz (musical) vocabulary, lead sheets, chord symbols, and the practice of improvisation. Course is designed for those intending to major in music or who have a strong interest in it. Ability to read music is assumed.  
Lecture: 3 hours – Lab: 4 hours  
Prerequisites: Entry into ENGL 101 and either MUS 221 or permission of instructor Lab fee: \$6.00

**MUS 230 The Business of Music (On Demand) 5 credits**  
This course surveys the business aspects of music, with an emphasis on recording companies and artists, music publishers and writers, contracts, unions and guilds, agents and managers, records, markets, artists'

recording contracts, record production, promotion, distribution and merchandising.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: ENGL 101 Lab fee: \$5.00

**MUS 241 Music History I (A) 3 credits**  
MUS 241 offers a survey of the development of music from earliest times to the 18th century. Student ability to read music is assumed.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$2.00

**MUS 242 Music History II (W) 3 credits**  
MUS 242 presents a survey of music from the Rococo through the Early Romantic (1850) periods. Student ability to read music is assumed.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$2.00

**MUS 243 Music History III (SP) 3 credits**  
This course is a survey of music from the Late Romantic period to the present. Ability to read music is assumed.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: Placement into ENGL 101 Lab fee: \$2.00

**MUS 244 History of Jazz and Popular Music (On Demand) 3 credits**  
This course surveys the origins and development of jazz, the uniquely American musical idiom. 19th century origins of jazz, Dixieland, Chicago sound and evolution of the 1920s and 1930s big bands, cool jazz, and the influence of jazz on other popular music of the 20th century will be explored through listening to recordings by major innovators and studying the written forms. Ability to read music is assumed.  
Lecture: 3 hours  
Prerequisite: Entry into ENGL 101 Lab fee: \$2.00

**MUS 251 Audio Production I (On Demand) 4 credits**  
This course presents an examination of recording techniques in the studio and for live performance. Analog and digital formats will be explored, as will elements of post-production.  
Lecture: 3 hours – Lab: 2 hours Lab fees: \$3.00

**MUS 252 Audio Production II (On Demand) 4 credits**  
This course is a continuation of MUS 251. It offers further exploration of recording and sound reinforcement techniques and principles, in addition to post-production issues.  
Lecture: 3 hours – Lab: 2 hours  
Prerequisite: Successful completion of MUS 251 Audio Production I  
Lab fees: \$3.00

**MUS 253 Audio Production III (On Demand) 4 credits**  
This course is a continuation of MUS 252. MUS 253 goes deeper into the exploration of recording and editing techniques and principles and covers maintenance and repair.  
Lecture: 3 hours – Lab: 2 hours  
Prerequisite: Successful completion of MUS 252 Audio Production II  
Lab fees: \$3.00

**MUS 299 Special Topics in Music (On Demand) 1–5 credits**  
This course offers students an opportunity for a detailed examination of selected topics in music.  
Lecture: Variable hours – Lab: Variable hours  
Prerequisite: Permission of instructor Lab fee: \$2.00

## Natural Science (NSCI)

**A mandatory safety lesson (normally given in the laboratory) must be completed before the student is admitted to certain natural science laboratory sessions. Approved safety goggles are required for some laboratory sessions and may be purchased through the bookstore. Attendance during the first week of class is mandatory and may affect a student's continued enrollment in these classes. Students must complete 60% of the laboratories in the course to receive credit.**

NSCI 101, NSCI 102, and NSCI 103 are offered in both distance learning (DL) and hybrid formats. Students enrolled in hybrid sections of this course will be required to come to campus for an orientation meeting and completion of certain exams and laboratories. Laboratories are generally done on an every other week basis on campus. For the DL sections of this course, students will be required to pick up and return a laboratory kit which requires a refundable deposit and on-campus participation is limited to taking exams. Check the Global Campus site for more information on each format.

**Note: Courses taught at a distance (DL) may have a higher lab fee than traditionally taught courses and DL sections will require a refundable deposit on laboratory kits. Laboratory kits are available to be picked up on campus or mailed to the student.**

### NSCI 101 Natural Science I (A, W, SP, SU, DL) 5 credits

This course covers the evolution of the physical and biological sciences from antiquity to the modern era. Topics include early ideas of the physical world, the principles of mechanics and optics, microscopy and its role in the development of cell and germ theory, germ theory, the atomic nature of matter, and the classification and bonding of the elements. Related laboratory and demonstrations. Safety training and goggles are required for the laboratory. This course is offered in a distance learning (DL) and hybrid format.

Lecture: 4 hours – Lab: 3 hours

Prerequisites: Placement into ENGL 101 and placement into MATH 102 or higher Lab fee: \$19.00

### NSCI 102 Natural Science II (A, W, SP, SU, DL) 5 credits

NSCI 102 is a continuation of NSCI 101. Topics include the laws of chemical combination, chemical reactions, evolution and natural selection, the diversity of life and ecology, the concept of energy, heat and thermodynamics, kinetic theory, electricity and magnetism, the nature of light and quantum mechanics. Related laboratory and demonstrations. Safety training and goggles are required for the laboratory. This course is offered in a distance learning (DL) and hybrid format.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: NSCI 101 or equivalent Lab fee: \$19.00

### NSCI 103 Natural Science III (A, W, SP, SU, DL) 5 credits

This course integrates the study of chemistry and biology with an emphasis on topics which have had an impact on the development of science in the twentieth century. Topics include the ways scientists communicate information, the modern advances of organic chemistry and biochemistry, protein synthesis, the processes of mitosis and meiosis, and genetics. Discussions cover scientific information as well as any ethical and moral implications of scientific advances. Related laboratory and demonstrations. Safety training and goggles are required for the laboratory. This course is offered in a distance learning (DL) and hybrid format.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: NSCI 102, equivalent, or permission of instructor Lab fee: \$19.00

### NSCI 110 Science and Ethical Thought (On Demand) 5 credits

An introduction to the complex relationship between science and ethics and how it relates to today's political and social climate. After briefly dis-

cussing the history of ethics, students will research and discuss important topics centered on social issues, environmental issues, technological issues and medical issues. The student will be responsible for readings, handouts, writing and opinion assignments, and group projects.

Lecture: 5 hours

Prerequisite: ENGL 101 Lab Fee: \$6.00

## Nuclear Medicine Technology (NUC)

### NUC 149 Introduction to Clinical Nuclear Medicine Technology (W) 3 credits

This course is a basic introduction to nuclear medicine principles and clinical procedures. Areas of emphasis include fundamentals of nuclear medicine imaging, radiation safety, patient care and venipuncture.

Lecture: 1 hour – Lab: 0 hours

Prerequisites: Completed health record, acceptance into the Nuclear Medicine Technology program and NUC 200. Lab fee: \$65.00

### NUC 200 Introduction to Nuclear Medicine Technology (A) 3 credits

This course is a prerequisite for all other Nuclear Medicine Technology courses. Areas of emphasis include fundamentals of nuclear medicine imaging, medical ethics, quality control testing, and radiopharmaceuticals.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Admission to program

### NUC 213 Physics and Nuclear Imaging I: Lecture (W) 3 credits

This course will introduce the basic concepts of the atom, nuclear physics, interactions between radiation and matter, and nuclear imaging and counting devices. Lectures will emphasize the fundamentals of radioactivity and radioactive decay, radionuclides, basic statistics and quantitative measurements used in nuclear medicine, and computers and computer programming.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: NUC 200

### NUC 214 Physics and Nuclear Imaging I: Lab (W) 1 credit

This course will introduce the basic concepts of the atom, nuclear physics, interactions between radiation and matter, and nuclear imaging and counting devices. Lab exercises will emphasize the fundamentals of radioactivity and radioactive decay, radionuclides, basic statistics and quantitative measurements used in nuclear medicine, and computers and computer programming.

Lecture: 0 hours – Lab: 2 hours

Prerequisite: NUC 200 Lab fee: \$10.00

### NUC 215 Physics and Nuclear Imaging II: Lecture (SP) 3 credits

This course serves as a continuation of NUC 213 and 214 Physics and Nuclear Imaging I. This course will consist of a lecture series that will provide an in-depth study of the electronics of imaging and counting devices, fundamentals of collimation, operational characteristics of radiation detector systems and imaging devices including Anger type single and multicrystal cameras, single photon emission computerized tomography (SPECT), positron emission tomography (PET) detectors, and scintillation probe, survey meter, and dose calibrator type counting devices.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: NUC 213, NUC 214

### NUC 216 Physics and Nuclear Imaging II: Lab (SP) 1 credit

This course serves as a continuation of NUC 215 Physics and Nuclear Imaging II Lecture. This course will consist of a lab series that will provide an in-depth study of the electronics of imaging and counting devices, fundamentals of collimation, operational characteristics of radiation detector

systems and imaging devices including Anger type single and multicrystal cameras, single photon emission computerized tomography (SPECT), positron emission tomography (PET) detectors, and scintillation probe, survey meter, and dose calibrator type counting devices.

Lecture: 0 hours – Lab: 2 hours

Prerequisites: NUC 213, NUC 214 Lab fee: \$10.00

### **NUC 217 Physics and Nuclear Imaging III: Lecture (SU) 3 credits**

This course is a continuation of NUC 215 and 216 Physics and Nuclear Imaging II. Through lecture, it will emphasize record keeping, nuclear regulations and licensure, and an advanced study of the operational characteristics of single photon emission computerized tomography (SPECT), Positron Emission Tomography (PET), and single and multicrystal camera operations and performance. This course will also provide an in-depth knowledge of nuclear imaging and counting device quality control, quality assurance, and acceptance testing programs.

Lecture: 3 hours

Prerequisite: NUC 215, NUC 216

### **NUC 218 Physics and Nuclear Imaging III: Lab (SU) 1 credit**

This course is a continuation of NUC 215 and 216 Physics and Nuclear Imaging II. Through lab exercises, it will emphasize record keeping, nuclear regulations and licensure, and an advanced study of the operational characteristics of single photon emission computerized tomography (SPECT), Positron Emission Tomography (PET), and single and multicrystal camera operations and performance. This course will also provide an in-depth knowledge of nuclear imaging and counting device quality control, quality assurance, and acceptance testing programs.

Lecture: 0 hours – Lab: 2 hours

Prerequisite NUC 215, NUC 216 Lab fee: \$10.00

### **NUC 232 Radiation Safety and Protection (A) 2 credits**

This course enables students to understand the duties of a Radiation Safety Officer (RSO) and a radiation safety program. The radiation safety program outlines the radiation protection of technologists and the public by teaching the basis of radiation measurement, the practical methods of radiation protection (time, distance, and shielding), use of personnel monitoring devices, compliance with federal, state, and local regulations including ALARA, maintenance of required records, compliance with receipt and disposal regulations of all radionuclides, supervision of a quality management program for therapeutic dosages and follow-up procedures, performance of appropriate radiation surveys and decontamination procedures, disposal of radioactive waste, and conduction of in-service education programs.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Accepted into program

### **NUC 234 Radiochemistry and Radiopharmacy I (W) 3 credits**

This course will present the basics of operating a hospital or commercial-based nuclear pharmacy by emphasizing radiopharmaceutical receipt and storage, physical and biological characteristics of radiopharmaceutical generators, preparation, quality control, activity unit calculations, administration of diagnostic and therapeutic radiopharmaceuticals, and FDA, NRC, and State Regulations. All commonly used radiopharmaceuticals will be discussed along with their associated methods of localization.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: NUC 232, CHEM 113

### **NUC 235 Radiochemistry and Radiopharmacy II (SP) 4 credits**

This course is a continuation of NUC 234 Radiochemistry and Radiopharmacy I and will review and practice during lecture and lab exercises the basics of operating a hospital or commercial nuclear pharmacy by emphasizing radiopharmaceuticals, generators, radiopharmaceutical preparation, radiopharmaceutical quality control, radiopharmaceutical activity and unit calculations, administration of diagnostic and therapeutic radiopharmaceuticals and FDA, NRC, and State regulations. All commonly used radiopharmaceuticals will be discussed along with their associated methods and localization.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: NUC 234, CHEM 113 Lab fee: \$75.00

### **NUC 240 Seminar I (A) 1 credit**

This class will devote class sections to the discussion of new technology including techniques, imaging modalities, and equipment. In addition the students will prepare a literature search project that will review the nuclear medicine literature for pertinent changes in the nuclear medicine core areas.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: NUC 252

### **NUC 241 Seminar II (W) 1 credit**

This class will continue to devote class sections for the discussion of new technology including techniques, imaging modalities, and equipment. This class will also discuss responsibilities including the preparation of a nuclear medicine budget, the purchase/lease of new equipment, and administrative duties including a review of the insurance and governmental reimbursement process.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: NUC 240

### **NUC 242 Seminar III (SP) 1 credit**

This class is a continuation of Seminar II and, in addition, will include a comprehensive review of the content areas covered by the American Registry of Radiological Technologists (ARRT [N]), and the Nuclear Medicine Technology Certification Board (NMTCB) examinations.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: NUC 241

### **NUC 251 Clinical Theory and Procedures I (SP) 5 credits**

This course sequence introduces to the student how a diagnostic study is completed from start to finish. Pre-study preparations will be emphasized including scheduling of patients, choosing the proper radiopharmaceutical, basic patient preparations, and providing patient care and maintaining communication. General study procedures will then be introduced by reviewing the applicable anatomy/physiology and methods of pharmaceutical localization, discussing the performance of imaging procedures including selecting the proper camera or instrument, introducing proper patient and camera positioning, utilizing imaging techniques and methodologies, and performing data manipulation, image processing, and image critique. Adult/pediatric considerations and procedures will be discussed.

Lecture: 4 hours – Lab: 2 hours

Prerequisites: NUC 200, NUC 234 Lab fee: \$65.00

### **NUC 252 Clinical Theory and Procedures II (SU) 5 credits**

This course will continue to emphasize the fundamentals previously introduced in Section I while covering procedures that study the cardiovascular, central nervous, endocrine, gastrointestinal, genitourinary, pulmonary, and musculoskeletal systems. Adult/pediatric considerations and procedures will be discussed. Cross sectional or SPECT images will be emphasized.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: NUC 251 Lab fee: \$65.00

### **NUC 254 Clinical Theory and Procedures III (AU) 5 credits**

This course will continue to emphasize the fundamentals previously introduced in Sections I and II while covering additional procedures that study the hematological system, infection imaging, and tumor imaging. Special emphasis will be placed on Positron Emission Tomography (PET) methodologies including fusion technologies that allow the superimposition of PET with CT or MRI Images. Adult/pediatric considerations and procedures will be discussed. Therapeutic procedures will also be studied including therapies of the endocrine, hematological, intracavitary and skeletal systems. An in-depth study of federal (NRC and FDA) and state regulations regarding therapy procedures will be reviewed.

Lecture: 4 hours – Lab: 2 hours

Prerequisite: NUC 252 Lab fee: \$65.00



**NUC 260 Clinical Practicum I (SP) 2 credits**

In this first clinical practicum, the student will rotate through clinical hospitals and private offices and, while accompanied by a registered Nuclear Medicine Technologist, will become familiar with the care and positioning of the patient and camera. Proficiency requirements are completed using a competency-based format. Students are required to complete a portion of the "Required and Elective Procedures" list that will be reviewed at the completion of each practicum course. This "Required and Elective Procedures" list will need to be 100% completed by the end of Clinical Practicum V. A special form will be utilized to allow the student to list how the study was conducted. This same form will be utilized in the "Projects in Nuclear Medicine" class. Technologist film critique and physician interpretation are incorporated into the form to provide a correlation of all factors that comprise a finished nuclear medicine image(s) to include an analysis of the structure or organ that was imaged/counted, patient positioning, radiation protection, and date processing. A one hour weekly seminar is included in this course.

Lecture: 0 hour – Lab: 0 hours – Clinical: 16 hours

Prerequisite: NUC 234 Lab fee: \$75.00

**NUC 261 Clinical Practicum II (SU) 2 credits**

As a continuation of Clinical I, Clinical II provides the practical experience for the student to work more independently as a technologist and is designed to enhance and compliment didactic/lab studies. Nuclear medicine imaging/counting procedures, instrumentation, radiopharmaceutical injection/patient preparation, data and image processing, and assisting with quality assurance procedures will be emphasized.

Lecture: 0 hour – Lab: 0 hours – Clinical: 16 hours

Prerequisite: NUC 260 Lab fee: \$75.00

**NUC 262 Clinical Practicum III (A) 3 credits**

As a continuation of Clinical II, Clinical III provides the practical experience for the student to work more independently as a technologist, and is designed to enhance and complement didactic/lab studies. Nuclear medicine imaging/counting procedures, instrumentation, radiopharmaceutical preparation under supervision, radiopharmaceutical injection/patient preparation, data and image processing, and performing/critiquing quality assurance procedures are emphasized. Film critique and physician review are continued.

Lecture: 0 hours – Lab: 0 hours – Clinical: 24 hours

Prerequisite: NUC 261 Lab fee: \$75.00

**NUC 263 Clinical Practicum IV (W) 3 credits**

As a continuation of Clinical III, Clinical IV provides the practical experience for the student to work more independently as a technologist, and is designed to enhance and complement didactic/lab studies. In addition to the hospital rotations, students are to begin rotational shifts in the commercial/hospital based radiopharmacies, radiation safety offices, radiologist/nuclear medicine physician reading rooms, and human resource departments. They are to prepare radiopharmaceuticals, communicate to patients, conduct imaging/counting/therapeutic studies, perform data and SPECT analysis, conduct image processing, and perform quality assurance procedures with little supervision. Film critique and physician review are continued.

Lecture: 0 hour – Lab: 0 hours – Clinical: 24 hours

Prerequisite: NUC 262 Lab fee: \$75.00

**NUC 264 Clinical Practicum V (SP) 3 credits**

As a continuation of Clinical IV, Clinical V provides the practical experience for the student to work more independently as technologist, and is designed to enhance and complement didactic/lab studies. Students in addition to the hospital rotations are to continue to rotate through commercial/hospital based radiopharmacies, radiation safety offices, radiologist/nuclear medicine physician reading rooms, and human resource departments. Students will be required to present their completed "Required and Elective Procedures" list in which they will prove their competency to perform the preparation of radiopharmaceuticals, communicate to patients, conduct imaging/counting/therapeutic studies, perform data

and SPECT analysis, conduct image processing, and perform quality assurance procedures with little supervision. Film critique and physician review are continued.

Lecture: 0 hours – Lab: 0 hours – Clinical: 24 hours

Prerequisite: NUC 263 Lab fee: \$75.00

**NUC 270 Case Studies I (A) 1 credit**

This course will allow students to critique how a nuclear medicine study was conducted and to understand differential diagnosis based on that study. Cases presented will come from the archives of the clinical sites or the Society of Nuclear Medicine either in the form of films to be shown on a view box, computer display, or from a CD-ROM that can be viewed off site if necessary. The students will also present interesting cases. Students will be responsible for filling out a critique and diagnosis form for each case reviewed.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: NUC 261

**NUC 271 Case Studies II (W) 1 credit**

This class will be a continuum of NUC 270 Case Studies I. The students will conduct the case studies in this course by completing a predetermined number of mandatory and elective case studies. The students will be responsible for conducting the patient exam from start to finish, and to complete a form for each case study. Conduction of the exam is to include taking the patient history, determining the pre-test diagnosis, preparing and administering the radiopharmaceutical, preparing, positioning, computing, and completing the exam on a camera/computer/counting device, critiquing the exam, displaying/presenting the exam to a radiologist or nuclear medicine physician, and explaining the post-test diagnosis and problems encountered while conducting the examination. Presentations to the class will be an integral part of the course.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: NUC 270

**NUC 272 Projects in Nuclear Medicine Technology (SP) 1 credit**

This course will enable the student to conduct a project that will contribute to what the student will utilize in his/her future career. In most cases, a procedure manual will be required to be completed that will be 75% prepared from the completion of the "Required and Elective Procedures" list that was utilized in Clinical Practicum classes I-V. A special form will be utilized that will standardize the manual. This form will be given to the student beginning in Clinical Practicum I, which will enable the student to accumulate these procedures as they progress through their Clinical Practicum courses.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: NUC 271

**NUC 280 Cross Modality Directed Practice (W) 2 credits**

This course is designed to present the theory and operation of CT technology, to include quality management and an overview of pertinent sectional anatomy in a didactic format, followed by supervised clinical education at multiple imaging facilities.

Lecture: 1 hour – Lab: 4 hours

Prerequisite: NUC 263

## Nursing (NURS)

**NURS 100 Health Assessment in Nursing (A, SP) 3 credits**

The student will be involved in holistic assessments of clients across the life span with consideration given to ethnic variations. Developmental considerations in geriatric and pediatric clients will be discussed. Legal ramifications of nursing assessment will be presented. Students must receive a "C" or better in this course as a prerequisite for subsequent

courses.

Lecture: 2 hour – Lab: 3 hours

Prerequisite: Admission to Nursing or permission of instructor

Corequisites: BIO 261, ENGL 101 or 111, NURS 110 Lab fee: \$45.00

**NURS 109 Student Transition (A, W, SP, SU) 1 credit**

This course is designed to assist the student who has life experience credit for one or more designated nursing courses with transition into the nursing sequence. The components of the course include socialization into the Associate Degree Nursing student role at Columbus State, nursing process, communications skills, and selected psychomotor skills.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Acceptance into Nursing via LPN route or transfer student route Lab fee: \$39.00

**NURS 110 Introduction to Nursing (A, SP) 3 credits**

The student will examine the historic and current role of the nurse in the health care delivery system. The nursing process is introduced as a method for planning care and self-care activities that promote, maintain, and restore health in adult and geriatric clients. Communication techniques, teaching/learning principles, and computer skills used by the nurse in delivery of care will be discussed. The student will examine the economics and services available within the health care delivery system. Ethical and legal issues related to the practice of nursing are introduced. Safe implementation of technical skills with a holistic approach and attention to cultural consideration is stressed. Beginning principles of critical thinking are discussed. Clinical experiences are provided in a variety of community settings 4 hours each week. Lab hours include the total number of hours for clinical and seminar. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 1 hour – Lab: 6 hours

Prerequisite: Admission to Nursing

Corequisites: BIO 261, ENGL 101 or ENGL 111, and NURS 100

Lab fee: \$44.00

**NURS 111 Health Promotion of Women and Families (W, SU) 6 credits**

The student will focus on the role of the nurse as a provider of care in the promotion of health for women and families. The influence of cultural diversity and health care economics on women and families will be included. The student will use the nursing process in providing care and promoting self-care activities. Emphasis will be placed on the teaching/learning process. Concepts of mental and spiritual health will be introduced. Community resources available to women and families will be examined. Clinical experiences will be provided in a variety of community settings 7 hours each week. The student will begin application of critical thinking principles. Lab hours include the total number of hours for clinical and seminar. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 9 hours

Prerequisites: NURS 100, NURS 110, ENGL 101 or ENGL 111, BIO 261

Corequisites: BIO 262, PSY 240, NURS 123, and NURS 132

Lab fee: \$34.00

**NURS 112 Introduction to Nursing Concepts of Health Maintenance and Restoration (A, SP) 6 credits**

The student will focus on the role of the nurse as a provider of care for persons in need of maintenance and/or restoration of health. The student will study the impact of developmental levels and the effect of acute, chronic, or terminal conditions as they relate to the ability of the person and family to care for themselves. The physical, psychological, and spiritual well being of the person and family during the dying and death process will be emphasized. The concepts studied include perioperative nursing, pain management, infectious processes, cancer, fluid and electrolyte imbalances, and altered nutrition. A variety of community settings for adults and children will be utilized for the clinical experience scheduled 10 hours each week. Lab hours include the total number of hours for

clinical and seminar. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 12 hours

Prerequisites: NURS 111, NURS 123, NURS 132, BIO 262, and PSY 240

Corequisites: NURS 124, NURS 133, BIO 263 Lab fee: \$55.00

**NURS 123 Nursing Skills I (W, SU) 2 credits**

This is the first of two nursing skills courses. In this course, the student is introduced to the principles and concepts underlying the performance of select nursing skills as the technical aspects necessary in performing those skills will be discussed. Critical thinking and communication techniques, which are integral components of the application of these skills in nursing practice, are included. In each unit of instruction the legal, ethical, and economic issues related to the skills will be presented.

Lecture: 1 hour – Lab: 3 hours

Prerequisites: NURS 110, NURS 100

Corequisites: NURS 111, NURS 132 Lab fee: \$45.00

**NURS 124 Nursing Skills II (A, SP) 2 credits**

This is the second of the nursing skills courses. Principles and concepts underlying the performance of select nursing skills, as well as the technical aspects necessary in performing those skills, will be discussed. Critical thinking and communication techniques, which are integral components of the application of these skills in nursing practice, are included. As a provider of care, the nurse implements nursing skills with consideration to the developmental level of the person and to the venue in which they practice. In each unit of instruction, the legal, ethical, and economic issues related to the skills will be presented. Students must receive a “C” or better in this course as a prerequisite for subsequent courses

Lecture: 1 hour – Lab: 3 hours

Prerequisites: NURS 123, 132

Corequisite: NURS 133 Lab fee: \$50.00

**NURS 132 Concepts of Pharmacology I (W, SU) 2 credits**

The student is introduced to the general principles of pharmacology. This is the first of two courses where the focus will be on the nurse’s role in drug administration to persons of all ages and the effects of medications on patients. Drug classifications and their relationship to promotion, maintenance, and restoration of health will be presented. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 0 hours

Prerequisites: NURS 110, NURS 100 Lab fee: \$39.00

**NURS 133 Concepts of Pharmacology II (A, SP) 2 credits**

This is the second of two courses where the focus will be on the nurse’s role in drug administration to persons of all ages and the effects of medications on patients. Drug classifications and their relationship in promotion, maintenance, and restoration of health will be presented. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: NURS 132 or permission of instructor.

Corequisite: NURS 124 Lab fee: \$41.00

**NURS 187 Spiritual Nursing Care (W, SU) 3 credits**

This course is designed to introduce the student to the basic concepts of spiritual nursing care. The focus of the course will be to help students understand their own spirituality and to develop skills necessary to provide effective spiritual nursing care across the life span while being sensitive to cultural, religious, and ritual practices. Students will be introduced to assessment tools and interventions used to meet the patient’s spiritual nursing care needs.

Lecture: 3 – Lab: 0 hours

Prerequisites: NURS 110, NURS 100

**NURS 188 Neonatal Nursing (W, SU) 2.5 credits**

The student will focus on the role of the nurse as the provider of care for the high risk neonate and their families. This course examines neonatal

development and potential complications in the antepartum and postpartum periods. The student will gain specialized knowledge and skills to provide care ranging from pre-hospitalization through post-discharge and follow up. Students must receive a grade of "C" or better in this course as a prerequisite for subsequent courses. This course may be used to fulfill the elective requirement for nursing.

Lecture: (Online) 2 hours – Lab: 1 hr (on campus [5 two-hour labs])

Prerequisite: NURS 112 Lab Fee: \$15.00

### **NURS 189 Principles of Basic Trauma Nursing (W, SU) 3 credits**

This course is designed to introduce the student to the basic concepts of trauma nursing. The focus of the course will be the exploration of major concepts and issues underlying the specialty of trauma nursing. Through an organized and standardized approach, students will review the mechanisms of injury, problems arising from these injuries, and related nursing care. The course will include content about adult trauma nursing, triage, airway management, shock/cardiac arrest, trauma to specific anatomic and physiologic systems, psychosocial impact of trauma, and organ donation. Learning opportunities will include use of the Human Patient Simulator. Students must receive a grade of "C" or better in this course as a prerequisite for subsequent courses. This course may be used to fulfill the elective requirement for nursing.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Nursing 211 or permission of the instructor

Lab fee: \$25.00

### **NURS 190 Holistic Interventions for Health Care Practitioners (A, SP) 2 credits**

The student will be introduced to various healing modalities and complementary therapies that are used by health care practitioners to provide holistic care to a patient. Included will be an overview of the body/mind paradigm and a survey of commonly used techniques such as guided imagery, meditation and therapeutic touch. This course may be used to fulfill the elective requirement for nursing. Students must receive a "C" or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Admission to a health technology or permission of instructor Lab fee: \$5.00

### **NURS 191 Basics of Gerontological Nursing (W, SP, DL) 3 credits**

The student is introduced to the concepts of gerontological nursing. The focus is on meeting the needs of the elderly. Assessment, maintenance, and restoration of health for those over the age of 65 are presented. The nursing process is used as the framework for the development of thinking skills. Content will reflect on the influence of the legal, ethical, cultural, and economic issues related to the health care needs of the elderly. This course may be used to fulfill the elective requirement for nursing. Students must receive a "C" or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Admission to a Health technology or permission of instructor Lab fee: \$5.00

### **NURS 192 Intro to Community Nursing (On Demand) 3 credits**

The course introduces students to the basic concepts and issues underlying Community Health Nursing. Course is intended to assist students in clarifying conceptual issues in the specialty and in developing positions on critical issues related to access to care and analysis of existing delivery systems. The course will also provide the tools of practice necessary for the registered nurse already working in a community setting. Assessment, promotion, maintenance, and restoration of health are presented for families, communities, and common community health problems. The nursing process is used as the framework for critical thinking skills. This course may be used to fulfill the elective requirement for nursing. Students must receive a "C" or better in this course as a prerequisite for subsequent courses.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: NURS 112 or permission of instructor Lab fee: \$5.00

### **NURS 193 End of Life Care (A, SP, DL) 2 credits**

The student will be introduced to various nursing interventions appropriate at the end of life. Included will be an overview of commonly experienced problems. Nine critical areas including palliative care, quality of life, pain symptom management, communication needs of caregivers, the dying process, ethics and bereavement will be explored. This course may be used to fulfill the elective requirement for nursing. Students must receive a "C" or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Admission to a Health Technology or permission of the instructor. Lab fee: \$10.00

### **NURS 194 Using Advanced Nursing Skills to Manage the Care of Critically Ill Adult Patients (A, SP) 3 credits**

The student will be exposed to the advanced theory and skills needed to manage the care of individuals in a variety of critical care areas. The focus will be on identifying critical situations and potential problems and selecting and implementing the appropriate interventions. Students will apply theory and skills to case studies and clinical situations. Students will be exposed to such advanced skills as cardiac monitoring, hemodynamic monitoring, ventilator support, critical care drugs, emergent and code situations using case studies and simulated patient care situations. This course may be used to fulfill the elective requirement for nursing. Students must receive a "C" or better in this course as a prerequisite for subsequent courses.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: NURS 112 or permission of instructor Lab fee: \$25.00

### **NURS 195 Nursing Concepts Enhancement I (W, SU) 1 credit**

The course is designed to assist the student to meet the outcomes of the nursing curriculum through enhanced test-taking skills. Students will apply nursing concepts to formulating responses in testing situations. This course *cannot* be used to fulfill the elective requirement for nursing.

Lecture: 1 hour – Lab: 0 hours

Prerequisites: NURS 112 and Nursing Outcome Exam I completed

Lab fee: \$34.00

### **NURS 196 Nursing Concepts Enhancement II (A, W, SP, SU) 1 credit**

The course is designed to assist the student to meet the outcomes of the nursing curriculum through enhanced test-taking skills. Students will apply nursing concepts to formulating responses in testing situations. This course *cannot* be used to fulfill the elective requirement for nursing. This course is graded satisfactory or unsatisfactory.

Lecture: 0 – Lab: 3 hours

Prerequisite: NURS 212 and exit Nursing Outcome Exam completed

Lab fee: \$28.00

### **NURS 197 Current Trends in Pediatric Nursing (A, W, SP, SU) 3 credits**

The course builds on the foundation from previous nursing courses. The focus of the course is to explore the health care needs of pediatric clients and their families. The nursing process will be the framework to study the physical, psychological, and social aspects of pediatric nursing care. The course will provide students with the opportunity to apply knowledge and skills by using simulated pediatric care situations. This course may be used to fulfill the elective requirement for nursing. This course is graded satisfactory or unsatisfactory.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: NURS 111 Lab fee: \$20.00

### **NURS 198 Information Technology in Healthcare (A, SP, DL) 3 credits**

This introductory course in computer applications will help to stimulate the attainment of knowledge and skills needed to function in today's computerized environment. While the emphasis is placed on the application of information technology used in health care, IT's impact on society also will be considered. Legal, ethical and social issues as

they relate to technology will be explored. Learning activities will include using standard software applications such as word processing, graphics and presentation software. This course may be used to fulfill the elective requirement for nursing. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: None Lab fee: \$5.00

**NURS 199 Health Care Mission (A, W, SU) 1 credit**

This course will provide students with an opportunity to travel to Mexico and gain exposure to Mexican culture. Students will work with primary health care providers in an ambulatory care clinic. Students will use nursing skills to deliver outpatient health care to Mexican clients of all ages. Travel expenses will be paid by the student and will be approximately \$600.00. Students, who will be in Texas and Mexico for 4 days and 3 nights, should have a valid U.S. passport. This course may be used to fulfill the elective requirement for nursing. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 0 hours – Lab: 32 hours

Prerequisites: Nursing 112 and permission of the instructor following an interview, review of applicant’s essay, and recommendations from prior clinical instructors. Lab fee: \$5.00

**NURS 210 Nursing Concepts of Health Maintenance and Restoration (W, SU) 6 credits**

The student is introduced to the concepts of care management while continuing to function as a provider of care and promoter of health for pediatric and adult clients. The focus is on meeting the holistic needs of the client. Maintenance and restoration of health are presented in relation to the integumentary, gastrointestinal, urinary, sensory, and endocrine systems. The nursing process is the framework for continued development of critical thinking skills. Each unit of instruction will contain content on the influence of legal, ethical, cultural, and economic issues related to health care. In the clinical component of the course, which meets 10 hours each week and is conducted in a variety of community settings, the student is accountable for his/her nursing practice. The Nursing Outcome Exam, covering the first three quarters of nursing, will be given during the initial weeks of the quarter. Lab hours include the total number of hours for clinical and seminar. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 12 hours

Prerequisites: NURS 112, NURS 124, NURS 133, and BIO 263

Corequisites: BIO 215 and ENGL 102 or ENGL 111 Lab fee: \$40.00

**NURS 211 Nursing Concepts of Health Maintenance and Restoration II (A, SP) 6 credits**

The student continues to develop the role of manager of care while providing care and promoting the health of pediatric and adult clients. The focus is on meeting the holistic needs of clients. Maintenance and restoration of health are presented in relation to the respiratory, cardiovascular, hematological, and reproductive systems. The nursing process is the framework for continued development of critical thinking skills. Each unit of instruction will contain content on the influence of legal, ethical, cultural, and economic issues related to health care. In the clinical component of the course, which meets 10 hours each week and is conducted in a variety of community settings, the student is accountable for his/her nursing practice. Lab hours include the total number of hours for clinical and seminar. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 12 hours

Prerequisites: NURS 210, a passing score on Nursing Outcome Exam I, and BIO 215 Lab fee: \$34.00

**NURS 212 Nursing Concepts of Health Maintenance and Restoration III (W, SU) 6 credits**

The student continues to develop the role of manager of care while providing care and promoting the health of pediatric and adult clients. The focus is on meeting the holistic needs of clients. Maintenance and restoration

of health are presented in relation to mental health, and the neurological, musculoskeletal, and immune systems. The nursing process is the framework for continued development of critical thinking skills. Each unit of instruction will contain content on the influence of legal, ethical, cultural, and economic issues related to health care. In the clinical component of the course, which meets 10 hours each week and is conducted in a variety of community settings, the student is accountable for his/her nursing practice. Lab hours include the total number of hours for clinical and seminar. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 12 hours

Prerequisite: NURS 211 Lab fee: \$40.00

**NURS 213 Concepts of Nursing Management (A, SP) 8 credits**

The student will synthesize concepts of care management to develop leadership skills inherent in the profession of nursing. The student will assume the roles of provider of care, manager of care, and member within the discipline of nursing. Ethical, legal, political, and economic issues as they relate to professional nursing will be presented. Current trends in nursing practice are analyzed. The student will focus on holistic care of groups of clients and their families in the promotion of self-care activities. The clinical experience will be conducted in a variety of community settings 16 hours each week. Lab hours include the total number of hours for clinical and seminar. Students must receive a “C” or better in this course as a prerequisite for subsequent courses.

Lecture: 2 hours – Lab: 18 hours

Prerequisites: NURS 212 and MATH 135 Lab fee: \$34.00

**Nursing Outcome Exam**

Students must successfully complete this exam in order to graduate.

## Nursing Certificate (NURC)

**NURC 101 Nurse Aide Training Program (A, W, SP, SU) 5 credits**

The Nurse Aide Training Program is designed to instruct students in the knowledge and skills needed to provide basic care for clients in long-term care settings. The 76-hour course includes 60 hours of classroom/lab instruction and 16 hours of clinical preparation, which meet the requirements for nurse aide training in Ohio. Students who complete this course are eligible to state test.

HOWEVER, the online hybrid NURC 101 does NOT meet the requirements for the state approved nurse aide class in Ohio. Students who complete the hybrid version of this class will NOT receive a “certificate of class completion” and will NOT be eligible to take the state test for nurse aides. Both the traditional and hybrid versions of this course satisfy the NURC 101 prerequisite for specific health technologies at Columbus State Community College.

Lecture: 3 hours – Lab: 6 hours

Prerequisites: Completed health record, placement into ENGL 101, and placement into DEV 031, or permission of instructor. Lab fee: \$38.00

**NURC 102 Patient Care Skills (A, W, SP, SU) 4 credits**

This course presents the rationale for and practice of skills commonly used by patient care technicians in an acute care setting. It is a combination of lecture and laboratory skills demonstration and practice. Major topics include wound care, specimen collection, airway care, oxygen administration, enteral nutrition, and elimination assistance. Because this is a skills-based course, classroom and laboratory attendance is mandatory.

Lecture: 2 hours – Lab: 6 hours

Prerequisites: NURC 101 with a grade of “C” or better, placement into ENGL 101, and placement into DEV 031. Lab fee: \$35.00

**NURC 150 Special Topics in Health Care (On Demand)1–5 credits**

This course offers students the opportunity to explore current issues and topics in health care.

**NURC 175 Principles of Homeopathy (A, W, SP, SU) 4 credits**

This course is designed to introduce students to the principles and theories behind the use of homeopathic preparations to treat most disease and disorders.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$5.00

**NURC 176 Fundamentals of Herbology (A, W, SP, SU) 4 credits**

This course outlines the uses of herbs in the healing process from ancient history to the present day. Herbs will be discussed in relation to both flow-ers and in cooking. Emphasis will be on therapeutic self-care first aid.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$5.00

**NURC 177 Holistic Healing Methods (A, W, SP, SU) 4 credits**

This course offers an introduction to the fundamentals of holistic heal-ing, which includes philosophical and theoretical foundations, alterna-tive methods and their uses for health maintenance and development of personal healing capacities.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$5.00

**NURC 179 Pranic Healing Level I (A, W, SP, SU) 2 credits**

This course provides the foundation of theory and skills of the MCKS Pranic Healing System. Course topics include principles of self-recovery and life force, energetic anatomy, the relationship of energy centers to body systems, energy field scanning techniques, procedures for correct-ing energy imbalances associated with pain, stress and common ailments, breathing/physical exercises to restore well-being, energetic hygiene for practitioners, stress reduction through meditation, as well as self-healing, environmental healing and long-distance healing. Students earn a grade of satisfactory/unsatisfactory.

Lecture: 2 hours – Lab: 0 hours Lab fee: \$75.00

**NURC 180 Pranic Healing Level II – Advanced Pranic Healing (A, SP) 3 credits**

This course is designed to further enhance the student’s knowledge and skill in the art and science of the MCKS Pranic Healing System. It is a specialized course for students interested in becoming more effective healers. The course includes the use of color pranas and additional tech-niques/skills as advanced scanning, advanced cleansing and advanced energizing.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: NURC 179 Lab fee: \$75.00

**NURC 181 Pranic Healing Level III - Mental & Emotional Well-Being (W, SU) 2 credits**

This course provides the foundational theory and technique for the MCKS Pranic Healing System for Mental and Emotional Well-Being. Course topics include: advanced cleansing and energizing techniques, chakral and auric shielding as well as protocols for stress, fear, and other mental and emotional health issues. Instruction also includes numerous methods for self healing and relationship healing.

Lecture: 2 hours – Lab: 0 hours

Prerequisites: NURC 180 Lab fee: \$75.00

**NURC 245 RN First Assistant Program (A, SP) 5 credits**

This is an intensive training program which is designed to provide the experienced perioperative nurse with the advanced preparation and study necessary to assume the role of first assistant. The course is based on AORN’s official statement of the RNFA role.

Lecture: 3 hours – Directed Practicum: 10 hours

Prerequisites: Current RN licensure; two years current perioperative experience; CNOR certified or eligible; current ACLS or CPR; liability insurance; two letters of recommendation

Lab fee: \$125.00

**NURC 246 RNFA Experiences in the Operating Room (W, SU) 5 credits**

This course provides the student with continued practicum for completion of the RN First Assistant Program.

Lecture: 3 hours – Directed Practicum: 10 hours

Prerequisite: NURC 245 Lab fee: \$8.00

**NURC 250 NATP Train the Trainer (A, W, SP, SU) 3 credits**

This course prepares qualified nurses to teach, coordinate, and super-vise a Nurse Aid Training Program, meeting federal and state of Ohio requirements.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: Current RN/LPN licensed in Ohio; minimum of two years experience in caring for elderly or chronically ill.

Lab fee: \$39.00

## Practical Nursing Certificate (PNUR)

**PNUR 100 Introduction to Practical Nursing (W, SU) 1 credit**

The student is introduced to the role, responsibilities, and the scope of practice for the practical nurse. The framework for the practical nursing curriculum is introduced, including major concepts and threads.

Lecture: 1 hour

Prerequisite: Admission into the Practical Nursing Program Lab fee: \$75.00

**PNUR 101 Foundations of Practical Nursing (A, SP) 2 credits**

This course continues to explore the foundations of practical nursing based on the CSCC Practical Nursing Program conceptual framework of nurs-ing, person, health and environment. The student will be introduced to the role of the practical nurse in applying the nursing process to patient care. Cultural, developmental, and spiritual aspects of care, legal and ethical issues, and concepts of communication including documentation of patient care will be introduced within the framework of the nursing process. Eco-nomic concerns related to health care will be integrated. Safe performance of basic nursing skills including asepsis, personal care of patients, vital signs, and wound care will be practiced in the laboratory.

Lecture: 1 hour – Lab: 3 hours

Prerequisites: PNUR 100, ENGL 101, BIO 261 Lab fee: \$68.00

**PNUR 102 Introduction to Practical Nursing Concepts (W, SU) 6 credits**

The practical nurse role in observation and assessment is presented with emphasis on observing the physical, psychosocial, and developmental components of adult and geriatric clients. Observation of the client’s ability to adapt to stress is also explored. Practical nursing concepts related to nutritional health, fluid, electrolyte and acid/base balance, perioperative care, the infectious process, cancer, pain management, mental health, and end of life care will also be presented. Emphasis will be placed on the practical nurse’s use of the nursing process to promote, maintain, and/or restore health. Students will practice assessment/observational skills and basic nursing skills in the laboratory. Clinical experience will be in adult and/or geriatric settings.

Lecture: 3 hours – Lab: 3 hours; Clinical 6 hours.

Prerequisites: PNUR 101, PNUR 121, BIO 262 Lab fee: \$108.00

**PNUR 103 Practical Nursing Concepts Related to Health Promotion, Maintenance, and Restoration (W, SU) 6 credits**

The student will be introduced to commonly occurring alterations of the body systems. The course focuses on application of the nursing process by the practical nurse to promote, maintain, and restore health of clients experiencing alterations in functioning of the body systems. The goal of care is to promote use of self-care activities to assist clients in attaining an optimal level of health. Skills learned in the skills laboratory will consist of nursing interventions that assist clients in achieving optimal health of the body systems. Clinical experiences will be conducted in a variety of adult acute or subacute health care facilities.

Lecture: 3 hours – Lab: 3 hours; Clinical: 6 hours

Prerequisites: PNUR 102, PNUR 122 Lab fee: \$120.00

**PNUR 104 Practical Nursing Concepts Related to Maternal and Child Health (A, SP) 6 credits**

The student will continue to apply the practical nursing concepts from previous courses to the care of women and children. Health promotion through the antepartal, intrapartal, and postpartal stages of pregnancy will be a focus. Complications occurring during pregnancy will be presented. Issues related to promotion of health of women and normal growth and development of the child will be discussed. Information on common health alterations of the child from the newborn through adolescence will be included. Students will perform those nursing skills in the laboratory that relate to care of maternal and pediatric clients. Clinical experiences will be provided in a variety of obstetrical and pediatric settings.

Lecture: 3 hours – Lab: 3 hours; Clinical: 6 hours

Prerequisites: PNUR 102, PNUR 122 Lab fee: \$100.00

**PNUR 105 Concepts Related to Practical Nursing Practice(A, SP) 5 credits**

The student is introduced to the concepts of leadership and management including styles of leadership, assertive versus aggressive communication, appropriate delegation, conflict management, change theory, and motivational concepts. Course content and discussion includes concepts related to the legal scope of practice of the LPN in Ohio, entry into practice including resume writing and interviewing for a position. The clinical experience provides for a practicum which includes the opportunity for the students to apply these concepts while caring for groups of clients while under the supervision of a registered nurse instructor or registered or licensed practical nurse preceptor. In addition, content will be presented on caring for clients in community-based health care facilities. To enhance knowledge of continuity of care and the role of the practical nurse in the community, students will have observation experiences in various community healthcare settings as a part of the practicum. Transition of the student into the practice of practical nursing with information about the NCLEX-PN and application for licensure is included.

Lecture: 2 hours – Seminar: 1 hour; Practicum: 16 hours

Prerequisites: PNUR 103, PNUR 104, COMM 105 or 110 Lab fee: \$130.00

**PNUR 121 Pharmacology I for the Practical Nurse (A SP) 2 credits**

This is the first of two courses in which the focus will be on the practical nurse's role in medication administration to persons of all ages. Basic concepts, dosage calculations, drug classifications, and nursing implications will be presented for medications prescribed to affect various organs and systems in the body. Vitamins, minerals, and herbs will also be discussed in relation to interactions with prescribed medications. Safe analgesic administration and documentation of oral, topical, and injectable medications will be presented in the laboratory setting. Also, a comprehensive review of math for medication administration will be completed.

Lecture: 1 hour – Lab: 3 hours

Prerequisites: Admission into Practical Nurse Program, MATH 100, BIO 261 Lab fee: \$77.00

**PNUR 122 Pharmacology II for the Practical Nurse (W, SU) 3 credits**

This is the second of two courses in which the focus will be on the practical nurse's role in medication administration to persons of all ages. Intravenous therapy theory and regulations governing this therapy will be presented. Dosage calculations, drug classifications, and nursing implications will be presented for cardiovascular system medications, immune system medications, respiratory, digestive and renal system medications, musculoskeletal and integumentary system medications and medications for acid-base and electrolyte disorders. In the laboratory, safe medication administration skills and documentation will be practiced. Basic phlebotomy and IV infusion skills will be presented and practiced. Skills check-offs will be performed to demonstrate mastery and competence.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: PNUR 121, BIO 262 Lab fee: \$112.00

**PNUR 190 Special Topics in Practical Nursing 1 credit**

The student will examine current topics and issues as they relate to practical nursing practice and roles.

Lecture: 1 hour

Prerequisites: PNUR 101

**PNUR 191 Introduction to Relaxation Techniques 1 credit**

The student will be introduced to various relaxation, stress reduction and coping techniques.

Lecture: 1 hour

Prerequisites: Admission to Practical Nursing Program

**PNUR 192 Issues in Gerontological Nursing 1 credit**

The student will explore selected issues relevant to the licensed practical nurse working with older adults in a variety of settings. Societal issues related to aging are addressed as well. Physiological and psycho-social issues that impact the health of older adults are explored within the context of a variety of environments of care. Community resources for older adults are also identified.

Lecture: 1 hour

Prerequisites: PNUR 101

**PNUR 193 Mental Health Nursing and YOU 1 credit**

The student is introduced to the role, responsibilities and the scope of practice for the practical nurse in dealing with patients who have mental health alterations. The concepts of therapeutic milieu, communication and the use of the nursing process in relation to various mental health disorders will be addressed. The thread running throughout these discussions will be the importance of actively choosing to optimize their own mental health.

Lecture: 1 hour

Prerequisites: PNUR 102

**PNUR 194 Transcultural Nursing 1 credit**

Students will explore how their interactions with patients are affected by their own culturally-influenced values and communication styles, the values of the nursing subculture, and the patients' cultural values and communication styles. The students will learn communication styles and patterns that will enhance their nursing skills to communicate more effectively with patients and families from diverse cultures. They will explore the values and traditions of immigrant cultures most commonly found in the Central Ohio area.

Lecture: 1 hour

Prerequisites: PNUR 101

**PNUR 195 Use of the PDA 1 credit**

The student is briefly introduced to nursing informatics and then assessment of their attitudes and abilities with computers is completed. Researching various resources, types of devices, and operating systems will be done. Students will perform activities on the devices and will journal their use in the clinical setting.

Lecture: 1 hour

Prerequisites: PNUR 102

**PNUR 196 Ethical Issues in Healthcare and Nursing 1 credit**

The student is introduced to major ethical theories and principles as they relate to issues in healthcare and nursing. Course content and discussion include the theories of deontology and utilitarianism, the principles of nonmaleficence, beneficence, autonomy, and justice. The student will explore the application of these theories and principles to the role of a student and to issues in nursing practice. Case studies are used to illustrate strategies for ethical decision making.

Lecture: 1 hour

Prerequisites: PNUR 101

**PNUR 197 LPN Role with ECGs 1 credit**

This course will include content related to the beginning interpretation of 5-lead cardiac monitor strips for normal and selected abnormal cardiac

rhythms. Correct procedure to obtain 5-lead and 12-lead ECG tracings will be demonstrated and practiced. Students will discuss appropriate interventions for patients experiencing various abnormal cardiac rhythms.

Lecture: 1 hour

Prerequisites: PNUR 102 Lab Fee: \$5

## Paralegal Studies (LEGL)

### **LEGL 101 Introduction to Paralegal Studies (A, W, SP, SU) 4 credits**

The role of the legal assistant and his/her ethical responsibilities and legal restrictions are the main focus of this course. Students will also be introduced to the function of statutes, case law, administrative regulations, and constitutions within the legal system.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: ENGL 101 or placement into ENGL 101 Lab fee: \$5.00

### **LEGL 102 The Legal System (A, W, SP, SU) 2 credits**

This course explores the federal and state civil law systems, federal and state criminal law systems, appellate process, and such concepts as jurisdiction and venue.

Lecture: 2 hours – Lab: 0 hours Lab fee: \$5.00

### **LEGL 103 Law Office Procedures and Management (A, W, SP, SU) 3 credits**

This course is an introduction to the day-to-day operation of a law office. Emphasis will be placed on the development of accurate record-keeping skills and an understanding of office management procedures unique to law offices, including computerized time keeping and billing programs.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$5.00

### **LEGL 111 Legal Research and Writing I (A, W, SP, SU) 4 credits**

An introduction to conducting legal research and the proper methods for preparing briefs, pleadings and memoranda of law. Locating, analyzing, and checking of case law is emphasized. Students will learn proper citation methods and legal writing style, as well as become familiar with the Ohio Rules and Federal Rules of Appellate Procedure.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: LEGL 101 Lab fee: \$5.00

### **LEGL 112 Legal Research and Writing II (A, W, SP, SU) 4 credits**

This course is a continuation of LEGL 111, developing advanced research skills with an emphasis on preparing legal documents. Students will be familiar with primary and secondary sources, computer assisted research and a variety of legal documents. The student will also participate in a brief-writing competition.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: LEGL 111

### **LEGL 113 Legal Research and Writing III (A) 3 credits**

This course is an intense production-oriented research and writing course designed to prepare the student to function under the requirement of rapid completion of research and writing assignments commonly made in law offices and other legal environments. The student will encounter a variety of opportunities including motions, pleadings and briefs, the production of which will require both speed and accuracy and will incorporate both printed and computer-based research strategies.

Lecture: 2 hours – Lab: 2 hours

Prerequisites: LEGL 112 and LEGL 251 Lab fee: \$35.00

### **LEGL 114 Family Law (W, SU) 3 credits**

LEGL 114 will explore domestic relations matters including marriage, divorce, dissolution, child custody and support, visitation and adoption. The law regulating such matters, and the drafting of appropriate documents, will be emphasized.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: LEGL 101 Lab fee: \$5.00

### **LEGL 119 Real Estate Transactions (A, SP) 3 credits**

LEGL 119 is a study of the law governing real property, its ownership, sale, lease or other conveyance. The instruments utilized in conveyance or lease of such property will be examined and drafted. Title searching and abstracts of title are included.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: LEGL 101 Lab fee: \$5.00

### **LEGL 201 General Practice (A, SP) 4 credits**

This course will acquaint the student with a variety of matters that may be encountered in a law practice. The basic elements of torts and contracts will be covered as well as judgments and civil collection actions.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LEGL 101 Lab fee: \$5.00

### **LEGL 205 Litigation Practice and Procedure I (A, SP) 3 credits**

LEGL 205 presents a study of the Ohio Rules of Civil Procedure, the Federal Rules of Civil Procedure, and Federal and State Rules of Evidence. The basic elements of a tort claim will be discussed and the initial phases of an action, the complaint pleadings and discovery and pretrial phases will be examined.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: LEGL 101 Lab fee: \$5.00

### **LEGL 210 Criminal Law and Procedure (A, SP) 3 credits**

The Ohio Criminal Code and Rules of Criminal Procedure will be the foundation of this examination of the pretrial and post-trial procedures in a criminal case. Students will be exposed to the criminal justice system from the elements of the offenses through post-conviction remedies. The drafting of motions and other documents associated with criminal matters will be included.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: LEGL 101 Lab fee: \$5.00

### **LEGL 215 Paralegal Studies Practicum I (A, W, SP, SU) 2 credits**

This course offers a guided work experience in an office or agency providing legal services. Exact duties are decided upon by agreement of the student and administrators of the placement site.

Lecture: 0 hours – Lab: 14 hours

Prerequisite: Permission of instructor

### **LEGL 216 Paralegal Practicum Seminar I (A, W, SP, SU) 1 credit**

This seminar course discusses the work experiences and explores strategies to improve work performance.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Permission of instructor

### **LEGL 220 Business Organizations (A, SP) 3 credits**

LEGL 220 covers the fundamentals of the formation of business entities including sole proprietorships, partnerships, and corporations. Students will prepare documents regarding the formation of such organizations.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: LEGL 101 Lab fee: \$5.00

### **LEGL 222 Immigration Law (On Demand) 3 credits**

LEGL 222 is an overview of Immigration Law and practices for assisting immigrants and illegal aliens.

Lecture: 3 hours – Lab: 0 hours

### **LEGL 224 Probate Law and Practice I (A, SP) 3 credits**

LEGL 224 is a study of the law of wills, estates and estate administration including estate taxation. Testate and intestate estates, law of descent and distribution, estate planning and other probate processes will be discussed.

Lecture: 3 hours – Lab: 0 hours  
Prerequisite: LEGL 101 Lab fee: \$5.00

**LEGL 226 Administrative Law (A, SP) 3 credits**  
Statutory law, case law, and administrative rules will be utilized to develop an understanding of the role and authority of administrative agencies. Particular attention will be paid to social security and workers compensation claims.

Lecture: 3 hours – Lab: 0 hours  
Prerequisite: LEGL 101 Lab fee: \$5.00

**LEGL 227 Paralegal Practicum II (A, W, SP, SU) 2 credits**  
This course provides additional work experience in an office or agency providing legal services. Exact duties will be decided upon by the student and administrators of the placement site.

Lecture: 0 hours – Lab: 14 hours  
Prerequisite: Permission of instructor

**LEGL 228 Paralegal Practicum Seminar II (A, W, SP, SU) 1 credit**  
This course presents seminar discussions of current work experiences and helps develop further strategies for improvement.

Lecture: 1 hour – Lab: 0 hours  
Prerequisite: Permission of instructor

**LEGL 229 Certified Legal Assistants Exam Review (On Demand) 2 credits**

This course is designed as a review course for the student/graduate wishing to take the Certified Legal Assistant Exam. It will examine all areas of procedural and substantive law included on the CLA exam as well as the ethics section of the test. Students taking the course must successfully pass a mock CLA exam to complete the course.

Lecture: 2 hours – Lab: 0 hours  
Prerequisite: LEGL 228 Lab fee: \$10.00

**LEGL 230 Special Problems in Legal Assisting (On Demand) 2 credits**  
This course is a special topics course designed to allow the student to research and develop an understanding of legal-assisting issues unique to the interests of the student and for which there is no other course available. LEGL 230 is offered on an independent study basis only.

Lecture: 2 hours – Lab: 0 hours  
Prerequisite: Permission of chairperson

**LEGL 232 Taxation (On Demand) 3 credits**  
This course studies the fundamentals of state, local and federal tax laws. The agencies and tribunals involved in tax matters will be examined. Specific research strategies and document preparation relative to tax issues are explored.

Lecture: 3 hours – Lab: 0 hours  
Prerequisite: LEGL 101 Lab fee: \$ 5.00

**LEGL 234 Litigation II (W) 3 credits**  
Building on the knowledge gained in Litigation I, students will examine the role of the attorney in the trial process, case preparation and organization of materials for trial. Students will prepare a hypothetical case for trial.

Lecture: 2 hours – Lab: 2 hours  
Prerequisite: LEGL 205 Lab fee: \$5.00

**LEGL 235 Survey of Legal Software (W) 2 credits**  
LEGL235 introduces the various legal software packages to students using laptops. Students will have hands-on experiences by applying the software to typical law office tasks.

Prerequisites: LEGL 111, LEGL 112  
Lecture: 1 hour – Lab: 2 hours

**LEGL 236 Probate Law II (On Demand) 3 credits**  
This course examines the law of guardianship and trusts with emphasis on guardianship administration, land sales and trust accounting.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: LEGL 224 Lab fee: \$5.00

**LEGL 238 Insurance Law (W, SU) 3 credits**  
LEGL 238 is an introduction to insurance law. The course will include principles of indemnity, interests protected, the transfer of risk, and claims processes.

Lecture: 3 hours – Lab: 0 hours  
Prerequisite: LEGL 101 Lab fee: \$5.00

**LEGL 240 Professional Malpractice (W) 3 credits**  
This course is an examination of the law of malpractice with an emphasis on malpractice in health professions. It also examines risk management methods in health care. The course will focus on informed consent, vicarious liability of health professionals and health care facilities, negligence, the doctrine of *res ipsa loquitur*, mandatory arbitration, defenses, and medicolegal ethics.

Lecture: 3 hours – Lab: 0 hours  
Prerequisite: LEGL 201 Lab fee: \$5.00

**LEGL 243 Alternative Dispute Resolution Issues Seminar (A, SP, SU) 3 credits**  
This course examines the legal, ethical, and policy issues that arise in the use of mediation, arbitration, mini-trials, summary jury trial and conciliation. It also can help develop mediation skills.

Lecture: 3 hours – Lab: 0 hours  
Prerequisite: LEGL 205 Lab fee: \$5.00

**LEGL 244 Creditor Debtor Relations (W, SU) 3 credits**  
This course will ensure that the student is aware of the respective rights of creditors and debtors. Also introduces the pre-legal and legal procedures of debt collection.

Lecture: 3 hours – Lab: 0 hours  
Prerequisite: LEGL 220 Lab fee: \$5.00

**LEGL 248 Searching and Closing the Real Estate Title (On Demand) 4 credits**  
This course is designed to examine the process of real estate title searches and to prepare the student to perform commercial and residential real estate title closings.

Lecture: 4 hours – Lab: 0 hours  
Prerequisite: LEGL 228 or by permission of chairperson  
Lab fee: \$5.00

**LEGL 250 Intellectual Property (On Demand) 4 credits**  
Because businesses spend millions of dollars to build consumer confidence in product names and logos, this course explores the world of patents, trademarks, copyrights, trade secrets, registration and protection of these business assets. The course includes a review of federal laws and case law that cover these areas. It also includes a discussion of issues relating to cyberlaw and the Internet. The student will consider the future implications of these contemporary topics for the business owner and the consumer.

Lecture: 4 hours – Lab: 0 hours

**LEGL 251 Computer Assisted Legal Research (A, W, SP, SU) 3 credits**  
This course will expose the Paralegal Studies student to the ever expanding and utilized area of computer assisted research, an alternative to traditional, manual legal research. The student will be required to complete a series of projects within the different libraries of LEXIS in which the student will become proficient with the various uses and functions of electronic legal information retrieval.

Lecture: 2 hours – Lab: 2 hours  
Prerequisite: LEGL 111 Lab fee: \$25.00

**LEGL 252 Survey of Advanced Legal Technology (W, SU) 2 credits**  
The course will provide the student with computer training in document management, litigation support, billing, the Internet and advanced computer assisted legal research. The student will become acquainted with Internet user groups where questions are asked and answered via e-mail



and listserv. Legal software that supports legal administration, case management and internal network applications will be emphasized. The course will use CD-ROM, extensive computer lab sessions and each student will manage a complete case on an automated platform. The goals of the course will be to provide the student with certain computer competencies that go beyond the basics and allow them to be proactive in the use of technology while at the same time utilizing creative thinking skills.

Lecture: 2 hours – Lab: 1 hour

Prerequisite: LEGL 112, LEGL 251 or by permission of chairperson

Lab fee: \$25.00

**LEGL 255 Introduction to Workers' Compensation Law (On Demand) 4 credits**

This course is an introduction to the Bureau of Workers' Compensation. The focus of the course is the structure of the bureau, with an emphasis on the purpose of the agency, the hierarchy, the authority under which it operates, and basic concepts of workers' compensation benefits.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LEGL 228 or by permission of instructor Lab fee: \$5.00

**LEGL 256 Intro to BWC Claims Processing (On Demand) 4 credits**

This course will acquaint the student with how the Bureau of Workers' Compensation processes claims including self-insured of state fund (BWC) claims, the calculation of wages and compensation, payment of medical bills, and authorization of medical treatment. Also will cover how the bureau addresses motions made, application to reactivate, and permanent partial disability settlements, from injury to resolution.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LEGL 228 or by permission of instructor Lab fee: \$5.00

**LEGL 257 Workers' Compensation Adjudication (On Demand) 4 credits**

This course is designed to acquaint the student with how to deal with state agencies, in particular the Bureau of Workers' Compensation from the claimant position. The emphasis of this course is on how to acquire information available through state files and computer systems. Violations of specific safety requirements, applications for permanent total disability and the hearing process will be examined.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LEGL 228 or by permission of instructor Lab fee: \$5.00

**LEGL 258 Workers' Compensation Rating System (On Demand) 4 credits**

This course is designed to acquaint the student with the different rating plans available through the Bureau of Workers' Compensation to establish appropriate premiums. The emphasis is on the bureau's underwriting process.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LEGL 228 or by permission of instructor Lab fee: \$5.00

**LEGL 259 Workers' Compensation Practice and Procedure (On Demand) 4 credits**

This course will acquaint the student with the procedures to complete the hearing process in a claim against the Bureau of Workers' Compensation, from both the bureau and claimant perspectives.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LEGL 228 or by permission of instructor Lab fee: \$5.00

**LEGL 261 Business Law I (A, W, SP, SU,) 3 credits**

LEGL 261 offers students a survey of the legal framework of business, the nature of legal systems and the law, including contracts, criminal, and the law of torts.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$1.00

**LEGL 262 Business Law II (On Demand) 3 credits**

This course offers a continuation of LEGL 261, exploring the law of agency, corporation, partnerships, and property.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: LEGL 261 Lab fee: \$1.00

**LEGL 263 Business Law III (On Demand) 3 credits**

This course presents an advanced examination of law as it pertains to business. The emphasis on specialty areas of the law designed for the protection of business assets including the law of sales, commercial paper and secured transactions under the Uniform Commercial Code; debtor/creditor rights under the laws of bankruptcy; and the use of wills, trusts and estate planning techniques for the protection and transfer of business interest.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: LEGL 262 Lab fee: \$1.00

**LEGL 264 Legal Environment of Business (A, W, SP, SU, DL) 4 credits**

This course presents an overview of the American legal system with an introduction to the legal concepts and principles that form its foundation. The course will examine the judicial system and methods of dispute resolution, while focusing on business crimes and torts, including product liability, ethics, contract formation and enforcement, consumer protection, employment law, environmental regulations, business organizations, particularly sole proprietorship, partnerships, and corporations. Students will be able to understand the legal ramifications of their business decisions.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$2.00

**LEGL 265 Business Law for Accountants (A, W, SP, SU) 5 credits**

An in-depth examination of business law as it applies to the accounting discipline with an emphasis on those topics directly relating to the Business Law section of the Certified Public Accountants Examination, including professional responsibility of the CPA.

Lecture: 4 hours – Lab: 2 hours Lab fee: \$5.00

**LEGL 266 Liability Issues in Health Occupations (On Demand) 3 credits**

This course presents an examination of liability concerns in health occupations and of risk management methods in health care. The course will focus on informed consent, medical malpractice and vicarious liability issues.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: ENGL 101 Lab fee: \$5.00

**LEGL 269 Consumer Law (On Demand) 4 credits**

This course is an examination of the various state and federal statutes and regulations that govern the relationship of debtor and creditor. Statutes discussed include, but are not limited to, the Fair Debt Collection Act, Uniform Consumer Credit Code (UCCC) and Article 9 of the Uniform Commercial Code (UCC).

Lecture: 4 hours – Lab: 0 hours

Corequisite: LEGL 228 or by permission of chairperson Lab fee: \$5.00

**LEGL 272 Mediation (On Demand) 4 credits**

This course is an intensive overview of the mediation process. Students will study both statutory and private mediation processes. Students will review domestic relations mediation, employment fact-finding and labor mediation processes. Additionally, the student will learn the different models of mediation with particular emphasis on the Seven Step Model. Each student will be involved in preparing and conducting several mediation role playing sessions as both mediator and participants. The fundamentals of researching arbitration decisions and legal resources in arbitration will be examined with special emphasis on Internet resources. Each student will conduct a mediation in class and prepare a mediation notebook as a final project.

Lecture: 4 hours – Lab: 4 hours

Prerequisite: LEGL 228 or by permission of chairperson Lab fee: \$5.00

**LEGL 275 Overview of Bankruptcy Law and Practice (On Demand) 4 credits**

This course will acquaint the student with the statutory and regulatory structure, location and jurisdiction of bankruptcy law and bankruptcy courts and their nonjudicial officers. Parties and proceedings will be discussed and students will receive an overview of the bankruptcy chapters.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LEGL 228 or by permission of chairperson Lab fee: \$5.00

**LEGL 281 Social Security Practice and Procedure (On Demand) 4 credits**

This course will introduce the student to the origination of Social Security, its jurisdiction and regulation, and the practice and procedure within the Social Security Administration.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LEGL 228 or by permission of chairperson Lab fee: \$5.00

**LEGL 285 Estate Administration (On Demand) 4 credits**

This course will familiarize the student with the various methods of estate administration, including full administration of testate and intestate estates and the process of completing the same, including introduction to tax forms and relief from administration.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LEGL 228 or by permission of chairperson Lab fee: \$5.00

**LEGL 291 Arbitration (On Demand) 4 credits**

The course is an intensive overview of the arbitration process. Students will study both court annexed arbitration and private arbitration processes. The fundamentals of researching arbitration decisions and legal resources in arbitration will be examined with special emphasis on Internet resources. Each student will conduct an arbitration in class and prepare an arbitration notebook as a final project.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LEGL 228 or by permission of chairperson Lab fee: \$5.00

## Philosophy (PHIL)

**PHIL 101 Intro to Philosophy (A, W, SP, SU, DL) 5 credits**

This course offers an introduction to the problems, methods and terminology of philosophy, the types of questions addressed by philosophers, and the pivotal thinkers and systems of Western civilization from the Greeks to the 20th century. PHIL 101 meets elective requirements in the Associate of Arts and Associate of Science degree programs and distributive transfer requirements in philosophy and humanities.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**PHIL 130 Ethics (A, W, SP, SU, DL) 5 credits**

This course introduces students to moral reasoning, examining theories of right and wrong, good and bad, justice and injustice as they have been viewed in the past and as they shed light on contemporary ethical issues. PHIL 130 meets elective requirements in the Associate of Arts degree program and distributive transfer requirements in philosophy and humanities.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**PHIL 150 Introduction to Logic (A, W, SP, SU, DL) 5 credits**

PHIL 150 is an introduction to critical thinking and the methods of induc-

tive, deductive and symbolic logic. PHIL 150 meets elective requirements in the Associate of Arts degree program and distributive transfer requirements in philosophy, humanities, and, in some instances, mathematics and science. Check with an academic advisor.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

**PHIL 250 Symbolic Logic (On Demand) 5 credits**

This course offers a presentation of deductive logic focused on propositional logic, natural deduction and predicate logic. Symbolic Logic develops in greater detail the principles of deductive logic covered in PHIL 150. This course meets elective requirements in the Associate of Arts degree program and distributive transfer requirements in philosophy, humanities, and in some cases, mathematics and sciences. Check with academic advisor.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$2.00

**PHIL 270 Philosophy of Religion (On Demand) 5 credits**

This course presents an introduction to the major issues in the philosophy of religion including the existence of God, faith and reason, the problem of evil, miracles, death and immortality, and God and morality. PHIL 270 meets elective requirements in the Associate of Arts degree program.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$2.00

**PHIL 299 Special Topics in Philosophy (On Demand) 1–5 credits**

This course provides students an opportunity for a detailed examination of selected topics in philosophy.

Lecture: Variable hours – Lab: 0 hours

Prerequisite: Permission of instructor Lab fee: \$2.00

## Physics (PHYS)

**Students must complete 60% of the laboratories to receive course credit. Courses in this area may require additional hours outside of the scheduled class time.**

**PHYS 100 Introduction to Physics (A, W, SP, SU, DL) 4 credits**

This course is a survey of the basic concepts of physics with emphasis on energy and its various forms. Topics include mechanics, heat, electricity, and waves, with related laboratory and demonstrations. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting and completion of certain exams and laboratories. Laboratories are generally done on an every other week basis on campus.

Lecture: 3 hours – Lab: 3 hours

Prerequisites: MATH 102 or equivalent and placement into ENGL 100. Not open to students with credit for PHYS 117, 118, 177, 178, 181, 182, 183, or 185. Lab fee: \$10.00

**PHYS 106 Physics by Inquiry: Intro to Properties of Matter (On Demand) 5 credits**

PHYS 106 is an introduction to experimental science and the properties of matter for undergraduates contemplating a teaching career. This course is intended for nonscience majors, especially for those pursuing degrees in education. The lab activities are designed to help students gain a better understanding of aspects of physical science.

Lecture: 4 hours – Lab 3 hours

Prerequisites: Placement into MATH 102 and ENGL 101 or higher Lab fee: \$19.00

**PHYS 117 College Physics (Mechanics and Heat)**  
**(A, W, SP, SU, DL)**

**5 credits**

This course is a study of classical mechanics, including statics and kinematics, Newton's laws of motion, linear and angular momentum, work and energy. Related laboratory and demonstrations. This course and PHYS 118 provide a two-quarter sequence in physical science that will fulfill the elective requirement for the Associate of Science degree.

Lecture: 4 hours – Lab: 3 hours

Prerequisites: MATH 148 or MATH 111 or equivalent and placement into ENGL 101. Not open to students with credit for PHYS 177 or 178. Lab fee: \$11.00

**PHYS 118 College Physics (Electricity, Magnetism and Light)**  
**(A, W, SP, SU, DL)**

**5 credits**

This course is a continuation of PHYS 117. Topics in classical electricity and magnetism include electric potential, current and resistance, DC circuits, magnetic forces and fields, and electromagnetic induction. The nature of light is introduced and the principles of geometrical and physical optics, including optical instruments, are treated. Related laboratory and demonstrations.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: PHYS 117; not open to students with credit for PHYS 177, 178 or 179 Lab fee: \$10.00

**PHYS 119 College Physics (Modern Physics) (A, W, SP) 5 credits**

PHYS 119 is a continuation of PHYS 118. Topics include elasticity, oscillations, waves, and modern physics. The major emphasis of the course is on topics in modern physics, including special relativity, quantum mechanics, atomic and nuclear physics, nuclear radiation and nuclear energy. Related laboratory and demonstrations.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: PHYS 118; not open to students with credit for PHYS 177, 178 or 179 Lab fee: \$10.00

**PHYS 177 General Physics I (A, W, SP, SU, DL) 5 credits**

This is a course in the fundamental principles of mechanics for physics majors and engineers. Topics treated include vectors, equilibrium, kinematics and dynamics of a particle, energy, momentum, rotation, elasticity, simple harmonic motion and the behavior of fluids. Related laboratory and demonstrations. This course and PHYS 178 provide a two-quarter sequence in physical science that will fulfill the elective requirement for the Associate of Science degree. Students enrolled in distance versions of this course will be required to come to campus for an orientation meeting and completion of certain exams and laboratories. Laboratories are generally done on an every other week basis on campus.

Lecture: 4 hours – Lab: 3 hours

Prerequisites: MATH 151, high school physics or PHYS 100 recommended, and placement into ENGL 101 Lab fee: \$11.00

**PHYS 178 General Physics II (A, W, SP, SU) 5 credits**

PHYS 178 is a continuation of PHYS 177. Topics covered include Coulomb's law; electric fields and potentials; capacitors and dielectrics; current and resistance; DC circuits; magnetic fields and forces; electromagnetic properties of matter; and AC circuits. Related laboratory and demonstrations.

Lecture: 4 hours – Lab: 3 hours

Prerequisites: PHYS 177 and MATH 152 Lab fee: \$10.00

**PHYS 179 General Physics III (A, W, SP, SU) 5 credits**

This course is a continuation of PHYS 178. Topics include mechanical waves, sound, electromagnetic waves, light, mirrors, lenses, interference, diffraction, polarization, relativity, photons, structure of atoms, nuclei and solids. Related laboratory and demonstrations.

Lecture: 4 hours – Lab: 3 hours

Prerequisite: PHYS 178 Lab fee: \$10.00.

**PHYS 181 Technical Physics (Mechanics) (A, W, SP, SU)**

**4 credits**

This course presents the basic principles of mechanics. Major topics include equilibrium or rigid bodies, particle motion, Newton's laws of motion, work and energy, conservation principles and rotational motion. Related laboratory and demonstrations.

Lecture: 3 hours – Lab: 3 hours

Prerequisites: MATH 111 or MATH 148 or equivalent and placement into ENGL 100. Not open to students with credit for PHYS 117 or 177. Lab fee: \$10.00

**PHYS 183 Technical Physics (Properties of Matter) (W, SU) 4credits**

A course in the basic principles associated with the mechanical and thermal properties of matter. Major topics include elasticity, fluid mechanics, heat and temperature, energy transformations, heat transfer, ideal and real gases, thermodynamics, vibrations and wave motion. Related laboratory and demonstrations.

Lecture: 3 hours – Lab: 3 hours

Prerequisites: MATH 111 or MATH 148 or equivalent and placement into ENGL 100. Not open to students with credit for PHYS 117 or 177. Lab fee: \$10.00

**PHYS 185 Technical Physics (Heat, Light, Sound)**

**(A, W, SP, SU)**

**4 credits**

A course in the basic principles associated with heat, light, and acoustic phenomena. Major topics include temperature and heat, heat transfer, wave and particle nature of light, atomic theory, solid-state theory, electronics and acoustics. Related laboratory and demonstrations.

Lecture: 3 hours – Lab: 3 hours

Prerequisites: MATH 112 or equivalent and placement into ENGL 100. Not open to students with credit for PHYS 117 or 177. Lab fee: \$12.00

**PHYS 293 Independent Study in Physics (On Demand) 1–5 credits**

PHYS 293 presents an opportunity for a detailed examination of selected topics of interest in physics.

Lecture: 1 to 5 hours – Lab: 0 to 6 hours

Prerequisite: Permission of instructor Lab fee: Varies

**PHYS 299 Special Topics in Physics (On Demand) 1–5 credits**

Students examine, in detail, selected topics of interest in physics.

Lecture: 1 to 5 hours – Lab: 0 to 6 hours

Prerequisite: Permission of the instructor Lab fee: Varies

## Political Science (POLS)

**Students who enroll in political science courses must have placed in ENGL 101 and are encouraged to either have completed ENGL 101 or be enrolled in that course when scheduling a political science course.**

**POLS 100 Comparative Politics (A, W, SP, SU, DL) 5 credits**

This course is designed as an introductory survey class for the student interested in the field of comparative politics. The class begins with an analysis of just what comparative politics is. A theoretical framework is used to help the student understand the basic principles found within comparative politics. We will study specific countries by analyzing their history, institutions, political culture, and economy.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or 111 Lab fee: \$4.00

**POLS 101 Introduction to American Government**

**(A, W, SP, SU, DL)**

**5 credits**

This course introduces students to the nature, purpose and structure of

the American political system. Attention is given to the institutions and processes that create public policy. The strengths and weaknesses of the American political system are discussed, along with the role of citizens in a democracy. A distance-learning (DL) version of Introduction to American Government is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **POLS 207 State and Local Government (A, W, SP, SU) 5 credits**

This course introduces the student to the nature, purpose and structure of state and local governments, especially in Ohio. Attention is given to the institutions and processes that create public policy, including fiscal policy and the court system. The strengths and weaknesses of the state and local government system are discussed along with the everyday role of citizens in a democracy—especially at these levels of government.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 101 Lab fee: \$4.00

### **POLS 250 International Relations (A, W, SP, SU, DL) 5 credits**

This course examines the origin, nature, and development of the post-Cold War international system. It explores how individuals, Nation-States, nongovernmental and international organizations interact with one another. Basic concepts include knowledge of actors such as Nation-States, international organizations like the United Nations, transnational corporations, nongovernmental organizations (NGOs) and social movements. The course further examines theoretical frameworks for interaction such as idealism, realism, and nationalism. Students will assess issues such as national sovereignty, the meaning of nationalism, national interest, national security, and the international balance of power. The course considers aspects of foreign policy including political economy, isolationism, and interventionism. It also explores strategies for enhancing international security, conflict resolution, diplomacy, military intervention, and the role of international law.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 101 Lab fee: \$4.00

### **POLS 293 Independent Study in Political Science (On Demand)**

**1–5 credits**

POLS 293 is an individual, student-structured course that examines a selected topic in political science through intensive reading or research. The independent study elective permits a student to pursue his/her interest within the context of a faculty-guided program.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisites: Permission of the instructor and the chairperson and one course in Political Science Lab fee: \$3.00

### **POLS 299 Special Topics in Political Science (On Demand)**

**1–5 credits**

POLS 299 allows students to examine, in detail, selected topics of interest in political science.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisite: Varies Lab fee: \$4.00

## **Psychology (PSY)**

**Students who enroll in psychology courses must have placed in ENGL 101 and are encouraged to either have completed ENGL 101 or be enrolled in that course when scheduling a psychology course.**

**Note: Courses taught at a distance (DL) may have a higher lab fee than traditionally taught courses.**

### **PSY 100 Introduction to Psychology (A, W, SP, SU, DL) 5 credits**

This introductory course provides an overview of the origins, growth, content and applications of psychology, including the application of the scientific method to the following topics: research methodology; beginning statistics; theories of physical, cognitive, moral and emotional development; sensation; perception; learning; motivation; intelligence; memory; personality; coping processes; abnormality; adjustment; and the individual in small groups and a pluralistic society. In addition to traditional classes, students have the option of taking a Web-based version or a video-based version (telecourse) of the course. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Students who take the video-based version (telecourse) may view the one-half hour video segments of the course on the Educable channel, at the college library, or rent copies of the videotapes. Course content in distance learning (DL) courses is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

### **PSY 135 Psychology of Adjustment (A, W, SP, SU) 3 credits**

This course examines psychological factors that influence individual growth, development and behavior. Current theoretical approaches to understanding and achieving self-awareness, application of conditioning and motivation techniques to behavior modification, group dynamics, methods of self-help, and methods of improving interpersonal communications and relationships are investigated.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

### **PSY 200 Educational Psychology (A, W, SP, SU, DL) 5 credits**

This course offers students interested in becoming teachers an opportunity to consider practical, education-related applications of basic introductory psychology concepts. Teaching and learning topics include effective teaching skills; classroom management; the cognitive, social, and emotional development of learners; learner diversity; teacher- and student-centered instructional approaches; assessment of student learning; learning theories; creating optimal learning environments; student motivation; and the technology revolution in education. Methods may include interactive small group work, team presentations, educator communication skill building exercises, and computer lab experiences, including beginning training to use educational databases and Microsoft PowerPoint software. A distance-learning (DL) version of Educational Psychology is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: Grade of “C” or better in PSY 100 and placement into ENGL 101 Lab fee: \$3.00

### **PSY 220 Psychology of Personality (On Demand) 5 credits**

Psychology of Personality is an exploration of major personality theories (trait, biological, psychodynamic, humanistic, socio-cultural, behavioristic, social learning, and cognitive). It includes examination of the structure, dynamics, development, and assessment of personality and

related psychological processes.

Lecture: 5 hours – Lab 0 hours

Prerequisites: PSY 100 Lab fee: \$3.00

**PSY 230 Abnormal Psychology (A, W, SP, SU, DL) 5 credits**

Abnormal Psychology presents the basic concepts of abnormalities as defined by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). The course focuses on classification schemes of diagnoses and looks at descriptive terms and symptoms. Research, major perspectives and myths in the field of mental health are examined. A distance-learning (DL) version of Abnormal Psychology is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: Grade of "C" or better in PSY 100 and placement into ENGL 101 Lab fee: \$3.00

**PSY 240 Human Growth and Development through the Life Span (A, W, SP, SU, DL) 4 credits**

This course surveys developmental change from conception to death. The following stages of human growth and development are covered: conception and prenatal growth, infancy, childhood, adolescence, young adulthood, middle age, old age, and death. This course focuses on physical, social, emotional and cognitive development. A distance-learning (DL) version of Human Growth and Development through the Life Span is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail account, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: Grade of "C" or better in PSY 100 and placement into ENGL 101 Lab fee: \$3.00

**PSY 245 Children with Exceptionalities (A, SP) 5 credits**

This course is an introductory course that offers teachers, teaching assistants and students interested in becoming teachers an opportunity to study both the characteristics of children with special needs and the educational practices and programs that work to meet these learners' needs in inclusive settings. Course topics include causes, prevalence and assessment of specific exceptionalities; historic and current theories, issues, trends, legal rights and responsibilities in special education; student placement and service options; teaching strategies, modifications and accommodations; classroom organization and management; and professional and home-school collaboration for lifelong learning.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: Grade of "C" or better in PSY 100 and placement into ENGL 101 Lab fee: \$3.00

**PSY 251 Adolescent Psychology (A, W, SP, SU, DL) 5 credits**

This course examines human development from puberty to young adulthood from a variety of perspectives. The course emphasizes the physical, cognitive, moral, identity and career development of adolescents in contemporary society. Although the emphasis is on major theories of development and the normal development sequence, problems arising at this stage, and means of dealing with these problems, will be addressed. Topics to be covered include education, academic performance and cognitive development; variations in physical and sexual maturation; social, emotional and moral development; parent-child relationships; identity and self-image; work and leisure behavior; and transition to adulthood and independence. A distance-learning (DL) version of Adolescent Psychology is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail account, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at

the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: Grade of "C" or better in PSY 100 and placement into ENGL 101 Lab fee: \$3.00

**PSY 261 Child Development (A, W, SP, SU, DL) 5 credits**

This course examines the nature, nurture and development of children from conception through middle childhood. The traditional child development approach is used with emphasis upon physical, cognitive, social, emotional, and language development. Observation of children is an integral part of the course. A distance-learning (DL) version of Introduction to Child Development is available. Students taking the Web-based version of the course must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: **Grade of "C" or better in PSY 100 and placement into ENGL 101 Lab fee: \$3.00**

**PSY 267 Social Psychology (A, W, SP, SU) 5 credits**

This course provides an overview of the origins, growth, content and interaction of individuals in social settings, including the application of the scientific method and cultural influence to the following topics: attitudes and attitude change, attribution, social identity (self and gender), social perception (understanding others), social cognition (thinking about others and their social environment), prejudice and discrimination, nonverbal communication, obedience to authority, conformity, aggression, prosocial behavior, interpersonal attraction and behavior in groups.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: Grade of "C" or better in PSY 100 and placement into ENGL 101 Lab fee: \$3.00

**PSY 293 Independent Study in Psychology (On Demand) 1–5 credits**

PSY 293 is an individual, student-structured course that examines a selected topic in psychology through intensive reading or research. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisites: Permission of the instructor and the chairperson and one course in psychology Lab fee: \$3.00

**PSY 299 Special Topics in Psychology (On Demand) 1–5 credits**

PSY 299 allows students to examine, in detail, selected topics of interest in psychology.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisite: Varies Lab fee: \$3.00

## Quality Assurance Technology (QUAL)

**For Engineering Statistics, see MECH 270 in the Mechanical Engineering Technology course descriptions. For other related course descriptions, see Electronic Engineering Technology and Mechanical Engineering Technology.**

**QUAL 150 Quality Transformation (A, SU) 4 credits**

This course focuses on teamwork and the applications of Total Quality Transformation "tools." Teams of students and employees from business and industry solve existing quality problems in their organization with careful direction.

Lecture: 3 hours – Lab: 2 hours

**QUAL 240 Total Quality Management (A, W) 3 credits**  
This course is a study and practice of the major elements and concepts of total quality management, including principles and styles of quality management, systems thinking, continuous improvement, management by data, and historic influences of leaders in quality management.  
Lecture: 2 hours – Lab: 2 hours

**QUAL 250 Metrology (SP) 3 credits**  
Making precise measurements is an important part of producing quality products for the customer. This introductory course covers the correct procedures for the linear and angular measures of features or attributes on machine components. Traceability to standards is also presented and instrument capability discussed. Students use a variety of instruments and systems to make precision measurements.  
Lecture: 2 hours – Lab: 2 hours Lab fee: \$10.00

**QUAL 251 Value Engineering (W) 3 credits**  
Value engineering is the systematic application of recognized techniques which identify the function of a product or service, establish a monetary value for that function, and provide the necessary function reliably at lower overall cost. Students will be introduced to value engineering concepts and applications for the practitioner.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisite: MECH 244

**QUAL 260 Reliability and Systems Maintainability (SP) 3 credits**  
This course is an examination of the basic methods that companies use to ensure the reliability of their products. Students learn statistical methods employed to determine reliability, the effectiveness of data analysis, use of simulations, and ways to improve system performance.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: MECH 244

## Radiography (RAD)

**RAD 111 Introduction to Radiologic Technology (SU) 3 credits**  
This is an introduction to radiologic principles and clinical radiography. Areas of emphasis include fundamentals of radiobiologic concepts, medical ethics, body mechanics, patient care skills, and clinical observation. This course is a prerequisite for all other radiologic technology courses.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisites: Completed health record and acceptance into program  
Lab fee: \$30.00

**RAD 113 Radiologic Science (W) 5 credits**  
The course begins with a review of basic concepts of electricity, electromagnetism, and electrical circuits. The student is then introduced to the theory of x-ray production, x-ray emissions, and x-ray interactions. Applications of equipment are discussed to include special x-ray equipment such as tomography, stereoradiography, mammography, and fluoroscopy.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: RAD 111 Lab fee: \$5.00

**RAD 118 Radiographic Exposure and Processing (SP) 5 credits**  
This course consists of a study of film processing through analysis of radiographic film characteristics, film processing, film storage and handling, and silver recovery methods. Photographic and geometric properties necessary to the production of a quality radiograph are discussed, as well as technical conversions necessary to maintain film density.  
Lecture: 4 hours – Lab: 2 hours  
Prerequisite: RAD 113 Lab fee: \$9.00

**RAD 123 Advanced Exposure and Processing (W) 4 credits**  
This advanced course analyzes factors which affect the diagnostic quality of the radiograph. Technique charts are developed. The importance of a

quality assurance program is emphasized and quality control testing is presented. Students are required to conduct quality control testing and troubleshooting of radiographic equipment.  
Lecture: 3 hours – Lab: 2 hours  
Prerequisite: RAD 118 Lab fee: \$9.00

**RAD 126 Radiation Biology and Protection (A) 3 credits**  
This advanced science course examines human responses to ionizing radiation. Early and late effects of radiation exposure are discussed, as well as an in-depth analysis of radiation protection standards and practices.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: RAD 113 Lab fee: \$10.00

**RAD 141 Radiographic Procedures I (SU) 4 credits**  
The student is introduced to radiologic terms specific to imaging, equipment operation, and patient positioning. Specific areas of study include physician assisting, and radiographic anatomy to include gastrointestinal system, upper and lower extremities, chest, abdomen, and basic urography. Lab provides the opportunity for practice and demonstration of proficiency.  
Lecture: 3 hours – Lab: 3 hours  
Prerequisite: Acceptance into the program Lab fee: \$35.00

**RAD 141A Intro to Radiography Equipment and Patient Care (SU, A, W, SP) 0.5 credit**  
This module of 141 introduces the student to radiography equipment and patient care.  
Lecture: 0.6 hour – Lab: 0.2 hour  
Prerequisites: RAD 190 Lab fee: \$5.00

**RAD 141B Radiographic Positioning of the Upper Extremities (SU, A, W, SP) 0.75 credit**  
This module of RAD 141 introduces the student to radiographic positioning of the upper extremities.  
Lecture: 0.3 hour – Lab: .9 hour  
Prerequisites: RAD 141A Lab Fee: \$5.00

**RAD 141C Radiographic Positioning of the Lower Extremities (SU, A, W, SP) 0.75 credit**  
This module of RAD 141 introduces the student to radiographic positioning of the lower extremities  
Lecture: 0.3 hour – Lab: .9 hour  
Prerequisites: RAD141A Lab Fee: \$5.00

**RAD 142 Radiographic Procedures II (A) 4 credits**  
This course serves as a continuation of RAD 141, with progression through the positioning categories and radiographic anatomy. Course topics include basic fluoroscopic procedures, the vertebral column, bony thorax, specialized biliary and urographic studies, and tomography.  
Lecture: 3 hours – Lab: 3 hours  
Prerequisite: RAD 141 Lab fee: \$35.00

**RAD 142A Radiographic Positioning of the Chest and Abdomen (SU,A,W, SP) 0.75 credit**  
This module of RAD 142 introduces the student to radiographic positioning of the chest and abdomen.  
Lecture: 0.3 hour – Lab: .9 hour  
Prerequisite: RAD 141A Lab Fee: \$5.00

**RAD 142B Radiographic Positioning of the Spine and Skull (SU, AU, W, SP) 0.75 credit**  
This module of RAD 142 introduces the student to radiographic positioning of the spine and skull.  
Lecture: 0.3 hour – Lab: .9 hour  
Prerequisite: RAD141A Lab Fee: \$5.00

**RAD 143 Radiographic Procedures III (W) 4 credits**  
This course serves as the final of a series of three, with progression through

the remaining categories of positioning and radiographic anatomy. Course topics include specialized fluoroscopic and radiographic studies, skull and facial bones, operative radiography, and trauma radiography.

Lecture: 3 hours – Lab: 3 hours

Prerequisite: RAD 142 Lab fee: \$35.00

**RAD 148 Special Radiographic Procedures (SP) 4 credits**

This course provides a detailed examination of cardiovascular, neurologic, interventional radiologic studies and common specialized procedures. The course begins with discussion of specialized equipment and materials. Emphasis is placed on pertinent anatomy, diagnostic value and/or therapeutic value of each examination.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: RAD 143 Lab fee: \$25.00

**RAD 190 Radiation Protection for General Machine Operators (A, W, SP, SU) 2 credits**

This course is designed to prepare non-radiographers with a specific background in radiation protection and radiation biology necessary to be eligible to apply for the State of Ohio, Radiology Technology Division, General Operator Examination. Areas of instruction include radiation physics, radiographic technique, darkroom processing and film handling, radiation health, safety and protection and radiation biology. Basic radiographic positioning skills and terminology are also presented.

Lecture: 2 hours – Lab: 0 hours Lab fee: \$3.00

**RAD 210 Introduction to Sectional Anatomy (W) 1 credit**

Anatomic relationships that are present under various sectional orientations as depicted by computed tomography and magnetic resonance imaging. Emphasis on head, chest, abdomen, and pelvis with correlation between different sectional imaging modalities. Not open to students enrolled in the Radiography program

Lecture: 1 hour

Prerequisite: Bio 263 and acceptance into Nuclear Medicine program, or permission of instructor.

**RAD 212 Sectional Anatomy (SU) 3 credits**

Sectional anatomy is introduced, with an emphasis on head, chest, abdomen and pelvis. Students will be required to give a presentation demonstrating correlations between different sectional imaging modalities.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: RAD 143 Lab fee: \$5.00

**RAD 222 Computerized Imaging (A) 1 credit**

This course presents a survey of computerized modalities related to radiography to include an introduction to computers in medical imaging, digital radiography, computed tomography, magnetic resonance imaging, positron emission tomography and Picture Archival and Communication Systems (PACS).

Lecture: 1 hour – Lab: 0 hours

Prerequisite: RAD 113 Lab fee: \$5.00

**RAD 231 Radiographic Pathology (W) 3 credits**

The course begins with a review of common terms relating to pathology. Using a survey approach, this course continues with a study of various disease processes and their effect on body systems as they relate to radiography and allied imaging modalities. Students are required to write a term paper on a specific pathologic process.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: RAD 148 Lab fee: \$5.00

**RAD 254 Seminar I (SU) 1 credit**

RAD 254 offers an evaluation and review of radiography cases and discussion of current issues in the radiologic sciences.

Lecture: 1 hour – Lab: 0 hours

Corequisite: RAD 264

**RAD 255 Seminar II (A) 1 credit**

RAD 255 offers an evaluation and review of radiography cases and discussion of current issues in the radiologic sciences.

Lecture: 1 hour – Lab: 0 hours

Corequisite: RAD 265

**RAD 256 Seminar III (W) 1 credit**

RAD 256 offers an evaluation and review of radiography cases and discussion of current issues in the radiologic sciences.

Lecture: 3 hour – Lab: 0 hours

Prerequisite: RAD 255

Corequisite: RAD 266

**RAD 261 Clinical I (A) 2 credits**

This directed practice in the clinical area provides an opportunity for the student to become familiar with the care and positioning of the patient. Proficiency requirements are completed using a competency-based educational format over the course material presented in Radiologic Procedures I. Film critique is incorporated to provide a correlation of all factors that comprise a finished radiograph to include an analysis of anatomic structures, patient positioning, radiation protection, and fundamental exposure techniques.

Lecture: 0 hours – Lab: 16 hours

Prerequisite: RAD 111 Lab fee: \$23.00

**RAD 262 Clinical II (W) 2 credits**

This directed practice in the clinical area provides the practical experience necessary to function as a radiographer and is designed to enhance and complement didactic studies. Experience is gained in the general diagnostic and fluoroscopic areas, the emergency department, and on portable radiography rotations. Film critique is continued to provide a correlation of all factors that comprise a finished radiograph. Case presentations are introduced.

Lecture: 1 hour – Lab: 16 hours

Prerequisite: RAD 261 Lab fee: \$23.00

**RAD 263 Clinical III (SP) 2 credits**

This directed practice in the clinical area is a continuation of Clinical II. Clinical III provides the practical experience necessary to function as a radiographer and is designed to complement and enhance the didactic studies. Experience is gained in the general diagnostic and fluoroscopic areas, the emergency department, the operating room, tomography, portable radiography, and digital imaging. Film critique and case presentations are continued.

Lab: 16 hours

Prerequisite: RAD 262 Lab fee: \$23.00

**RAD 264 Clinical IV (SU) 3 credits**

This directed practice in the clinical area is a continuation of Clinical III. Clinical IV provides the practical experience necessary to function as a radiographer and is designed to enhance and complement the didactic studies. Experience is gained in the general diagnostic and fluoroscopic areas, the emergency department, the operating room, tomography, portable radiography, the computed tomographic area, to include an evening rotation. In addition, each student is required to observe a radiologist during film reading and dictation. Film critique and case presentations are continued.

Lab: 24 hours

Prerequisite: RAD 263

Corequisite: RAD 254 Lab fee: \$23.00

**RAD 265 Clinical V (A) 3 credits**

This directed practice in the clinical area is a continuation of Clinical IV. Clinical V provides the practical experience necessary to function as a radiographer and is designed to enhance and complement didactic studies. Experience is gained in the general radiographic and fluoroscopic areas, emergency department, operating room, portable radiography, tomography, computed tomography, cardiovascular and interventional radiology,

digital imaging and special area (one day) rotations in nuclear medicine, radiation oncology, diagnostic medical sonography, cardiac catheterization laboratory, and extra-corporeal shock wave lithotripsy. Film critique and case presentations are continued.

Lab: 24 hours

Prerequisite: RAD 264

Corequisite: RAD 255 Lab fee: \$23.00

**RAD 266 Clinical VI (W) 3 credits**

This directed practice in the clinical area is a continuation of Clinical V. Clinical VI provides the practical experience necessary to function as a radiographer. Experience is obtained in general radiographic and fluoroscopic areas, the emergency room, the operating room, tomography, mammography, portable radiography, digital imaging, computed tomography, and magnetic resonance imaging. Film critique and case presentations are continued.

Lab: 24 hours

Prerequisite: RAD 265

Corequisite: RAD 256 Lab fee: \$23.00

**RAD 267 Clinical VII (SP) 3 credits**

This directed practice in the clinical area is a continuation of Clinical VI. Students are required to complete the Final Competency Examination during this quarter. Clinical rotations are scheduled in the general radiographic and fluoroscopic areas, the operating room, the emergency room, mammography, and computed tomography. Once the Final Competency Examination has been satisfactorily completed, the student may custom design individual specific clinical rotations. Critique and case presentations are continued.

Lab: 24 hours

Prerequisite: RAD 266 Lab fee: \$23.00

## Real Estate (REAL)

**REAL 101 Real Estate Principles and Practices (A, W, SP, SU) 4 credits**

This course presents an introduction to the language of real estate, the economics of the real estate business, and the general practices performed in the listing and selling of real estate. REAL 101 provides a basic knowledge of the real estate business. Course covers the physical, legal, location, and economic characteristics of real estate, real estate markets, regional and local economic influences on real estate values, evaluation, financing, licensing, and professional ethics. This course meets all state requirements for licensing.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$3.00

**REAL 102 Real Estate Law (A, W, SP, SU) 4 credits**

Real estate law includes all of the areas of law of common concern to the typical real estate practitioner and investor-consumer. Among topics covered are the law of agency as applied to real estate brokers and salespersons, law of fixtures, freehold and leasehold, estates, conveyance of real estate, real estate managers, licensure laws of Ohio, zoning, cooperatives and condominiums. This course meets state requirements for licensing.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$3.00

**REAL 111 Real Estate Finance (A, W, SP, SU) 2 credits**

REAL 111 covers four major concerns of real estate financing: financing instruments and creative financing techniques; in-depth mortgage payment patterns and concepts, economic characteristics and standards, and financing of single and income-producing properties; sources and availability of mortgage money and credit and the impact of various factors on the mortgage market; and special government activities having an impact on real estate financing. Class meets requirements for licensing.

Lecture: 2 hours – Lab: 0 hours Lab fee: \$3.00

**REAL 112 Real Estate Appraisal (A, W, SP, SU) 2 credits**

REAL 112 stresses the methodology of appraising the single-family residential property and the theory underlying appraisal techniques. Course covers the three basic techniques of appraising: market comparison, penalized cost of replacement, and income approach (GMRM). A term appraisal project is assigned to give the student practical experience in applying these techniques. Course meets state requirements for licensing.

Lecture: 2 hours – Lab: 0 hours Lab fee: \$3.00

**REAL 121 Residential Sales Practices (SP) 3 credits**

This is a “how to” course providing a step-by-step approach for success as a real estate professional based on sound principles and acceptable techniques. Course sets forth basic fundamentals which must be mastered by real estate practitioners, regardless of their specialization or type of property involved. Underlying theme is communication. See advisor to find out if course may meet continuing education requirement.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: REAL 101 and REAL 102 or Real Estate License.

Lab fee: \$3.00

**REAL 201 RE Etiquette and Professional Standards (A, W, SP, SU) 3 Credits**

To educate real estate licensees and potential licensees on the importance of etiquette and professionalism as it pertains to the real estate practitioner. Course covers not only etiquette between agents and clients, but also etiquette and professionalism with foreign-born clients and their customs. Students will learn basic customs and traditions in the real estate industry and will learn the appropriate conduct in a variety of setting that they will experience in the real estate field.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: REAL 101 or REAL 102 or real estate license or instructor permission. Lab fee: \$3.00

**REAL 221 Professional Property Management (A, SP) 3 credits**

A course studying decision-making as it affects management of residential, commercial and industrial property. The emphasis shall be on the practical application of theory to actual management problems. Specific topics include Ohio Tenant Landlord Act, forcible entry and detainer, typical leases, office management, hiring, merchandising, advertising, collection problems, taxes, insurance and maintenance. See advisor to find out if course may meet continuing education requirement.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: REAL 101 Lab fee: \$3.00

**REAL 250 Commercial Real Estate (A, SP) 3 Credits**

This course is an introduction to commercial real estate practice which provides students with the basic vocabulary, various types of forms to comply with, state law and regulations, tools, and training to proceed with commercial listing or sales activity with confidence. Students will learn to establish market value and return for investments in office buildings, industrial properties, apartments, shopping centers and retail stores. Students will also study a broad selection of financing options for commercial real estate.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: REAL 101 or real estate license or instructor permission. Lab fee: \$3.00

**REAL 270 Real Estate Investing (A, W, SP, DL) 3 credits**

This course offers a practical approach to understanding the steps necessary to purchase real property as part of an investment portfolio. Student will use case studies to develop investment plans that achieve financial wealth through real property investment. Investment property will include single family, multi-family, and small commercial ventures. It is recommended that the student be familiar with Excel spreadsheets or similar software.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$3.00



**REAL 275 Repair, Restore, Remodel (A, SP) 3 credits**

This course is based on proven techniques used to repair, restore or remodel property that is functionally obsolete. Course is structured to teach a broad overview of the home systems, common repairs, and typical maintenance of a home. This course will help students understand the basic techniques in restoration of historical properties as well. These techniques will involve a beginning study of architectural style and design based upon property's age. The final part of the course will analyze what type of remodeling is economically feasible versus projects that are not feasible. Product warranties, permits, negotiation with contractors and sub-contractors as well as scope of work and time involved will be covered.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$3.00

**REAL 296 Real Estate Practicum/Seminar (A, W, SP, SU) 2 Credits**

This course introduces students to the real estate profession and daily activities of a real estate agent. Course will provide a foundation of the real estate process and an opportunity for students to apply classroom information, theories, and skills in a real estate office environment. Students will participate in an actual real estate office environment. Program coordinator's approval needed.

Seminar: 1 hour – Practicum: 7 hours Lab fee: \$3.00

**Respiratory Care (RESP)****RESP 100 Introduction to Respiratory Care (A) 5 credits**

This course presents an integrated introduction to the care of pulmonary patients. Course content focuses on the skills required and the methods used to manage cardiopulmonary problems.

Lecture: 3 hours – Lab: 4 hours

Prerequisite: Acceptance into the program

Corequisite: RESP 160 Lab fee: \$65.00

**RESP 102 Respiratory Care Assistant (A, W, SP) 3 credits**

This course is a prerequisite for admission to the Respiratory Care program. This course deals with cleaning, sterilization, assembly and making respiratory care equipment patient-ready. The content covered in this course would improve a student's opportunity for hospital employment as a respiratory care assistant.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: Placement into ENGL 101 and completion of MATH 102 with a "C" or better

**RESP 114 Introduction to Pulmonary Disease (W) 4 credits**

This course provides an integrated approach to the anatomy, physiology and pathology of the cardiopulmonary system. Normal and abnormal function will be compared.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: RESP 100 completed with a grade of C or higher or permission of instructor

Corequisite: RESP 150 and RESP 170

**RESP 130 Patient Assessment I (SP) 2 credits**

This course presents a holistic approach to the assessment of adult and pediatric patients in the subacute/homecare and acute care settings. Special emphasis will be placed on assessment of the cardiopulmonary function.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: RESP 114, RESP 150 completed with a grade of C or higher or permission of instructor

Corequisites: RESP 152 and RESP 196

**RESP 132 Patient Assessment II (SU) 2 credits**

This course presents a holistic approach to assessment of adult and pediatric patients in the acute care setting. Special emphasis will be

placed on assessment of the cardiopulmonary system.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: RESP 130 completed with a grade of C or higher

Corequisites: RESP 154 and RESP 198

**RESP 150 Introduction to Pharmacology (W) 2 credits**

This course provides an introduction to the basic principles of therapeutic drug administration. Classification of drugs will be included. Special emphasis will be directed to safety issues, sources of drug information, and application to respiratory care practice.

Lecture: 2 hours

Prerequisite: RESP 100 completed with a grade of C or higher or permission of instructor

Corequisite: RESP 114 and RESP 170 Lab fee: \$55.00

**RESP 152 Case Management I (SP) 2 credits**

This course presents a holistic approach to the management of adult and pediatric patients in the subacute and acute care settings. Special emphasis will be placed on the management of the cardiopulmonary problems.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: RESP 114, RESP 150 completed with a grade of C or higher or permission of instructor

Corequisite: RESP 130 and RESP 196

**RESP 154 Case Management II (SU) 2 credits**

This course presents a holistic approach to the management of adult and pediatric patients in the acute care setting. Special emphasis will be placed on the management of the cardiopulmonary problems.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: RESP 152 completed with a grade of C or higher or permission of instructor

Corequisites: RESP 132 and RESP 198

**RESP 160 Introduction to Respiratory Equipment (A) 1 credit**

This course is an introduction to basic respiratory care equipment.

Lecture: 0 hours – Lab: 3 hours

Prerequisite: Acceptance into the program

Corequisite: RESP 100 Lab fee: \$25.00

**RESP 170 Mechanical Ventilators (W) 1 credit**

Students will learn operational characteristics of critical care, home care, transport and neonatal ventilators.

Lecture: 0 hours – Lab: 3 hours

Prerequisite: RESP 160 completed with a grade of C or higher or permission of instructor

Corequisite: RESP 114 and RESP 150 Lab fee: \$67.00

**RESP 196 Clinical Practice/Therapeutic Procedures I (SP) 8 credits**

This course is focused on conducting respiratory care procedures in the acute care and long-term acute care settings.

Lecture: 2 hours – Lab: 3 hours – Clinical: 10 hours

Prerequisites: RESP 100 completed with a grade of C or higher and BIO 262 or permission of instructor

Corequisites: RESP 130 and RESP 152 Lab fee: \$44.00

**RESP 198 Clinical Practice/Therapeutic Procedures II (SU) 8 credits**

This course is focused on conducting respiratory care procedures in the acute care and long-term acute care settings.

Lecture: 2 hours – Lab: 3 hours – Clinical: 10 hours

Prerequisite: RESP 196 completed with a grade of C or higher or permission of instructor

Corequisites: RESP 132 and RESP 154 Lab fee: \$90.00

**RESP 221 Introduction to Sleep Problems (A, DL) 2 credits**

This introductory course will provide an overview of the physiology and architecture of sleep, common sleep disorders, their prevalence in

the population, causes and treatment, the factors related to risk and risk management for shift workers, and the role of the polysomnography  
Lecture: 2 hours  
laboratory in monitoring and recording physiologic data during sleep.  
Prerequisite: Placement into ENGL 101, Completion of MATH 102, BIO 100 and CHEM 100.

**RESP 223 Level I Polysomnography Technician (W, DL) 2 credits**

This course will prepare the student for performing Level I polysomnographic technician responsibilities in the clinical area and will provide an introduction to polysomnography.  
Lecture: 2 hours  
Prerequisite: RESP 221 completed with a grade of C or higher or permission of RESP program coordinator  
Corequisites: RESP 223

**RESP 224 Level I Polysomnography Technician Clinical (W) 2 credits**

This course will prepare the student for performing Level I polysomnographic technician responsibilities in the clinical area. The student will complete a supervised clinical experience in a sleep lab under the guidance of a clinical preceptor. The course focuses on preparing the equipment and instrumentation used in the sleep lab, as well as on patient preparation.  
Lecture: 0 hours – Clinical: 4 hours  
Prerequisite: RESP 221 completed with a grade of C or higher and completed health record, drug screen and background check or permission of RESP program coordinator Lab fee: \$20.00

**RESP 225 Level II Polysomnography Technician (SP, DL) 2 credits**

The Level II Technician course is designed for nurses, respiratory therapists, paramedics and other health care practitioners who are interested in polysomnography. This course focuses on scoring of polysomnography tracings, applying and titrating CPAP/Bi-Level therapy and patient education.  
Lecture: 2 hours  
Prerequisite: RESP 223 completed with a grade of C or higher or permission of RESP program coordinator

**RESP 226 Level II Polysomnography Technician Clinical (SP) 2 credits**

The Level II Technician clinical course is designed to provide clinical practice for skills covered in the RESP 225.  
Lecture: 0 hours – Clinical: 4 hours  
Prerequisite: RESP 223, RESP 224 completed with a grade of C or higher and completed health record, drug screen and background check or permission of RESP program coordinator  
Corequisite: RESP 225 Lab fee: \$20.00

**RESP 228 Polysomnography Current Topics (On Demand) 2 credits**

This course will examine current changes in the field of polysomnography. Changes may include new techniques in instrumentation or diagnosis, and new approaches to sleep disorders or assessment.  
Lecture: 2 hours  
Prerequisite: RESP 225 completed with a grade of C or higher or permission of RESP program coordinator Lab fee: \$85.00

**RESP 230 Patient Assessment III (A) 2 credits**

This course presents a holistic approach to the assessment of adult and pediatric patient in the critical care setting. Special emphasis will be placed on assessment of the cardiopulmonary system.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisite: RESP 132 completed with a grade of C or higher or permission of instructor  
Corequisites: RESP 256 and RESP 290

**RESP 232 Neonatal and Pediatric Respiratory Care (W) 3 credits**

This course offers a study of the management and treatment of neonatal

and pediatric respiratory diseases. Special emphasis is placed on the therapeutic procedures of respiratory care which are associated with pediatric and neonatal patients.

Lecture: 3 hours  
Prerequisite: RESP 230 completed with a grade of C or higher

**RESP 238 Pulmonary Function (On Demand) 3 credits**

A study of the equipment and the techniques utilized in pulmonary function testing and blood gas analysis. This course examines the types of analyzers used in performing lung volume tests, lung flow tests, and gas analysis test with a discussion of the advantages and disadvantages of such systems. Procedures used in each test are discussed including patient instruction and calculation of the data.  
Lecture: 3 hours  
Prerequisite: RESP 230 completed with a grade of C or higher

**RESP 251 Respiratory Rehabilitation Home Care Techniques (On Demand) 3 credits**

This course provides the student with the appropriate adaptations of skills and concepts traditionally used in the hospital to alternate care settings in order to educate the patient and caregiver to maintain the highest possible functional capacity. Included are medication regimens, smoking cessation, breathing retraining, bronchial hygiene, and other self-care techniques. Other topics include monitoring the patient's disease and servicing the equipment needs of the patient.  
Lecture: 3 hours  
Prerequisite: Permission of instructor Lab fee: \$15.00

**RESP 252 Patient Management in Respiratory Rehabilitation (On Demand) 3 credits**

This course focuses on the study of the patient's adaptation to chronic pulmonary disease. Emphasis will be placed on problem identification, appropriate interventions, and referral to community resources using a multidisciplinary approach in coordinating the various systems of care.  
Lecture: 3 hours  
Prerequisite: RN, LPN, RRT, CRT or permission of instructor

**RESP 253 Respiratory Rehabilitation Home Care Administration (On Demand) 4 credits**

This course concentrates on the management of a respiratory rehabilitation or home care organization. Topics include the development of policies and procedures for respiratory rehab home care services, the preparation of the certificate of medical necessity, and the documentation necessary for reimbursement, accreditation, regulatory requirements and quality assurance. Other topics include marketing strategies and community health promotion.  
Lecture: 4 hours  
Prerequisite: RN, LPN, RRT, CRT or permission of instructor

**RESP 256 Case Management III (A) 2 credits**

This course presents a holistic approach to the management of adult and pediatric patients in the critical care setting. Special emphasis will be placed on the management of the cardiopulmonary problems.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisite: RESP 154 completed with a grade of C or higher or permission of instructor  
Corequisites: RESP 230 and RESP 290

**RESP 270 Current Issues in Respiratory Care (A, W, SP, SU) 2 credits**

This course is intended to be focused on current trends in the care of patients with cardiopulmonary problems. Course content will change as current issues change.  
Lecture: 2 hours  
Prerequisite: RESP 256 completed with a grade of C or higher or permission of instructor

**RESP 280 Respiratory Care Seminar 2 (W) 2 credits**

This course deals with special topics in respiratory care.

Lecture: 2 hours

Prerequisite: RESP 290 completed with a grade of C or higher

Corequisite: RESP 292 Lab fee: \$100.00

**RESP 290 Clinical Practice/Therapeutic Procedures III (A) 8 credits**

This course focuses on conducting respiratory care procedures in the critical care setting.

Lecture: 2 hours – Lab: 3 hours – Clinical: 10 hours

Prerequisite: RESP 198 completed with a grade of C or higher or permission of instructor

Corequisites: RESP 230 and RESP 256 Lab fee: \$67.00

**RESP 292 Clinical Practice/Therapeutic Procedures IV (W) 8 credits**

Clinical Practice IV is a continuation of respiratory care in the critical care units including the adult, pediatric and neonatal patient population.

Lecture: 2 hours – Lab: 3 hours – Clinical: 10 hours

Prerequisite: RESP 290 completed with a grade of C or higher or permission of instructor

Corequisite: RESP 270 Lab fee: \$63.00

**RESP 295 Clinical Practicum(SP) 4 credits**

In the clinical practicum, students apply skills that they have learned in the previous four quarters. Students spend 24 hours per week practicing respiratory care with a clinical affiliate.

Lecture: 1 hour – Clinical: 24 hours

Prerequisite: RESP 292 completed with a grade of C or higher or permission of instructor Lab fee: \$100.00

**Skilled Trades (SKTR)****SKTR 100 Survey of the Construction Industry (W, SU) 3 credits**

This seminar course provides an overview of the vast array of opportunities in the construction industry. Students will be exposed to careers ranging from the many administrative and management career opportunities available in the industry (e.g., construction management, architecture, and civil engineering) as well as the wide range of skilled trades careers needed to build America (e.g., electrician, carpenter, operating engineer, plumber, HVAC, and welder). Also covered will be a wide range of construction operations: residential, commercial, industrial, and public works, and how green construction affects and influences these projects. A general overview of job site safety will also be covered.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: None Lab fee: \$10.00

**SKTR 110 Basic Skills for the Construction Industry (On Demand) 3 credits**

This course introduces the student to basic technical skills that are common to all construction trades: safety in the workplace, measuring and construction math, hand and power tool usage, blueprint reading, and basic rigging operations.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: None Lab fee: \$20.00

**SKTR 111 Introduction to Electrical Work (A,W, SP, SU) 4 credits**

This course introduces the learner to the electrical profession, basic electrical theory and circuits, standard electrical safety, installation tools, and selection of proper wiring size and methods of installation. The learner will experience installation of wiring: single pole, three-way, and four-way switches, standard and GFCI receptacles, outlet boxes, and branch circuits. This course will cover electrical test equipment, and an introduction to the National Electrical Code (NEC) and electrical formulas.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: None Lab fee: \$35.00

**SKTR 112 Introduction to Carpentry (A, SP, SU) 4 credits**

This course introduces the learner to the varied complex systems that make-up the carpentry trade and the history of the trade, career opportunities, and different types of construction is discussed. Safety for job-site working conditions will be covered. Wood building materials, fasteners and adhesives for wood framing are covered. Basic Carpentry formulas will be covered. This class gives the learner an introduction to proper and safe use of hand, pneumatic, and power tools typically used by carpenters. Learners will experience hands on projects building walls and floor sections.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: None Lab fee: \$35.00

**SKTR 114 Introduction to Plumbing Supply Systems (A, W, SP, SU) 4 credits**

This course introduces the learner to the plumbing profession, plumbing safety, tools, plumbing formulas, and drawings. Plastic, copper, steel pipe and relative fittings are discussed. This course will cover sizing requirements, flow rates, and unit usages for different plumbing fixtures. This course will cover hammer effects, expansion tanks, and return loop systems. The learning will engage in installation of plumbing systems and proper usage of tools and installation methods.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: None Lab fee: \$40.00

**SKTR 118 Introduction to Welding (A, W, SP, SU) 4 credits**

This course introduces the learner to the welding profession, welding tools, welding safety, OxyFuel setup, cutting, and heating, base metal preparation, weld quality, and all aspects of Shielded Metal Arc Welding (SMAW) (known as “Stick Welding”) including equipment setup, and electrode selection. Through this course the learner will be able to assess what other welding skills and knowledge they desire and/or need for the work place.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: None Lab fee: \$85.00

**SKTR 128 OxyFuel Welding and Plasma Cutting (A, W, SU, SP) 3 credits**

This course introduces the learning to OxyFuel welding of mild steel and aluminum, this course will expand on OxyFuel cutting and setup procedures taught in SKTR 118. This course will also cover the equipment, setup, limitations, proper operation and methods used in plasma arc cutting and gouging. The learner will engage in lab activities OxyFuel welding, cutting, plasma arc cutting, and proper fit up and preparation of materials for joining.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: SKTR 118 Lab fee: \$85.00

**SKTR 130 Construction Industry Employability Skills (W, SU) 3 credits**

This seminar course covers a wide range of life and employability/employee skills. These skill sets are essential to successfully enter the workforce and build a career with a clear upward path. Proper preparation of resumes, cover letters, and on line applications as well as job search techniques suited specifically for construction and maintenance job placements are covered.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: None Lab fee: \$15.00

**SKTR 131 Intro to Commercial Wiring (A, W, SP, SU) 4 credits**

This course introduces the learner to electrical blueprints, conductors, conductor termination, splices, and wiring devices. Commercial wiring, grounding, circuit breakers, electrical services, and over current equipment are covered. The learner will engage in installing conduit raceway systems, conductors, devices, and branch circuits. Learners will continue to broaden their knowledge of the National Electric Code and its requirements.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: SKTR 111 Lab fee: \$35.00

**SKTR 132 Carpentry: Structural Framing (A, SP) 4 credits**

This course introduces the learner to different systems within carpentry. Blueprint reading, plans and drawings are discussed. Floor, wall, ceiling, and roof framing are the focus of this course. The learner will engage in building floor sections, foundation layout, Transit setup for elevation and angle, and roof framing systems.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: SKTR 112 Lab fee: \$35.00

**SKTR 134 Intro to Plumbing DWV Systems (W, SU) 4 credits**

This course introduces the learner to the proper installation and testing of Drain Waste and Vent (DWV) systems for installing sink, tub, roof, floor, and area drains. Coverage of building standards for proper and safe installation of DWV will be covered. Different types of materials and methods used for code compliant DWV and proper sizing of DWV systems, and DWV Isometric drawing / reading will be covered. The learner will engage in sizing and installing DWV materials for horizontal and vertical stack systems.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: SKTR 114 Lab fee: \$40.00

**SKTR 138 Fundamentals of MIG Welding (A, W, SP, SU) 4 credits**

This course introduces the learner to additional welding symbols and drawings, all aspects of Gas Metal Arc Welding (GMAW) (known as MIG Welding), including equipment set-up, gas selection, usage of both solid core and flux core welding wire, using both fillet and multiple-pass welds. Through this course the learner will be able to assess what other welding skills and knowledge they desire and need for the various trades in the work force. The learner will engage in lab projects joining metals in lap, tee, butt, and V-groove fit up using shielded and flux core MIG methods and materials.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: SKTR 118 Lab fee: \$85.00

**SKTR 148 Welding Specifications and Drawings (W, SU) 3 credits**

This course will cover welding symbol fundamentals used to build all complex welding symbols. Students will engage in the interpretation and drawing of welding symbols. Welding symbols will be looked at to determine specifications for rod, flux, welding angle, and side of work welds shall be welded to. Symbols will be analyzed to determine if weld is in position or out of position.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: SKTR 118, MECH 115 Lab fee: \$10.00

**SKTR 151 TeleData and Coaxial Systems (SP) 3 credits**

This course introduces the learner to the fundamentals of Plain Old Telephone (POT) lines, CAT 3, 5E, and 6 Data topologies, RG-59, and RG-6 Coaxial dual shield and quad shielded cabling. Students will learn proper termination methods, tool usage, and methods for proper installation, maintenance, and repair of TeleData/Coaxial Systems. The learner will engage in lab projects installing, terminating, and testing of these communication systems.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: SKTR 131 Lab fee: \$40.00

**SKTR 152 Steel Framing Construction (W) 3 credits**

This course introduces the learner to Steel Framing Technology and Fundamentals. This course will cover the materials, tools, and methods of installation for steel framing. This course will cover sizing and gauge of framing members for both structural and non-structural construction applications. The learner will engage in building wall systems, floor systems, ceiling systems and metal grid drop ceiling installations using steel framing materials and tools.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: SKTR 112 Lab fee: \$50.00

**SKTR 158 Introduction to TIG Welding (W, SU) 4 credits**

This course will introduce the student, who is already proficient in basic

Stick, MIG, and OxyFuel Welding skills to the cursory skill sets and knowledge of the TIG welding process. The learner will cover skills for equipment selection, set-up, techniques, theories and applications of the TIG welding process. The learner will engage in lab projects welding mild steel plate utilizing mild steel filler metal using the TIG process. This process will include lap, tee, and butt joints on mild steel plate and sheet metal.

Lecture: 2 hour – Lab: 4 hours

Prerequisites: SKTR 128, SKTR 138 Lab fee: \$90.00

**SKTR 201 Int Residential and Commercial Wiring (SP) 4 credits**

This course introduces the learner to intermediate levels of residential and commercial wiring methods, materials, and applications involving related, motor maintenance, load calculations, feeder circuits, and over-current protection. The learner will be introduced to distribution equipment, fire alarm systems, and arc blast and arc flash electrical hazards. This course helps the learner to apply their knowledge of wiring and circuitry to diagnose and repair common wiring problems.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: SKTR 131, SKTR 100, SKTR 130 Lab fee: \$35.00

**SKTR 202 Carpentry: Interior/Exterior Finish Systems (W) 4 credits**

This course introduces the learner to interior and exterior finish systems including: drywall installation and finishing, wall coverings, insulation, sheeting, vapor barriers, siding, soffit materials, roofing materials, windows, doors, primers, paints, ceilings, and floorings. The learner will cover energy conservation methods, materials, and “green building” methodologies. The learner will engage in lab projects installing and repairing various interior and exterior finishes.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: SKTR 132, SKTR 130 Lab fee: \$40.00

**SKTR 204 Plumbing: Repair and Renovation (SP) 4 credits**

This course introduces the learner to additional plumbing codes, sump pump and lift station systems, fixture service tools and methods. The learner will engage in lab projects replacing, retrofitting plumbing fixtures, equipment, and common repair/adjustment procedures.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: SKTR 134, , SKTR 130 Lab fee: \$40.00

**SKTR 208 Intermediate Welding Applications I (A, W, SP, SU) 4 credits**

Using welding methods, materials, and techniques of Stick welding, and MIG welding the student will be instructed in methods that are best suited for welding metals in a wide range of real-world applications and positions. This includes “in-position”, “out-of-position” welding on both flat work and round work materials. The learner will be engaged in lab projects using Stick and MIG process welding: lap, tee, butt, and V-groove joints in “out-of-position” setups.

Lecture: 2 hours - Lab: 4 hours

Prerequisites: SKTR 138, SKTR 130 Lab fee: \$90.00

**SKTR 218 Intermediate Welding Applications II (A, SP) 4 credits**

This class will introduce the learner to intermediate out of position Stick Welding, MIG Welding, TIG Welding, and OxyFuel Welding for Horizontal, Vertical, and Overhead applications, the effects of differing enveloping gases and using flux core with enveloping gasses. The learner will be introduced to aluminum MIG welding and aluminum preparation and fit up for MIG welding. The learner will engage in lab projects covering Out of Position Stick, MIG, TIG, and OxyFuel Welding, for horizontal, vertical, and overhead situations.

Lecture: 2 hour – Lab: 4 hours

Prerequisites: SKTR 158, SKTR 208 Lab fee: \$90.00

**SKTR 221 Photovoltaic Systems (SU) 4 credits**

This course will provide the learner with hands on instructional training needed to develop the skills required for designing, building, installing,

troubleshooting and maintaining photovoltaic systems. The course is designed to introduce design concepts, tools, equipment and methods of installation used for photovoltaic systems. Fully operational systems are available for hands-on training that interface with battery and real time utility grid tied systems.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: SKTR 201, EMEC 251 Lab fee: \$100.00

### **SKTR 228 Intermediate Welding V Groove and Pipe I (W, SU) 4 credits**

This course introduces the learner to advanced welding techniques specific to V-Groove weldments of flat materials and pipe. This course will cover V Groove welding using Stick, MIG, and TIG processes. The learner during this course will hone their metal joining skills. This course will focus on multi-pass applications for both in and out of position work and introduce learners to pipe welding and the challenges it encompasses. Learners will engage in lab projects for fitting up and selecting the proper welding process for performing vertical up, vertical down, and horizontal welding of pipe and flat materials required to meet different welding specifications.

Lecture: 2 hour – Lab: 4 hours

Prerequisites: SKTR 148, SKTR 158, SKTR 208 Lab fee: \$95.00

### **SKTR 271 NEC and Electrical License Exam Prep. (W) 6 credits**

This course introduces the learner to the understanding proper interpretation of the National Electric Code. This course will introduce the learner to understanding NEC divisions and hierarchy, proper application of exceptions, and default rules for all electrical installations. This course will review electrical theory fundamentals, electrical formulas needed for proper circuit and equipment calculations. This course will also instruct students in business law and job site safety requirements for proper preparation to sit for a State of Ohio Electrical Contractors License.

Lecture: 6 hours – Lab: 0 hours

Prerequisite: Completed an Electrical Apprenticeship, 5 years field Experience, and Instructor Approval Lab fee: \$20.00

### **SKTR 288 AWS Certification Preparation I (SP) 2 credits**

This course will cover the requirements for testing and passing an AWS certification for flat and out of position work for structural applications. This course will help to fine tune students understanding of welding standards, and procedures for successful structural welding.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: SKTR 218 Lab fee: \$100.00

## **Social Sciences (SSCI)**

**Students who enroll in interdisciplinary social science courses must have placed in ENGL 101 and are encouraged to either have completed ENGL 101 or be enrolled in that course when scheduling an interdisciplinary social science course.**

**A distance learning (DL) version is also available for several of the SSCI courses. Students taking the Web-based version of these courses must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Group projects are maintained via virtual meetings and distance-learning students are required to take a proctored final examination at the Testing Center.**

### **SSCI 100 Globalization: A Social Science Perspective (A, W, SP, SU, DL) 5 credits**

This course will survey the process of globalization through the social science disciplines. The impacts of the social, cultural, economic and political contexts on society and organizations will be considered. Strategies for becoming effective negotiators and managers within a global economy will be explored. Students, working in teams, will research a

particular organization of their choice and present a case study on the organization at the end of the quarter. This is a general education core course. A section with project/study time in Cuernavaca, Mexico, may be offered winter quarter.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **SSCI 101 Cultural Diversity (A, W, SP, SU, DL) 5 credits**

SSCI 101 is an interdisciplinary course that focuses on the cultural, psychological, sociological, political, geographic and economic diversity among various groups. Topics include the ways individual beliefs, social values, and political and economic systems affect our perspectives and lifestyles. Through the use of team projects, students participate in interactive group work to explore the effects of social inequity on groups within society. The course emphasizes the development of critical thinking skills as applied to social science research and diversity issues that students may encounter in their lives. This is a general education core course.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **SSCI 101 Cultural Diversity: The Southwest Experience (SU) 5 credits**

This is the same course as listed above; however, students will study diversity within the context of 5 different Indian tribes on reservations in New Mexico and Arizona. This course includes a 15-day intensive travel experience with the travel typically taking place during the two-week break prior to the beginning of summer quarter.

Prerequisite: Placement into ENGL 101 and permission of the instructor Lab fee: \$4.00 (additional costs for travel, housing, etc.)

### **SSCI 101 Cultural Diversity: The Mexico Experience (W) 5 credits**

This course covers the same material as the traditional version of SSCI 101; however, diversity is studied within the context of Mexican culture. This course includes a 10-day intensive travel experience in Mexico City and Cuernavaca, Mexico. Travel typically takes place during the break between autumn and winter quarters.

Prerequisite: Placement into ENGL 101 and permission of the instructor Lab fee: \$4.00 (additional costs for travel, housing, etc.)

### **SSCI 102 American Popular Culture (A, W, SP, SU, DL) 5 credits**

A course that examines the relationship between society and popular culture in the United States through topics including advertising, television, music, movies, art, sports and the Internet. The course analyzes these components of American popular culture and their connections to social, political, economic and cultural influences from the latter half of the 20th century to the present. Students will explore these changes in U.S. society using social and political theories and selected readings, written assignments and group projects. This is a general education core course.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **SSCI 105 Law and Society (A, W, SP, SU, DL) 5 credits**

This course examines the interrelationships between law and other social structures and processes. The structure of law, the origin of laws, the organization and function of the legal system, the impact of the law, and the relationship between law and social change will be examined.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101; completion of SOC 101 is recommended, but not required. Lab fee: \$4.00

### **SSCI 287 Social Science Research Methods (A, W, SP, SU) 5 credits**

This course is designed to provide students with an introduction to the major research techniques that are employed by social science researchers. The first half of the course focuses on the logic of research and research design and the procedures used for research design. The second half of the course deals more specifically with a variety of particular techniques used for gathering data. Students will be expected to apply each of the techniques covered in the course through a series of small exercises

throughout the quarter. Students will write a research paper based on some of their findings.

Lecture: 3 hours – Lab 2 hours

Prerequisites: ENGL 102 or ENGL 111; MATH 104 or MATH 135; 10 hours of credit in the social sciences Lab fee: \$4.00

### **SSCI 293 Independent Study in the Social Sciences (On Demand)** **1–5 credits**

SSCI 293 is an individual, student-structured course that examines a selected topic in the social sciences through intensive reading or research. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisites: Permission of the instructor and chairperson and one course in the Social Sciences Lab fee: \$4.00

### **SSCI 299 Special Topics in the Social Sciences (On Demand)** **1 - 5 credits**

SSCI 299 allows students to examine, in detail, selected topics of interest in the social sciences.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisite: Varies Lab fee: \$4.00

## **Sociology (SOC)**

**Students who enroll in sociology courses must have placed in ENGL 101 and are encouraged to either have completed ENGL 101 or be enrolled in that course when scheduling a sociology course.**

**Distance-learning (DL) versions of several SOC courses are available. Students taking the Web-based version of these courses must be familiar with computers, have an e-mail address, and access to the Internet. Course content is identical to that presented in a traditional classroom setting. Examinations for distance-learning courses are administered at the Testing Center.**

### **SOC 101 Introduction to Sociology (A, W, SP, SU, DL) 5 credits**

This course introduces the basic concepts, methods and findings of sociology as a scientific discipline. The sociological perspective, emphasizing social interaction and structure, is used to explore the following topics: culture; socialization; social groups, including organizations; deviance; various types of social inequality; major social institutions; collective behavior, social movement and social change.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **SOC 202 Social Problems (A, W, SP, SU, DL) 5 credits**

This course examines how various conditions within society come to be defined as social problems. Individual, social, cultural, economic and political causes and consequences of such problems are analyzed with contemporary social science research (i.e., studies in the fields of anthropology, economics, geography, political science, psychology, and sociology). Possible intervention strategies are also assessed. Problems covered include health and well being; social and interpersonal violence; conformity and deviance; social and economic inequality associated with poverty, minority status, aging and sex roles; institutional change; and future issues and trends.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101; completion of SOC 101 is recommended, but not required. Lab fee: \$4.00

### **SOC 208 Sociological Approaches to Criminology (A, W, SP, SU, DL) 5 credits**

This course is an introduction to the sociological study of criminology and examines fundamental issues of the discipline such as the nature and

social distribution of crime, the criminal law, and theories of crime. The primary focus of the course is on understanding theories surrounding the causes and correlates of criminal behavior and developing a critical perspective from which social policies on crime can better be understood.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **SOC 209 Sociology of The Criminal Justice System (A, W, SP, SU, DL) 5 credits**

This course is an introduction to the criminal justice system as a social institution in society. Topics covered include an overview of the historical development and functions of the criminal justice system in the United States, theories of justice and punishment, the emergence and development of the modern police and court systems, and the structure and function of the correctional system. The social roles of personal in the criminal justice system, including police, lawyers, judges, correctional officers, and parole officers will also be examined.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$4.00

### **SOC 210 Sociology of Deviance (A, W, SP, SU, DL) 5 credits**

This course explores the major sociological perspectives and theories of deviance. This introductory course includes the study of the definition, identification, treatment and management of types of deviance, such as crime, mental illness, alcoholism and other pathologies.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101; completion of SOC 101 is recommended, but not required. Lab fee: \$4.00

### **SOC 230 Marriage and Family Relations (A, W, SP, SU, DL) 5 credits**

This course examines the impact of modern society upon the family as it relates to courtship, size of family, member relationships, economic problems and marital stability. This course compares alternative life styles and marriage and family relations throughout the life span.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101; completion of SOC 101 is recommended, but not required. Lab fee: \$4.00

### **SOC 280 American Race and Ethnic Relations (A, W, SP, SU, DL) 5 credits**

This course explores racial and ethnic relations in the United States. The current and past experiences of selected American racial and ethnic groups are examined with respect to theories and patterns of intergroup relations and issues of prejudice and discrimination (both individual and institutional). Possible future trends in American intergroup relationships are addressed.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101; completion of SOC 101 is recommended, but not required. Lab fee: \$4.00

### **SOC 293 Independent Study in Sociology (On Demand) 1–5 credits**

This is an individual, student-structured course that examines a selected topic in sociology through intensive reading or research. The independent study elective permits a student to pursue his/her interests within the context of a faculty-guided program.

Lecture: 1 to 5 hours – Lab: 0 hours

Prerequisite: Permission of the instructor and the chairperson and one course in sociology Lab fee: \$4.00

### **SOC 299 Special Topics in Sociology (On Demand) 1–5 credits**

SOC 299 allows students to examine, in detail, selected topics of interest in sociology.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Varies Lab fee: \$4.00

## Spanish (SPAN)

### **SPAN 100 Spanish for the Professions (A, W, SP, SU) 3 credits**

In this course, students learn basic Spanish phrases and the questions necessary to carry out specific protocols in a specific profession. Discussions also cover cross-cultural issues pertinent to relationships between non-Hispanic professionals and members of the Hispanic community. This course is useful for students interested in pursuing a career in a specific profession that has frequent contact with the Hispanic population.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$3.00

### **SPAN 101 Elementary Spanish I (A, W, SP, SU, DL) 5 credits**

SPAN 101 is an introduction to the fundamentals of the Spanish language with practice in listening, reading, speaking and writing. Course includes selected studies in Hispanic culture. SPAN 101 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: Placement into ENGL 101 Lab fee: \$6.00

### **SPAN 102 Elementary Spanish II (A, W, SP, SU, DL) 5 credits**

This course is a continuation of SPAN 101, with further development of listening, reading, speaking and writing skills and further study of Hispanic culture. SPAN 102 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: SPAN 101 with a grade of “C” or better or by placement exam Lab fee: \$6.00

### **SPAN 103 Intermediate Spanish I (A, W, SP, SU, DL) 5 credits**

SPAN 103 offers continued study of the Spanish language and development of listening, reading, speaking and writing skills. It also includes readings from contemporary Hispanic culture and literature. SPAN 103 meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: SPAN 102 with a grade of “C” or better or by placement exam Lab fee: \$6.00

### **SPAN 104 Intermediate Spanish II (A, W, SP, SU, DL) 5 credits**

SPAN 104 focuses on the reading and discussion of Spanish and Latin American short stories, novels, plays, newspapers, and magazines, emphasizing literary appreciation and the development of Hispanic culture. It meets elective requirements in the A.A. and A.S. degree programs and transfer requirements in foreign languages and literature.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: SPAN 103 with a grade of “C” or better or by placement exam Lab fee: \$6.00.

### **SPAN 105 Spanish Conversation and Composition (A, W, SP, SU) 1 credit**

This is a conversation/composition course designed to provide students completing the 104-level with an opportunity to continue practicing the language. Students discuss current events and personal experiences in the target language. Readings are taken from literary texts, journals, magazines and newspapers. The course is repeatable for a total of 5 hours of credit.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Completion of SPAN 104 or permission of instructor  
Lab fee: \$4.00.

### **SPAN 299 Special Topics in Spanish (On Demand) 1–5 credits**

SPAN 299 offers students the opportunity for a detailed examination of special topics in Spanish.

Prerequisite: Varies Lab fee: \$2.00

## Speech and Hearing Science (SHS)

### **SHS 230 Introduction to Communications Disorders (On Demand) 5 credits**

This course provides a survey of the topics, methodologies, and applications of speech and hearing science in normal and disordered hearing, speech, and language. This includes an introduction to the components of normal communication, including anatomy and physiology of speech and hearing mechanisms and physical components of sound and language. Major emphasis is on specific communication disorders, including fluency disorders, stuttering, swallowing disorders, aphasia, reading disorders, and different types of hearing loss. Course material will also address the Speech Pathology and Audiology professions and communication therapies.

Prerequisite: ENGL 101 Lab fee: \$3.00

## Sport and Exercise Studies (SES)

### **SES 100 Personal Fitness Concepts (A, W, SP, SU, DL) 4 credits**

This course of study focuses on fitness issues which affect Americans today and in the future. Emphasis is placed on establishing a basis for positive fitness through consideration of the various factors which influence fitness. Personal fitness concepts will focus attention on the need for each person to arrive at informed conclusions about how to take responsibility for his or her personal fitness.

Lecture: 4 hours – Lab: 0 hours Lab fee: \$10.00

### **SES 101 Introduction to Sport and Exercise Studies (W, SU) 4 credits**

A survey of the health and fitness arena both private and public, to include the study of facilities, recreational options for the client, client profiles, daily operations, legal aspects, personnel issues, and program administration.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: Acceptance into the program Lab fee: \$2.00

### **SES 102 Total Body Conditioning (A, W, SP) 1 credit**

This course involves participation in a resistance/aerobic fitness program to include cardio-respiratory fitness, strength training, and flexibility activities.

Lecture: 0 hours – Lab: 2 hours Lab fee: \$10.00

### **SES 104 Beginning Yoga (A, W, SP) 1 credit**

This course provides instruction in the fundamentals of yoga such as sun salutations, bandha (core) strength, and flexibility.

Lecture: 0 hours – Lab: 2 hours

### **SES 105 Introduction to Resistance Training (A, W, SP) 1 credit**

SES 105 is an introduction to weight room use for the individual exerciser, including various types of resistance exercise devices, proper techniques and programs, and weight room safety. An introduction to basic anatomical and exercise concepts and their application in the use of resistance exercise modalities as a part of a total conditioning and exercise program is covered.

Lab: 2 hours Lab fee: \$10.00

### **SES 106 Golf (A, SP, SU) 1 credit**

This course provides an introduction to playing the game of golf. Laboratory experiences to include introduction to the golf swing, club selection, driving range experience, and game/course experience.

Lecture: 0 hours – Lab: 2 hours Lab fee: \$100.00

### **SES 108 Women’s Self Defense (A, W) 1 credit**

SES 108 instructs students in the ideas of self-defense with special emphasis on the self-defense needs of women. Course will include self-defense techniques at the beginning level.

**SES 109 Beginning Bowling (A, W, SP, SU)** **1 credit**  
Course provides students with a thorough understanding of the scoring, techniques, skills, and fundamentals of bowling so that they can both participate and instruct others. This class allows students to participate in an individual sport and experience success in an independent environment.  
Lab: 2 hours Lab Fee: \$50.00

**SES 110 Fitness Kickboxing (A, SP)** **1 credit**  
This course will introduce the student to cardio kickboxing. Each week new basic body moves and techniques will be introduced. Basic punches, kicks and stances will be taught as well as choreographed patterns. Techniques will be taken from various martial arts such as Karate, Tae Kwon Do and Boxing as ways to improve the individual's cardiovascular fitness.  
Lab: 2 hours

**SES 113 Aquatics Management (SP)** **2 credits**  
Course offers a survey of the recreational aquatics environment. Students receive hands-on training in filtration systems and their operation, along with an understanding of federal and state guidelines for licensure for pool operation and maintenance. Legal aspects of the aquatics area are covered, as are staffing requirements and training of aquatics personnel for indoor/outdoor facilities. Students also will complete the American Red Cross Lifeguarding Certification as a part of this course.  
Lecture: 1 hour – Lab: 2 hours Lab fee: \$15.00

**SES 114 Aerobic and Group Fitness (A)** **2 credits**  
This course offers an introduction into the methods of teaching participation in a fitness program, including a thorough understanding of the techniques involved in various aerobic and fitness activities. Students will be able to demonstrate the basic techniques of a fitness program including safety, motivation, goal setting, and variations of aerobic and group fitness. Also covered are the history and value of dance for the client, basic dance movements, and interpretation of music and language for dance and aerobic conditioning.  
Lecture: 1 hour – Lab: 2 hours Lab fee: \$10.00

**SES 115 Intermediate Resistance Training (SP)** **2 credits**  
This course presents an analysis of the resistance training field to include types of resistance equipment used, resistance-training methods for the client, proper lifting and spotting techniques for the various equipment, and assessment of clients. Also covered is goal setting for clients based on assessment findings and the use of periodization techniques in planning resistance training activities. Risk management aspects of the weight area and proper care and maintenance of equipment is explained.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisite: SES 105 or permission of instructor Lab fee: \$20.00

**SES 116 Basics of Golf (A)** **2 credits**  
SES 116 offers an in-depth analysis of the game of golf. Subject matter includes the history of the game, the rules of play, and a look at the growth and increasing significance of the game, both inside and outside of the industry. Students will also learn about managing a golf facility, turf and environmental issues, employment options and teaching the game.  
Lecture: 1 hour – Lab: 2 hours Lab fee: \$100.00

**SES 117 Introduction to Tae Kwon Do (SP)** **2 credits**  
This course provides and introduction to coaching and participating in the activity, including a thorough understanding of the rules and sport strategy. Also covered are the history of the art form, self-defense strategies, and concepts of tournament sparring and tournament implementation.  
Lecture: 1 hour – Lab: 2 hours

**SES 205 Activities Programming for the Elderly in Long-Term Care (On Demand)** **9 credits**  
This course demonstrates how management of an activity department promotes the psychosocial, physical, emotional, creative and intellectual well being of residents. SES 205 provides students with a practical and theoretical framework from which to develop and manage a comprehensive

program of activities within long-term care settings. This course uses the NAAAP/NCCAP curriculum known as the mepacourse. Students are awarded a certificate of completion (accepted by the Ohio Department of Health) when the course is completed with a grade of "C" or higher. This certificate also qualifies the student to apply for National Certification.  
Lecture: 9 hours Lab fee: \$10.00

**SES 213 Aquatic Programming for Individuals with Disabilities (On Demand)** **3 credits**  
This course focuses on adaptive aquatic content which utilizes specialized instructional technology to maximize learning and participation of individuals with disabilities. The inclusive or community setting will be emphasized since acquisition of skills and water safety knowledge should occur in as normalized a manner as possible. Practicum opportunities with diverse populations will highlight the learning experiences.  
Lecture: 2 hours – Lab: 2 hours Lab fee: \$25.00

**SES 214 Advanced Dance Exercise (On Demand)** **2 credits**  
This course offers students a thorough understanding of the skills and fundamental techniques of fitness instruction, allowing them to both participate in and teach group fitness activities. The value of dance as exercise and its variations for the client, the movements and techniques of dance exercise, and the principles and legalities that guide fitness instructors are presented.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisite: SES 114 Lab fee: \$10.00

**SES 215 Advanced Resistance Training (A)** **3 credits**  
This class studies systems of physical conditioning and includes discussion of progressive resistance exercise through super sets, pyramiding, split routines, plyometrics and isokinetics. Students will learn about program development involving interval, continuous, and circuit training. Non-traditional training is explored, too, including partner resistance training. Other topics covered are the advantages and disadvantages of commercial exercise equipment in developing cardiorespiratory fitness and muscular strength. Musculoskeletal risk factor identification and programming for post-injury rehabilitative fitness will also be included.  
Lecture: 2 hours – Lab: 2 hours  
Prerequisite: SES 115 Lab fee: \$15.00

**SES 217 Advanced Tae Kwon Do (On Demand)** **2 credits**  
This course features instruction in the teaching methods and practice of advanced Tae Kwon Do. Instruction will include a thorough understanding of the fundamentals, techniques, and skills of the sport. Course also includes marketing Tae Kwon Do, advanced self-defense strategies, weaponry, and concepts of Olympic competition events.  
Lecture: 1 hour – Lab: 2 hours  
Prerequisite: SES 117 or permission of the instructor

**SES 222 Tennis (SP)** **2 credits**  
This course instructs students in coaching and participation in tennis. Students receive a thorough understanding of the history, rules and strategy of the sport. They also learn coaching techniques for clients and tournament set up/implementation for the facility.  
Lecture: 1 hour – Lab: 2 hours Lab fee: \$20.00

**SES 223 Racquetball (W)** **2 credits**  
Course includes instruction in coaching and participation in the sport. Students gain a thorough understanding of the history, rules and strategy of the game. They also learn coaching techniques for clients and tournament set up/implementation for the facility.  
Lecture: 1 hour – Lab: 2 hours Lab fee: \$20.00

**SES 224 Sport Management Foundations (W, SU, DL)** **5 credits**  
This course presents an advanced study of the facilities required for the recreational environment, including an analysis of indoor and outdoor designs and utilization. It also presents an overview of the personnel process, staffing requirements, and staff development procedures. SES 224 also



offers a study of activity programming for the club environment, to include class structure, tournament procedures, proper selection of activities, and equipment needed as well as its proper care and storage.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: SES 101 Lab fee: \$10.00

**SES 225 Athlete Intervention (SP, DL) 3 credits**

This course is designed to train sport managers to help athletes avoid or deal with the challenges of alcohol, drugs, and illegal drug use. The program allows sport managers to develop rules and expectations about drug and alcohol use, communication with parents and guardians, and behavior monitoring skills. Lessons on development of policies related to athlete usage and consequence and/or infraction guidelines.

Lecture: 3 hour – Lab: 0 hours Lab fee: \$10.00

**SES 226 Care and Prevention of Athletic Injuries (W, SU) 3 credits**

This course covers the recognition, treatment, management, and prevention of basic injuries sustained by individuals while participating in athletic activities. It includes basic taping and treatment procedures introduced and applied in the athletic environment.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: SES 100 or permission of instructor Lab fee: \$10.00

**SES 227 Individual Sports and Activities (W, SU) 3 credits**

A survey of individual activities/sports to include equipment, safety concerns, breakdown of skills and game play.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: SES 101

**SES 228 Team Sports and Activities (A SP) 3 credits**

A survey of team activities/sports to include equipment, safety concerns, breakdown of skills and game play.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: SES 101

**SES 230 Fitness Concepts for Special Populations (A, SP, DL) 3 credits**

Course offers a survey of the response of children, seniors, and physically challenged persons to exercise. Emphasis is placed upon choosing appropriate and challenging activities that will result in a positive physiological response while accommodating the social, developmental and physical needs of potential clients.

Lecture: 3 hour – Lab: 0 hours Lab fee: \$3.00

**SES 233 Outdoor Community Recreation (A, SP) 3 credits**

This course offers a survey of the outdoor recreational market and its application through corporate America. SES 233 presents a review of outdoor recreational opportunities, basic activities, skills, and necessary equipment. Course also covers present safety, liability, and associated programming issues, and examines the business, career, and recreational applications of this specialized market.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$50.00

**SES 234 Sport Marketing (A, SP, DL) 5 credits**

SES 234 is an advanced study of internal and external sports marketing strategies for the club. Class presents promotional guidelines and a discussion of the many concepts involved in promoting an activity. Also studied is the budgetary process, differentiation of budget styles, and implementation of the budgetary process in both the private and public sector.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: SES 101 and 224 Lab fee: \$3.00

**SES 235 Sport Law (A, W, SP, SU, DL) 3 credits**

This course presents a survey of the legal framework of the athletic environment. It includes study of the nature of the legal system and the law pertaining to sports, tort law, contractual agreements, and civil law.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$2.00

**SES 237 Corporate Health (SP, DL) 3 credits**

This course presents an assessment and analysis of current health and wellness issues related to the work environment. Course work will emphasize the major wellness components of fitness, nutrition, safety, and behavior modification and how these components can be introduced into the worksite. This course will also focus on the financial and administrative issues associated with worksite health promotion.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: SES 101 or permission of instructor Lab fee: \$5.00

**SES 238 Aging Fitness and Exercise (SU, DL) 3 credits**

Physical activity can significantly improve the quality of one's life at all ages, although the type and intensity of activity may change. This course will present the essential information needed to provide older adults with safe and effective fitness programming. The physiology of aging, the techniques and tools for motivating older adults, personal fitness, pre-exercise screening, and fitness assessment are presented.

Lecture: 2 hours – Lab: 2 hours Lab fee: \$10.00

**SES 239 Quantitative Methods in Exercise Science (A, SU) 3 credits**

This course focuses on methods of quantifying metabolic demand, identifying risk factors, determining appropriate assessment protocol, and developing proper fitness programs for clients who are apparently healthy, at increased risk, or with known disease. Course work will emphasize calculating and estimating metabolic demand of exercise, normal physiological response to exercise, and the abnormal physiological response to exercise. This course will also focus on the appropriate selection of fitness protocols for those clients who suffer from compromised health.

Lecture: 3 hours

Prerequisite: SES 240

**SES 240 Exercise Physiology (A, SU, DL) 5 credits**

Human anatomy and physiology as related to physical activity exercise and work. A study of the musculoskeletal and cardiovascular systems; bioenergetics; body composition and behavior modifications; as well as the health-related benefits associated with training adaptations. Course content will be supported by exercise and fitness studies including the measurement of vital signs, aerobic and anaerobic capacity, body composition, muscular strength, endurance, and flexibility in the Human Performance Laboratory.

Lecture: 3 hours – Lab: 4 hours

Prerequisite: BIO 261 Lab Fee: \$15.00

**SES 241 Kinesiology (W, DL) 5 credits**

This course introduces the fundamentals of kinesiology and biomechanics with a discussion of both anatomical and mechanical principles. These concepts will be applied in the analysis of a wide variety of basic motor skills, exercise and sport activities.

Lecture: 3 hours – Lab: 4 hours

Prerequisites: BIO 121 or 261 with grade of "C" or higher and SES 240 or permission of instructor Lab fee: \$20.00

**SES 242 Exercise Prescription (W, SU) 3 credits**

This course provides the art and science of using fitness-related data to make informed individual exercise prescriptions. Emphasis will be placed on the use of objective measures of fitness assessments to drive goal and time dependent decision-making. Measures include using prescriptive principles on behavior modification to support exercise adherence, risk stratification, fitness-related technology, cardiorespiratory activities, musculoskeletal flexibility, and muscular strength and endurance.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: SES 240

**SES 244 Recreation Administration and Programming (A, SP) 4 credits**

A study of the recreational environment. An overview of program delivery, facilities, maintenance and equipment. A study of various avenues sport

can be offered to include: intramural/ extramural sport, informal/ club sport, instructional sport and fitness.

Lecture: 4 hours

Prerequisite: SES 224 or Permission of Instructor

### **SES 248 Adapted Physical Education Programming (SU) 3 credits**

The adapted Physical Education Programming course is based upon the concept of service-learning. The course and students therein is built to serve the annual Nationwide Children's Hospital Myelo Camp.

Lecture: 3 hours

Prerequisite: Permission of Instructor

### **SES 280 History of Sport in the United States: 1840–Present (SP, DL) 3 credits**

This course is an in-depth analysis of the history of sport, athletics, and recreation in the United States of America. Lecture and related activities will explore the role of sport in the lives of Americans since 1840 and assess the economic, political, social, and psychological impact sport has played as part of the larger historical framework of the nation.

Lecture: 3 hours – Lab: 0 hours Lab fee: \$3.00

### **SES 292 Practicum I (A, SP) 3 credits**

This course presents an opportunity for practical training in the sport profession to include activity preparation, personnel evaluation, and budget analysis. This course also includes an on-campus seminar which will discuss issues relating to the profession. Summative assessment will include a combination of objective tests, performance checklists, and evaluation by the on-site supervisor.

Lecture: 1 hour – Lab: 14 hours

Prerequisite: Permission of instructor. Lab fee: \$3.00

### **SES 294 Practicum II (W, SU) 3 credits**

This course is a continuation of SES 292. Students will work in conjunction with a current sport manager to gain insight on budgetary implementation, program and facility operation and to assist in the daily operation of a fitness facility. This course also includes an on-campus seminar to discuss issues relating to the profession. Summative assessment will include a combination of objective tests, performance checklists, and evaluations by the on-site supervisor.

Lecture: 1 hour – Lab: 14 hours

Prerequisite: SES 292

### **SES 298 Special Topics in Sport (On Demand, DL) 3 credits**

This course brings together concepts discussed in previous program courses. Topics revolve around exercise prescription for special populations, some disease states, or social aspects of sport such as homophobia in sport. Also explored will be the development and modification of institutional programming based on individual and group needs as well as resources, content and delivery of health promotion programs.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Permission of instructor Lab fee: \$3.00

### **SES 299A Active Living I (A, W, SP, SU, DL) 1 credit**

Active Living Every Day is the first course of a two-quarter sequence that focuses on helping sedentary people become and stay physically active for a lifetime. This evidence-based course uses established behavior change models, such as the stages of readiness to change, to empower people to overcome barriers to physical activity. Participants find ways to fit physical activity into their daily lives and maintain active lifestyles even when difficult life situations arise.

Lecture/Discussion: 1 hour – Lab: 0 hours

Prerequisite: Permission of instructor

### **SES 299B Active Living II (A, W, SP, SU, DL) 1 credit**

This course continues Active Living I.

Lecture/Discussion: 1 hour – Lab: 0 hours

Prerequisite: Permission of instructor

### **SES 299C Healthy Eating I (A, W, SP, SU, DL) 1 credit**

Healthy Eating Every Day is the first course of a two-quarter sequence that helps people establish a balanced and healthy approach to eating. This course presents a sensible, realistic way of eating that is in line with, and complements, the new USDA Nutrition Guidelines. Healthy Eating Every Day uses an evidence-based, cognitive behavioral approach to help people change their diets. Participants learn to identify the reasons for their poor eating choices and to acquire the lifestyle-management skills they need to improve eating habits permanently.

Lecture/Discussion: 1 hour – Lab: 0 hours

Prerequisite: Permission of instructor

### **SES 299D Healthy Eating II (A, W, SP, SU, DL) 1 credit**

This course continues Healthy Eating I.

Lecture/Discussion: 1 hour – Lab: 0 hours

Prerequisite: Permission of instructor

## **Sterile Processing Technology (SPT)**

### **SPT 101 Sterile Processing Technology I (A) 3 credits**

Presentation and discussion of development and history of a modern Sterile Processing Department. Roles and responsibilities of Sterile Processing Technicians. Review of the anatomy and physiology of the human body in relation to processing of medical devices and patient care equipment. Discussion of basic Microbiology and identification of common microbes and diseases found in today's healthcare environment. Presentation and discussion of Infection Control techniques in relation to disease transmission. Demonstration of appropriate decontamination techniques and protocol of medical devices and patient care equipment to eliminate the occurrence of a healthcare acquired infection. Discussion of federal and private organizations affecting daily functions of field of study. Legal and ethical aspects of Sterile Processing practice introduced.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Completion of all admission criteria for the Sterile Processing Technology program.

Corequisite: SPT 151 Lab fee: \$ 25.00

### **SPT 102 Sterile Processing Technology II (W) 3 credits**

Presentation and discussion of techniques and protocol of processing patient care equipment. Review and demonstration of the various packaging methods currently in use in today's healthcare environment for sterile processing of critical medical devices. Discussion and identification of surgical instruments including techniques for recognizing damage and/or poor working condition to allow technicians to remove for preventive maintenance. Discussion and identification of the various methods of sterilization currently used in healthcare. Demonstration of appropriate monitoring techniques to achieve required degree of sterile assurance level. Identification of sterile storage procedures and concepts. Review and demonstration of appropriate distribution methods and affect each has on the cost of med/surgical supplies

Lecture: 3 hours – Lab: 0 hours

Prerequisite: SPT 101, SPT 151 Minimum grade of C.

Corequisite: SPT 152 Lab fee: \$ 25.00

### **SPT 103 Sterile Processing Technology III (SP) 3 credits**

Presentation and discussion of history, development and current trends in the daily operations of modern hospitals. Hospital governance, administration and management. Review of functions of clinical patient care area's of inpatient care, outpatient care, surgery, emergency services, ancillary diagnostic and rehabilitation services. Review of patient, facility and administrative support services. Discussion of critical interrelated functions of all departments of hospital to insure quality patient care is delivered. Introduction to hospital budgeting, marketing, financing, billing, quality improvement and accreditation. Presentation of case studies to emphasize actual ethical concerns that may be experienced in performance of duties.

Lecture: 3 hours – Lab: 0 hours  
Prerequisite: SPT 102, SPT 152 Minimum grade of C.  
Corequisite: SPT 153 Lab fee: \$ 25.00

**SPT 151 Sterile Processing Technology I LAB (A) 4 credits**  
Supervised clinical experience in central service/materials management department of health care facility covering principles and practices of cleaning, decontamination and sterilization of medical instruments and apparatus. Fundamentals of wrapping, sterile set-ups, safety rules and regulations, inventory control, record-keeping and quality assurance.  
Lecture: 0 hours - Lab: 12 hours  
Prerequisite: Completion of all admission criteria for the Sterile Processing Technology program.  
Corequisite: SPT 101 Lab Fee: \$ 25.00

**SPT 152 Sterile Processing Technology II LAB (W) 4 credits**  
Supervised clinical experience in central service/materials management department of health care facility covering principles and practices of cleaning, decontamination and sterilization of medical instruments and apparatus. Fundamentals of wrapping, sterile set-ups, safety rules and regulations, inventory control, record-keeping and quality assurance.  
Lecture: 0 hours - Lab: 12 hours  
Prerequisite: SPT 101, SPT 151 Minimum grade of C.  
Corequisite: SPT 102 Lab Fee: \$ 25.00

**SPT 153 Sterile Processing Technology III LAB (SP) 4 credits**  
Supervised clinical experience in central service/materials management department of health care facility covering principles and practices of cleaning, decontamination and sterilization of medical instruments and apparatus. Fundamentals of wrapping, sterile set-ups, safety rules and regulations, inventory control, record-keeping and quality assurance.  
Lecture: 0 hours - Lab: 12 hours  
Prerequisite: SPT 102, SPT 152 Minimum grade of C.  
Corequisite: SPT 103 Lab Fee: \$ 25.00

## Supply Chain Management (LOGI)

**LOGI 100 Principles of Supply Chain Management (A, W, SP, SU, DL) 5 credits**  
This course is a study of the basic concepts in the field of supply chain management with particular emphasis on the economic significance of distribution to business and the U.S. economy. The interrelationship between logistics and other areas of business will be covered noting how logistics can significantly impact customer loyalty by adding value. Knowledge of basic algebraic concepts is strongly recommended.  
Lecture: 5 hours – Lab: 0 hours  
Prerequisite: None Lab fee: \$5.00

**LOGI 110 Transportation and Traffic Management (W, DL) 4 credits**  
Course provides an introduction to traffic management functions including mode and carrier selection.  
Lecture: 4 hours – Lab: 0 hours  
Prerequisite: LOGI 100 Lab fee: \$5.00

**LOGI 150 Information Technology in Logistics (On Demand) 4 credits**  
This course introduces students to the I T Systems Operations and Applications of supply chain management. The purpose is to provide greater understanding of Information Systems and Information Technology (IS/IT) and its contribution to the business enterprise and the importance of IS/IT in embracing the complex and time saving processes in supporting the logistics operational processes.  
Lecture: 4 hours  
Prerequisite: LOGI 100 Lab fee: \$5.00

**LOGI 151 Foundations of Strategic Procurement I (A, SP, DL) 3 credits**  
This course is designed to teach the basics of purchasing management to the newly appointed buyer or to nonpurchasing personnel looking to broaden their business knowledge. Topics covered include the challenge of purchasing and materials management, objectives and organization, function, specification, quality control and inspection, computerization, and quality considerations.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: LOGI 100 Lab fee: \$5.00

**LOGI 152 Foundations of Strategic Procurement II (W, DL) 3 credits**  
This course is a continuation of Strategic Procurement I and focuses on how the basics of good buying can be used effectively to meet the challenges and responsibilities of the constantly changing business climate. Topics include forward buying, international purchasing, buying capital assets and purchasing transportation services.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: LOGI 151 Lab fee: \$5.00

**LOGI 205 Freight Claims (W, DL) 3 credits**  
This course provides a study of freight loss, damage claims, and adjustment of claims in various modes of transportation including carrier and shipper liability, transportation documentation, and claim filing procedures.  
Lecture: 3 hours – Lab: 0 hours  
Prerequisite: LOGI 100 Lab fee: \$5.00

**LOGI 210 Warehouse Management (A, SP, DL) 4 credits**  
This course is an analysis of warehousing functions and management. Topics covered include facility location and operation, labor relations, financial analysis and productivity improvement and measurement.  
Lecture: 4 hours – Lab: 0 hours  
Prerequisite: LOGI 100 Lab fee: \$5.00

**LOGI 211 Inventory Management (W) 4 credits**  
This course offers a study of inventory control problems and methods. Topics covered include demand forecasting, independent demand inventory systems, inventory models and aggregate planning.  
Lecture: 4 hours – Lab: 0 hours  
Prerequisite: LOGI 100, or permission of instructor Lab fee: \$5.00

**LOGI 219 International Business (A, SP, DL) 3 credits**  
This course focuses on the political, economic, social and cultural considerations in doing business globally. The course explores the factors that allow organizations to be successful in the globalization of markets and the growth of overseas business ventures. The need to develop varied techniques for managing the organizations resources from other cultural backgrounds, the means of minimizing risks in financial transactions, and development of systems for coordinating and controlling the value chain is stressed. Techniques to overcome international business barriers are examined.  
Lecture: 3 hours - Lab: 0 hours  
Prerequisite: None Lab fee: \$5.00

**LOGI 225 International Shipping (SP, DL) 4 credits**  
This course is a study of global supply chain management with emphasis on the requirements for importing and exporting. Laws, regulations, paperwork and international billing terms will be discussed.  
Lecture: 4 hours – Lab: 0 hours  
Prerequisite: LOGI 100 Lab fee: \$5.00

**LOGI 226 Intro to Export Administration Regulations (A) 4 credits**  
LOGI 226 offers a detailed examination of the Export Administration Regulations (EAR) covering the information exporters need to know to understand and comply with U.S. export control requirements on commercial goods. The course focuses on what items and activities are subject to the EAR; steps to take to determine the export licensing for an item; how to determine an export control classification number (ECCN); when

an item can be exported or re-exported without applying for a license; export clearance procedures; recordkeeping requirements; Export Management System (EMS) concepts; and “real life” examples in applying this information.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: LOGI 100 Lab fee: \$5.00

**LOGI 227 Electronic Import/Export Documentation (W, DL)**  
**2 credits**

This course provides students with the tools to electronically prepare export/import documentation, manage e-business and marketing functions related to global commerce, and evaluate and control e-commerce systems. Acceptance of electronic export/import documentation by nongovernment organizations (e.g., banks, forwarders, carriers, etc.) continues to increase and is rapidly replacing paper-based systems. Additionally, regulatory agencies’ requirements for electronic document submission have significantly increased post 9/11; course content subject to change in response to new or changing user requirements.

Lecture: 1 hour – Lab: 2 hours

Prerequisites: LOGI 225 Lab fee: \$47.00

**LOGI 228 Importing (W, DL)**  
**4 credits**

This course is an introduction to procedural compliance with import regulations of U.S. Customs and Border Protection (CBP) emphasizing the Trade Act of 2002, Advanced Electronic Information, published in the Federal Register on December 5, 2003. Additional topics discussed include antidumping and countervailing duties, informed compliance, commercial enforcement, the regulatory audit program, quotas, and customs broker management. Note that procedures and regulations are in a current state of flux and course content may be revised in response to changes.

Lecture: 4 hours – Lab: 0 hours

Prerequisites: LOGI 225 Lab fee: \$5.00

**LOGI 229 International Transportation Regulatory Compliance (W, DL)**  
**3 credits**

This course is an examination of the laws that apply to domestic motor carrier and rail and international air, ocean, and multi-modal transportation. Covers the evolution of various transportation laws, e.g., the Carriage of Goods by Sea Act (COGSA); the Warsaw Convention; the Montreal Protocol; the International Multi-modal Convention; cabotage law, freight claims, and cross-border trucking under the North American Free Trade Agreement (NAFTA); course content subject to vary as laws are revised and created.

Lecture: 3 hours

Prerequisites: LOGI 100 Lab fee: \$5.00

**LOGI 230 International Management (A, SP)**  
**4 credits**

This course focuses on the concepts and skills needed to achieve organizational goals and strategic initiatives in a multicultural environment as affected by political, legal, economic and technological issues. Strategic use of cultural, language diversity and the firms resources is stressed as a competitive advantage in achieving global organizational goals. The student will be expanding their knowledge of the application of business strategies and techniques used in improving the organizations value chain within a global business environment. Emphasis is placed on the changing nature of the international management challenge and on developing and managing various types of strategic alliances, organizational designs, human resources, e-commerce and cross-cultural communications strategies as well as on conflict resolution and negotiation techniques.

Lecture: 3 hours – Lab: 2 hours

Prerequisite: BMGT 111 or LOGI 219 Lab fee: \$5.00

**LOGI 241 Supply Chain Logistics Practicum I (A, W, SP, DL)**  
**4 credits**

This course presents an opportunity for supervised, on-the-job application of knowledge and skills acquired in the classroom. Open to Supply Chain Management Technology students only. Internship applications must be filed with the department at least 2 months prior to the internship start date.

Lecture: 0 hours – Lab: 28 hours

Prerequisite: Advisor approval required

Corequisite: LOGI 242 Lab fee: \$5.00

**LOGI 242 Logistics Seminar (A, W, SP, DL)**  
**1 credit**

This seminar course focuses on the application of logistics knowledge to specific areas of on-the-job experience. Open to Supply Chain Management Technology students only. Internship applications must be filed with the department at least 2 months prior to the internship start date

Seminar: 1 hour

Prerequisite: Advisor approval required

Corequisite: LOGI 241 Lab fee: \$5.00

**LOGI 245 Transportation Rates and Pricing (W, DL)**  
**2 credits**

This course presents a study of transportation rates and pricing, including carrier cost structures and industry economics. Emphasis will be on negotiation of favorable rates from carries and proper preparation for same.

Lecture: 2 hours

Prerequisites: LOGI 100 Lab Fees: \$5.00

**LOGI 246 Procurement Negotiation (SP, DL)**  
**3 credits**

This course focuses on the skills required to prepare for and conduct purchasing negotiations.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: LOGI 151 or permission of instructor Lab fee: \$5.00

**LOGI 250 Transportation of Hazardous Materials (SP, DL)**  
**3 credits**

LOGI 250 studies the transportation of hazardous materials within the U.S. and the regulations and compliance issues resulting from these regulations. The course delves into the usage of the Code of Federal Regulations Part 49 100-185, the manual used to regulate all materials deemed hazardous. Segregation of the 9 classes of HAZMAT, limitations of each shipment, and use of the manual are explored in this course. The student will develop a better understanding of HAZMAT and the rules and regulations concerning shipment of these types of materials.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: LOGI 100 Lab fee: \$5.00

**LOGI 256 Advanced Procurement Seminar (SP, DL)**  
**3 credits**

This is a capstone course designed for the purchasing major. A comprehensive case study approach will be used to understand purchasing as the primary materials procurement activity while integrating purchasing with other materials management activities. Topics covered include legal considerations, public purchasing, the planning process, and control functions such as inventory control, budgeting, and production.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: LOGI 152 Lab fee: \$5.00

**LOGI 260 Performance Management for Logistics Managers (SP)**  
**4 credits**

This is a capstone course designed around the performance/communication process as it relates to recognizing, understanding, planning, implementing and evaluating performance competencies. Emphasis is placed on developing an understanding of the corporate business planning process and the role performance management plays within this process specifically as it relates to the planning and managing of the supply chain organization. The student will explore challenges related to performance management issues, how to approach them proactively, and resolve them. Other topics included: creating positive relationships and ensuring effective workplace communication.

Lecture: 4 hours – Lab: 0 hours

Prerequisite: LOGI 100, LOGI 151, LOGI 211, ACCT 106 Lab fee: \$5.00

**LOGI 290 Certified Logistics Associate (On Demand)**  
**1 credit**

This course is designed to prepare students to take the Manufacturing Skill Standards Council’s (MSSC) Certified Logistics Associate examination. It

focuses on the material handling portion of global supply chain logistics and covers (reviews) the foundational knowledge required of front-line material handling workers. Global supply chain logistics, a modern concept, also embodies the evolution of logistics as one of the earliest activities of mankind with a profound influence on the course of history.

Lecture: 1 hour

Prerequisite: None Lab fee: \$3.00

### **LOGI 291 Certified Logistics Technician (On Demand) 1 credit**

This course is designed to prepare students to take the Manufacturing Skill Standards Council's (MSSC) Certified Logistics Technician examination. It focuses on the knowledge and skills that mid-technical workers in global supply chain logistics should understand. The technical level requires a higher level of knowledge by front-line supervisors, i.e., higher than that required by CLA-level workers. Mid-level technicians are expected to have a competency in supply chain logistics operations including product receiving and storage, order processing, packaging and shipment, inventory control, safe handling of hazardous materials, evaluation of transportation modes and dispatch and tracking operations.

Lecture: 1 hour

Prerequisite: None Lab fee: \$3.00

### **LOGI 297 Special Topics in Logistics (On Demand) 1–3 credits**

LOGI 297 gives students an opportunity to examine, in detail, special topics of interest in supply chain management (logistics). Topics vary.

Lecture: 1 hour – Lab: 3 hours Lab fee: \$5.00

## **Surgical Technology (SURG)**

### **SURG 112 Surgical Technology I (A)**

**3 credits**

This course will provide an in-depth introduction to the role and responsibilities of the surgical technologist as an important professional in the delivery of surgical services. Introduction to the surgical environment will include professional responsibilities, legal and ethical considerations, interpersonal relationships, communication skills, and basic surgical workplace safety. Introduction to the principles of aseptic technique to include surgical asepsis, scrubbing, gowning, gloving, sterilization, disinfection, and operating room sanitation are explored. Direct patient care interventions to include positioning, prepping, draping techniques, and related operative procedures. Introduction to diagnostic procedures and anesthesia and pharmacological considerations for patient surgical care are investigated. The surgical use of instrumentation, sutures, needles, sponges, syringes, and hypodermic needles are investigated. Students will be exposed to lecture, discussion, seminar, and recitation educational experiences all in support of direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based surgery units.

Lecture: 3 hours

Prerequisite: Completion of all admission criteria for the Surgical Technology program.

Corequisite: SURG 152 Lab fee: \$25.00

### **SURG 114 Surgical Technology II (W)**

**3 credits**

Principles of asepsis and the patient care concepts of positioning, prepping, draping, and procedural techniques are directly applied to the investigation of General (GEN), Gastrointestinal (GI), Obstetrics (OB), Gynecological (GYN), and Genitourinary (GU) surgical services. The role and responsibilities of the surgical technologist as the “scrub” member and the “circulator” member of the surgical team will focus on maintaining the integrity, safety, and efficiency of the sterile and nonsterile areas throughout various surgical procedures. Investigation of instrumentation, sutures, needles, dressings, packings, drainage tubes/systems, and auto-stapling devices will continue along with a focus on endoscopy use in GEN, GI, OB, GYN, and GU surgical services. Students will be exposed to lecture, discussion, seminar, and recitation educational experiences all in support of direct patient care laboratory, practicum, and clinical applications in a

variety of hospital-based surgery units.

Lecture: 3 hours

Prerequisite: SURG 112, SURG 152

Corequisite: SURG 154 Lab fee: \$25.00

### **SURG 152 Surgical Technology I Lab (A)**

**4 credits**

Students will be exposed to direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based surgery units in support of lecture, discussion, seminar, and recitation educational experiences.

Lab: 12 hours

Prerequisite: Completion of all admission criteria for the Surgical Technology program.

Corequisite: SURG 112 Lab fee: \$25.00

### **SURG 154 Surgical Technology II Lab (W)**

**4 credits**

Students will be exposed to direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based surgery units in support of lecture, discussion, seminar, and recitation educational experiences.

Lab: 12 hours

Prerequisite: SURG 112, SURG 152

Corequisite: SURG 114 Lab fee: \$25.00

### **SURG 212 Surgical Technology III (SP)**

**4 credits**

The principles of asepsis and the patient care concepts of positioning, prepping, draping, and procedural techniques are directly applied to the investigation of Orthopedic (Ortho) and Neurosurgery (Neuro) surgical services. The role of the surgical technologist as the “scrub” member and the “circulator” member of the surgical team continues to focus on maintaining the integrity, safety, and efficiency of the sterile and nonsterile areas throughout various surgical procedures. Investigation of instrumentation, sutures, needles, dressings, packings, and drainage tubes/systems will continue with a focus on selected internal and external fracture stabilization devices, cast immobilization, spinal fixation implants, and neurosurgical shunts. Students will be exposed to lecture, discussion, seminar, and recitation educational experiences all in support of direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based surgery units.

Lecture: 4 hours Prerequisite: SURG 114, SURG 154

Corequisite: SURG 252 Lab fee: \$25.00

### **SURG 214 Surgical Technology IV (SU)**

**4 credits**

The principles of asepsis and the patient care concepts of positioning, prepping, draping, and procedural techniques are directly applied to the investigation of Plastic and Reconstructive, Otorhinolaryngology and Throat (EENT), Ophthalmic (OP), Thoracic, Peripheral Vascular (PV), and Cardiovascular (CV) surgical services. The role of the surgical technologist as the “scrub” member and as the “circulator” member of the surgical team continues to be explored throughout various surgical procedures. Investigation of instrumentation, sutures, needles, dressings, packings, and drainage tubes/systems will continue with a focus on ocular implants, microscopic use, skin grafting techniques, liposuction use, mammoplasty implants, inner ear shunts, and tracheotomy tubes, endoscopy use, chest tubes, cardiopulmonary bypass, vascular autografts and allografts, intra aortic balloon pumps, and vascular shunts. Students will be exposed to lecture, discussion, seminar, and recitation educational experiences all in support of direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based and ambulatory surgery centers.

Lecture: 4 hours

Prerequisite: SURG 212, SURG 252

Corequisite: SURG 254 Lab fee: \$25.00

### **SURG 243 Surgical Technology V (A)**

**3 credits**

This course will provide the Surgical Technology student with an in-depth analysis, recognition, and medical/surgical treatment for a variety of advanced surgical specialty areas. These areas include Orthopedic Total Joint Replacement, Laser Therapy, Endoscopy, Ophthalmic, Oncology, Obstetrics, Pediatrics, Cardiovascular, Ambulatory Surgery, and Organ Procurement. Additional surgical specialty areas of interest will

be investigated and offered to students, alumni, and surgical health care professionals as they become available. Students will be exposed to lecture, discussion, seminar, and recitation educational experiences all in support of direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based and ambulatory surgery units.

Lecture: 3 hours

Prerequisite: SURG 214, SURG 254. Requires completion of Certificate Surgical Technology Program or equivalent approved training.

Corequisite: SURG 253 Lab fee: \$25.00

### **SURG 245 Surgical Technology VI (W) 3 credits**

This course will provide the Surgical Technology student with an in-depth analysis, recognition, and medical/surgical treatment for a variety of advanced surgical specialty areas. These areas include Orthopedic Total Joint Replacement, Laser Therapy, Endoscopy, Ophthalmic, Oncology, Obstetrics, Pediatrics, Cardiovascular, Ambulatory Surgery, and Organ Procurement. Additional surgical specialty areas of interest will be investigated and offered to students, alumni, and surgical health care professionals as they become available. Students will be exposed to lecture, discussion, seminar, and recitation educational experiences all in support of direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based and ambulatory surgery units.

Lecture: 3 hours

Prerequisite: SURG 243, SURG 253 Requires completion of Certificate Surgical Technology Program or equivalent approved training.

Corequisite: SURG 255 Lab fee: \$25.00

### **SURG 252 Surgical Technology III Lab (SP) 5 credits**

Students will be exposed to direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based surgery units in support of lecture, discussion, seminar, and recitation educational experiences.

Lab: 15 hours

Prerequisite: SURG 114, SURG 154

Corequisite: SURG 212 Lab fee: \$25.00

### **SURG 253 Surgical Technology V Lab (A) 4 credits**

Students will be exposed to direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based surgery units in support of lecture, discussion, seminar, and recitation educational experiences.

Lab: 12 hours

Prerequisite: SURG 214, SURG 254. Requires completion of Certificate Surgical Technology Program or equivalent approved training.

Corequisite: SURG 243 Lab fee: \$25.00

### **SURG 254 Surgical Technology IV Lab (SU) 5 credits**

Students will be exposed to direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based surgery units in support of lecture, discussion, seminar, and recitation educational experiences.

Lab: 15 hours

Prerequisite: SURG 212, SURG 252

Corequisite: SURG 214 Lab fee: \$25.00

### **SURG 255 Surgical Technology VI Lab (W) 4 credits**

Students will be exposed to direct patient care laboratory, practicum, and clinical applications in a variety of hospital-based surgery units in support of lecture, discussion, seminar, and recitation educational experiences. Requires completion of Certificate Surgical Technology Program or equivalent approved training.

Lab: 12 hours

Prerequisite: SURG 243, SURG 253

Corequisite: SURG 245 Lab fee: \$25.00

## **Surveying (SURV)**

### **Also see Civil Engineering Technology (CIVL)**

#### **SURV 100 Introduction to Geomatics (A) 2 credits**

This is an introductory course into the field of surveying and mapping technology. Integrated topics include drafting, surveying, cartography and geographic information systems.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: Placement into ENGL 101

#### **SURV 141 Basic Surveying (A, SP, SU) 4 credits**

SURV 141 offers a comprehensive study in performing measurements for the collection of data and for construction layout. The course elements include application of the English and metric (SI) measurement systems in performing angular and distance measurements by traditional methods and by total station for the purpose of traversing and location of property corners, topographic mapping and construction staking. Elements of differential leveling are used for establishing the elevations of new bench marks, topographic mapping by grid method, and cut/fill calculations to finish floor elevations of proposed structures. Data manipulation includes taping corrections, precision and accuracy determination, traverse closures, level circuit reductions, radial building staking notes and boundary line determination by inverse coordinates.

Lecture: 2 hours – Lab: 6 hours

Prerequisite: MATH 104 or MATH 112 Lab fee: \$15.00

#### **SURV 241 Route Surveying (A, SP, SU) 4 credits**

This class is a comprehensive study of the elements of route alignment including horizontal circular and spiral curves, combinations of circular and spiral curves, vertical curves, centerline and offset staking for rough and finished grade. The course includes the application of all elements of route design, construction staking and earthwork volume determination in a comprehensive integrated project format.

Lecture: 2 hours – Lab: 6 hours

Prerequisites: MATH 104, CIVL 123, SURV 141 Lab fee: \$15.00

#### **SURV 242 Computer Applications in Surveying (A) 3 credits**

This course involves the integrated use of word processing, spreadsheet, database management, graphic and computer assisted drafting software to solve problems associated with the surveying industry and to produce formal engineering reports using Autodesk Land desktop. The course elements include data entry, data analysis, measurement theory, precision and accuracy determinations and data presentation.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: SURV 141 Lab fee: \$7.00

#### **SURV 243 Heavy Construction Standards (SP) 3 credits**

SURV 243 covers the elements of route location, construction materials, methods and procedures. Relation of design standards to topography and prospective traffic, earthwork measurement, physical design standards, and financing explored as well.

Lecture: 3 hours – Lab: 2 hours

Prerequisites: SURV 241, CMGT 121, and CMGT 105 Lab fee: \$15.00

#### **SURV 245 Survey Law (W) 3 credits**

SURV 245 presents a study of statute and common law as pertains to land surveying and real property rights and the methods to describe real property. Students enrolled in the distance version of this course will be required to come to campus for exams.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: SURV 141 Lab fee: \$15.00

#### **SURV 247 Townsite/Urban Development (SP) 3 credits**

This course covers analysis of data and related inventory methods needed to logically plan development of all land use types. Students will be introduced to the forces and actions by public agencies and private interests that

create the urban form. Course also reviews methods of resolving conflicts and understanding the applicable land use regulations or standards that govern area development.

Lecture: 1 hour – Lab: 5 hours

Prerequisite: ARCH 112 and SURV 241 Lab fee: \$15.00

**SURV 248 Advanced Surveying Systems (SP) 4 credits**

SURV 248 covers planning and execution of control surveying, cadastral surveying, network adjustment and topographic surveying using total stations and data collections, satellite positioning (Global Positioning System) and photogrammetric (aerial mapping) systems.

Lecture: 2 hours – Lab: 6 hours

Prerequisites: ARCH 112 or ARCH 115, MATH 148, SURV 141, SURV 245 and SURV 249 or co-requisite. Lab fee: \$15.00

**SURV 249 Land Subdivision Systems (SP) 3 credits**

This course covers advanced surveying, including section and subdivision lines and residential property lines. Major topics include reestablishment of property boundaries and legal considerations for boundary descriptions, including local municipal records searching.

Lecture: 2 hours – Lab: 3 hours

Prerequisites: ARCH 112, SURV 241 and SURV 245 Lab fee: \$15.00

**SURV 299 Special Topics in Civil Engineering Technology (On Demand) 1–5 credits**

Special topics in civil engineering technology industry designed to meet specific needs.

Lecture: 1 hour – Lab: 1-15 hours

Prerequisite: Permission of Instructor Lab fee: \$10.00

## Technical Communication (TCO)

**TCO 101 Careers in Technical Communication (A, SP) 2 credits**

In this course, students are required to interview with Technical Communication professionals, research the field of Technical Communication, and deliver an oral presentation of the findings. Discussions of career goals, including the preparation of an initial resume and employment data file will also be required. The requirements of this course must be met within the first two quarters of entering the Technical Communication degree program.

Lecture: 1 hour – Lab: 3 hours Lab fee: \$20.00

**TCO 102 Tools and Techniques for Technical Communicators (On Demand) 3 credits**

This course will introduce students to the software tools and basic techniques required of entry-level technical communicators. Students will learn about the various hardware and software tools technical communicators use on a daily basis. Lectures on general principles will be followed by exercises selected to simulate employer expectations. Mastery of techniques needed to complete daily technical communication tasks will be emphasized.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 101, TCO 101 or corequisite enrollment Lab fee: \$5.00

**TCO 203 Intro to Technical Communication (W, SU) 3 credits**

In this course, students learn the project documentation cycle used by technical communicators in business, industry and government by selecting an authentic problem-solving project from their technical cognate fields, and writing and formatting a series of reports in support of that project. Students learn the principles of modern technical communication and time/project management and practice them individually and in small groups throughout the documentation cycle.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: CIT 101 and ENGL 102 (grade of “C” or higher)

Lab fee: \$5.00

**TCO 204 Introduction to Technical Editing (A, SP) 3 credits**

In this course, students will practice editorial skills needed for revising scientific/technical writing by checking grammar, sentence structure, clarity, and style in personal, peer, and professional writings. Students will practice hard copy and online editing and proofreading and analyze editorial style books and other technical resource materials. Various editorial approaches and the editor/author relationship will be covered.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: ENGL 102 (grade of “C” or higher) and BOA 101

Lab fee: \$5.00

**TCO 214 Document Design and Delivery Methods (On Demand) 3 credits**

This course will introduce students to learning theory as applied to the design and delivery of technical documents. It will integrate current technical communication theory in document design and delivery with the capabilities of various software packages and delivery methods. Students will develop skills in applying design theory to technical documents and in selecting appropriate delivery methods for technical documents

Lecture: 2 hours – Lab: 3 hours

Prerequisite: TCO 203 Lab fee: \$5.00

**TCO 215 Online Documentation (On Demand) 3 credits**

This course introduces students to all aspects of creating online documentation. Students will learn about the five phases involved in creating online documentation: planning the online documentation, designing and/or modifying information for online presentation, testing it, and redesigning online documentation. TCO 215 students will develop actual online documentation for a software package.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: TCO 203 and TCO 214 Lab fee: \$5.00

**TCO 221 Proposal Development (On Demand) 3 credits**

Students will learn how to develop proposals which offer to solve problems for a reader or groups of readers by providing specified services at a specified cost. The units involved in the learning process will include understanding the bidding process, defining the request for a proposal, planning and developing a proposal document, and practicing the methods of formatting, writing, editing and presenting a formal business proposal.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: TCO 203 Lab fee: \$5.00

**TCO 222 Developing Software Documentation (On Demand) 3 credits**

In this course, students are prepared as software documentation specialists to work with software users and developers. Students will prepare software documentation, conduct document usability testing, and perform documentation development tasks, such as preparing user specifications, task lists, style guides, project schedules, instruction sets, and problem reports, as well as conducting interviews, reviews, and walkthroughs.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: TCO 203 Lab fee: \$5.00

**TCO 223 Advanced Technical Communication (W, SU) 3 credits**

In this course, students focus on current research and theory in scientific and technical writing and apply that research to practical situations. Students produce a proposal for funding, a full-length, portfolio-quality manual or report, and various other writing assignments. They also lead class discussions on topics such as readability theory, writing style, documentation methods, text processing, manual formatting, and integrating graphics and text.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: TCO 203 Lab fee: \$5.00

**TCO 224 Advanced Technical Editing (A, SP) 3 credits**

In this course, students are prepared as editors to work with other publications specialists. Students will edit manuscripts, prepare style books or manuals, and perform special editorial tasks such as preparing abstracts, indexes, and bibliographies with line-by-line precision and accuracy.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: TCO 203 and TCO 204 Lab fee: \$5.00

**TCO 230 Technical Presentations (SP) 3 credits**

In this course, students learn to prepare and present various types of information ranging from press releases, annual reports, and statistical analyses to proposals for projects, systematic evaluations, and revisions of existing documents. Various types of audiences will be targeted, and students will be required to use computer graphics, hypermedia, desktop publishing, and multimedia approaches to supplement oral presentations.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: TCO 223 Lab fee: \$5.00

**TCO 235 Instructional Design (SU) 2 credits**

Students will study the phases of an Instructional Design Project. They will conduct a needs assessment and define the skill and knowledge requirement of a job assignment. They will learn the typical training development cycle.

Lecture: 1 hour – Lab: 3 hours

Prerequisite: TCO 230 or current enrollment Lab fee: \$5.00

**TCO 236 Computer-Based Training (SU) 3 credits**

Students will study instructional design as it applies to developing Computer-Based Training (CBT) modules. They will learn about the typical CBT development cycle and will design CBT screens, incorporating multimedia effects and maximum interactivity.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: TCO 235 Lab fee: \$8.00

**TCO 237 Digital Video Production for the Workplace (On Demand) 3 credits**

TCO 237 is an introduction to basic and advanced techniques for creating and using digital video in the workplace. During the course, students will storyboard and write scripts, shoot and acquire clips, edit electronically, work collaboratively, and present video segments appropriate for a workplace environment. Students will critique examples and work on individual and group projects to produce a final product. This course is intended for Technical Communication students.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: TCO 235 Lab fee: \$20.00

**TCO 245 HTML-Based Online Documentation (W) 5 credits**

This course introduces students to all aspects of creating HTML-based online documentation without the use of an HTML authoring tool. Students will learn about the various phases of creating HTML-based online documentation: planning, designing, organizing, developing, publishing, testing and redesigning.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: TCO 214 Lab fee: \$5.00

**TCO 250 Capstone in Technical Communication (A, W, SP, SU) 3 credits**

In this course, students will be required to demonstrate both the overall competency and quality workmanship expected of professionals in the technical communication field. Students will work individually and in collaboration to solve problems of technical writing, editing, and presentations, and on the study and implementation of projects normally assigned to entry-level technical communicators. TCO 250 can be taken only during the final quarter prior to graduation.

Lecture: 2 hours – Lab: 3 hours

Prerequisite: Permission of instructor Lab fee: \$5.00

**TCO 260 Career Development (A, SP) 1 credit**

In this course, students prepare a professional portfolio, including a resume developed from the student's previous academic work experience. Students are required to review their portfolios informally and through formal oral presentations. Students will learn how to carry out company research and apply that research to targeted resumes, letters of application and interview situations. This course must be completed within the final four quarters of the student's program.

Lecture: 1 hour – Lab: 0 hours

Prerequisite: Permission of instructor Lab fee: \$5.00

**TCO 290 Industry Internship (A, W, SP, SU) 1–4 credits**

In this course, students are engaged in work specifically related to the technical communication field as employees in business or industry. Students are responsible for arranging the internship and must submit a written proposal to the Technical Communication Program Coordinator for approval no later than two quarters prior to becoming an intern. During the internship, the student must keep a written record of job responsibilities and projects. A formal written report must be accompanied by a written evaluation of the student's performance by his/her supervisor. One credit hour is equal to one hundred (100) clock hours on the job. The four credits may be spread over more than one quarter.

Prerequisites: TCO 101, TCO 203, TCO 204, permission from the TCO Program Coordinator, and a GPA of "B" or higher in TCO courses Lab fee: \$5.00

**TCO 297/298/299 Special Topics in Technical Communication (On Demand) 1–5 credits**

Students explore special topics in technical communication designed to meet specific needs.

Lecture: 5 hours – Lab: 0 hours Lab fee: \$5.00

## Theater (THEA)

### (Also see Communication)

**Note: Courses taught at a distance (DL) may have a higher lab fee than traditionally taught courses.**

**THEA 100 Intro to the Theater (A, W, SP, SU, DL) 5 Credits**

The course is designed to help students bring critical thinking skills into their experience as theatergoers. Students will be introduced to the theater arts: acting, directing and design. Students will survey the history of Western theater, focusing on the art as a reflection of society's changing social and cultural values. Plays representing several genres and historical periods will be read and discussed. Writing assignments include critical reviews of plays attended.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 101 or ENGL 111 Lab fee: \$5.00; \$15.00 DL

**THEA 180 Theater Practicum (A, W, SP, SU) 3 credits**

Course offers supervised practical experience in two or more of the following areas: acting, lighting, set, sound, costuming, house management, stage managing or directing. Enrollment is limited to students who have been cast in a theater production on campus or who have been selected to work on technical areas of the production. With the advanced approval of the instructor, credit can be earned by working on off-campus theater productions. Course is repeatable to 9 credits.

Lecture: 0 hours – Lab: 9 hours

Prerequisites: THEA 100 or permission of instructor Lab fee: \$7.00

**THEA 205 Technical Production Practicum (A, W, SP, SU) 3 credits**

Course provides experience in technical production activities for a theater production. Students fulfill their role as a crew member by exploring a play script and participating in one or more technical areas: lighting design;



hanging, focusing, and light board operation; sound design decisions and implementation; stage managing; costume design; building and pulling costumes for production; basic stagecraft; prop management and publicity. Technical Production Practicum entails an understanding of budget and time constraints, time management, and an appreciation for theater as a collaborative art. Course is repeatable to 9 credits.

Lecture: 1 hour – Lab: 4 hours

Prerequisite: THEA 100 Lab fee: \$5.00

### **THEA 210 Technical Production Fundamentals: Stage Lighting (SP) 3 credits**

Course presents an introduction to the basic principles and functions of stage lighting. Students receive experience in creating a lighting design, hanging and focusing lighting instruments and executing the design with a computer control board. Stage Lighting also gives a brief overview of the work of other members of the production staff with whom a lighting designer collaborates.

Lecture: 1 hour – Lab: 4 hours

Prerequisite: THEA 100 or permission of instructor Lab fee: \$3.00

### **THEA 215 Fundamentals of Script Analysis (W) 3 credits**

This course offers an intensive study of the play script as a basis for production. Students learn the basic principles and challenges of script analysis; techniques for assessing a script from the diverse perspectives of designers, directors and performers; various modes of interpretation, including traditional and contemporary forms; and ways to effectively communicate critical positions, both written and orally.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: THEA 100 Lab fee: \$5.00

### **THEA 230 Introduction to Dramatic Literature (W, SU) 5 credits**

Students will study selected masterpieces of Western drama and discuss their social, political and cultural influences. Students will write critical analyses of the dramatic works and of plays attended.

Lecture: 5 hours – Lab: 0 hours

Prerequisite: ENGL 102 or ENGL 111 with a grade of “C” or better

Lab fee: \$1.00

### **THEA 231 Literature for the Theater I (W) 3 credits**

Course presents a survey of selected world drama from the classical Greek period to the 17th century. The focus is on the plays as potential theater.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ENGL 101 or 111, THEA 100 Lab fee: \$3.00

### **THEA 232 Literature for the Theater II (SP) 3 credits**

Course surveys selected Western drama from the 17th century through the mid-19th century. The focus is on the plays as potential theater.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ENGL 101 or 111, THEA 100 Lab fee: \$3.00

### **THEA 233 Literature for the Theater III (SU) 3 credits**

Course surveys selected Western drama from the mid-19th century to the present. The focus is on the plays as potential theater.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: ENGL 101 or ENGL 111, THEA 100 Lab fee: \$3.00

### **THEA 280 Fundamentals of Acting (A, W, SP, SU) 3 credits**

Course introduces the basic principles of stage acting with a focus on practical experience. Areas of emphasis include stage movement, vocal delivery, body language, concentration techniques, and basic script analysis and scoring.

Lecture: 1 hour – Lab: 4 hours Lab fee: \$3.00

### **THEA 283 Writing Plays (SP) 5 credits**

This course introduces students to the art and craft of writing plays. Emphasis is on the student’s own work; however, students will also be required to study the works and writing processes of established playwrights, male and female, traditional and nontraditional, ancient and modern, and from

diverse cultures. Students will keep a writer’s journal, respond critically to the works of other students, create and revise a short play (or an act or acts of a longer work). By the end of the quarter, students will present a public reading or performance of their work. Course is repeatable to 10 credits.

Lecture: 5 hours – Lab: 0 hours

Prerequisites: ENGL 101, ENGL 111 (or equivalent), and permission of instructor Lab fee: \$5.00

### **THEA 297/298/299 Special Topics in Theater (On Demand) 1–5 credits**

Special Topics in Theater is designed to meet specific needs.

Lecture: 1 hour – Lab: Hours vary

Prerequisite: Varies

## **Veterinary Technology (VET)**

### **VET 101 Animal Nutrition (A, DL) 3 credits**

This course focuses on fundamental animal nutrition for domestic species, including caloric and nutrient requirements, and feeding techniques. The student will learn to educate clients on the nutritional needs of various animal species and explain the necessity and purpose of veterinary prescription diets in the management of diseases.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: Admission to the program

Corequisites: VET 102, VET 114 Lab fee: \$15.00

### **VET 102 Laboratory Animal Medicine (A) 2 credits**

VET 102 is an introduction to laboratory animal medicine and management, including basic husbandry, common diseases, and treatment protocols for various laboratory animal species and pocket pets. The student will learn the scientific names and primary use of common laboratory animals and will practice restraint, sexing, appropriate methods of venipuncture, administration of medications, and anesthetic techniques.

Lecture: 1 hour – Lab: 2 hours

Prerequisite: Admission to the program

Corequisites: VET 101, VET 114 Lab Fee: \$45.05

### **VET 114 Client Relations (A) 2 credits**

This course will familiarize the student with common business procedures used in veterinary practices, including fundamental record-keeping and medicolegal requirements. The role of the veterinary technician as a member of the veterinary health care team and client educator is addressed. Veterinary practice management, methods for improved client communication, and dealing with difficult clients are explored. The student will learn basic animal training methods and how to assist clients with the resolution of common animal behavior problems.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: Admission to program

Corequisite: VET 102 Lab fee: \$15.00

### **VET 122 Veterinary Parasitology (W, DL) 3 credits**

An introduction to the common internal and external parasites of domestic animals, including scientific nomenclature, life cycles, common methods of identification, and the treatment and/or prevention of these parasites.

Lecture: 2 hours – Lab: 2 hours

Prerequisite: VET 102 Lab fee: \$72.20

### **VET 124 Principles of Veterinary Radiology (W, SP) 2 credits**

In this course, students learn the basic principles of x-ray production, radiographic positioning, x-ray machine operation, radiographic technique, and film processing. Radiation safety and proper use of protective equipment is emphasized. Special radiographic procedures and technique evaluation are thoroughly explored.

Lecture: 2 hours– Lab: 0 hours

Prerequisite: BIO 261

**VET 126 Principles of Veterinary Anesthesia (W) 4 credits**

An introduction to veterinary anesthesia that correlates principles of animal physiology as it pertains to anesthetic agents. Students will learn patient preanesthetic evaluation, properties and uses of preanesthetic and general anesthetic agents, pain recognition and management, principles of fluid therapy, and dosage calculations. Patient monitoring, safe anesthetic equipment utilization, and handling anesthetic emergencies will also be emphasized.

Lecture: 3 hours – Lab: 2 hours

Corequisite: BIO 262 Lab fee: \$50.60

**VET 131 Veterinary Anatomy and Physiology (SP) 3 credits**

This course will provide a clinically relevant systems approach to the comparative anatomy and physiology of the canine, bovine, equine and feline species, including the circulatory, respiratory, digestive, muscular, skeletal, nervous, endocrine, exocrine, and urogenital systems. A brief presentation of avian anatomy and physiology is included.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: BIO 261, BIO 262 Lab fee: \$8.00

**VET 133 Clinical Application I (SP, SU) 3 credits**

This course involves laboratory exercises for VET 138, VET 124 and VET 126. In VET 133, students learn how to perform fundamental techniques commonly used in small animal veterinary practices, including physical examination, surgical preparation, anesthesia, radiology, venipuncture, dental prophylaxis, bandaging and splint application, administration of medical treatments, and record-keeping.

Lecture: 0 hours – Lab: 6 hours

Prerequisites: VET 124, MATH 100, and VET 126

Corequisite: VET 138 Lab fee: \$242.25

**VET 135 Veterinary Hematology (SP, SU, DL) 5 credits**

This course is designed to acquaint students with the equipment and techniques required to utilize blood as a diagnostic tool. Students will perform complete blood counts on a variety of domestic animal species. Blood smears are prepared and studied for the identification of blood cells that aid in the diagnosis of anemias and various other disease states. Recognition of normal versus abnormal cell morphology will be stressed. Students who successfully complete this course should be able to perform complete blood counts in a veterinary clinical setting.

Lecture: 2 hours – Lab: 6 hours

Prerequisite: BIO 262 Lab fee: \$90.00

**VET 136 Animal Health and Disease I (SP, SU) 3 credits**

Using a systems approach, the student will learn the more frequently encountered diseases of dogs and cats, including the disease name, etiology and pathogenesis, history and clinical signs, diagnosis and treatment, prevention, and zoonotic potential. Vaccination protocols commonly used in small animal veterinary practices will be covered.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: VET 102, VET 114 and BIO 262 Lab fee: \$15.00

**VET 138 Veterinary Surgical Techniques (SP, SU) 3 credits**

In this course, students learn the fundamentals of routine veterinary surgical procedures, including patient preparation, identification of instruments, preparation of surgical packs, methods of sterilization, suture materials, and suture patterns. Pre-anesthetic laboratory testing, postoperative patient care, and client follow-up instructions are discussed.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: VET 102 and BIO 261 Lab fee: \$10.00

**VET 254 Clinical Seminar I (A, SU, DL) 2 credits**

This course focuses on issues related to the students' clinical experiences, including pet loss, client grief, euthanasia, problem solving models and change strategies. Companion animals as family members and the importance of the human-companion animal bond are explored.

Lecture: 2 hours – Lab: 0 hours

Prerequisites: All 100 level VET courses

Corequisite: VET 291

**VET 262 Veterinary Pharmacology (A, W) 3 credits**

This course will provide an overview of veterinary pharmacology and therapeutics, including a basic understanding of pharmacokinetics, terminology, prescription writing, drug classifications, indications for drug use, and methods of administration. Pharmacy management, controlled substance use and regulations, and ethical behavior when handling pharmaceutical agents will be stressed.

Lecture: 3 hours – Lab: 0 hours

Prerequisites: MATH 100 and VET 136 Lab fee: \$20.00

**VET 263 Clinical Application II (A, W, SU) 3 credits**

This is a capstone course designed for students to perform technical skills commonly used in small animal veterinary practices, including medical record maintenance, physical examination, administration of fluids and medications, pre-anesthetic evaluation, general anesthetic administration and recovery, surgical preparation, splint application, dental prophylaxis, radiographic procedures, phlebotomy and laboratory techniques.

Lecture: 0 hours – Lab: 6 hours

Prerequisites: All 100 level VET courses Lab fee: \$248.50

**VET 266 Animal Health and Disease II (A, W, SP, SU, DL) 3 credits**

This course familiarizes the student with the most common diseases of horses, food animals, and camelid species. Husbandry, vaccination protocols, nutrition, breeding, and management for preventive health care are also covered.

Lecture: 3 hours – Lab: 0 hours

Prerequisite: VET 136 Lab fee: \$10.00

**VET 267 Veterinary Urinalysis and Clinical Chemistry (A, W, DL) 4 credits**

This course serves as an introduction to the physical, chemical, and microscopic evaluation of urine and blood serum. Students will perform routine veterinary urinalysis and clinical chemistry procedures on a variety of animal species, and determine normal versus abnormal constituents. Students will become familiar with the general indications for performing various blood chemistries and understand the significance of elevated values in pathological specimens.

Lecture: 2 hours – Lab: 4 hours

Prerequisite: VET 135 Lab fee: \$90.00

**VET 269 Veterinary Microbiology (A, W, DL) 4 credits**

This course is a practical introduction to the laboratory identification of microbial agents associated with diseases in various animal species. Students perform techniques necessary to isolate, identify, and evaluate the presence of clinically significant microorganisms.

Lecture: 2 hours – Lab: 4 hours

Prerequisites: VET 135 and VET 136 Lab fee: \$177.43

**VET 274 Clinical Seminar II (W, SP, DL) 2 credits**

A continuation of VET 254, that addresses issues emanating from the students' clinical experiences. Students are prepared for employment as veterinary technicians through simulated job interviews, resume preparation, and discussion of employment strategies. The role of the veterinary technician in the community is explored. Applications for registration with the Ohio Veterinary Medical Licensing Board are distributed and the Ohio Veterinary Practice Act pertaining to veterinary technicians is discussed.

Lecture: 2 hours – Lab: 0 hours

Prerequisite: VET 291

Corequisite: VET 293

**VET 275 Seminar A (A)** **1 credit**  
This course focuses on issues related to the students' clinical experiences, including pet loss, client grief, euthanasia, and client assistance during pet loss. Companion animals as family members and the importance of the human-companion animal bond are explored. Special topics in veterinary medicine are discussed.  
Lecture: 1 hour – Lab: 0 hours  
Prerequisites: VET 133; evening program registration  
Corequisite: VET 294

**VET 276 Seminar B (W)** **1 credit**  
This course is a continuation of VET 275.  
Lecture: 1 hour – Lab: 0 hours  
Prerequisites: VET 275; evening program registration  
Corequisite: VET 295

**VET 277 Seminar C (SP)** **1 credit**  
This course addresses issues emanating from the students' clinical experiences. Students are prepared for employment as veterinary technicians through simulated job interviews, resume preparation and discussion of employment strategies. The role of the veterinary technician in the community is explored. Applications for registration with the Ohio Veterinary Medical Licensing Board are distributed and the Ohio Veterinary Practice Act pertaining to veterinary technicians is examined.  
Lecture: 1 hour – Lab: 0 hours  
Prerequisites: VET 276; evening program registration  
Corequisite: VET 296

**VET 278 Seminar D (SU)** **1 credit**  
This course is a continuation of VET 277.  
Lecture: 1 hour – Lab: 0 hours  
Prerequisites: VET 277; evening program registration  
Corequisite: VET 297

**VET 291 Clinical Experience I (A, SU)** **6 credits**  
Observation and practical application of techniques used in veterinary medicine. Students are assigned to various veterinary facilities, including The Ohio State University Veterinary Teaching Hospital, private veterinary practices, veterinary emergency hospitals, research centers, diagnostic laboratories, and zoos.  
Lecture: 0 hours – Lab: 30 hours  
Prerequisites: All 100 level VET courses Lab fee: \$11.00

**VET 293 Clinical Experience II (W, SP)** **6 credits**  
This course is a continuation of VET 291.  
Lecture: 0 hours – Lab: 30 hours  
Prerequisites: All VET courses except VET 266 and VET 274  
Lab fee: \$11.00

**VET 294 Clinical Experience A (A)** **3 credits**  
Observation and practical application of techniques used in veterinary medicine, designed for the evening Veterinary Technology program. Students are assigned to various veterinary facilities, including The Ohio State University Veterinary Teaching Hospital, private veterinary practices, veterinary emergency hospitals, research centers, and diagnostic laboratories.  
Lecture: 0 hours – Lab: 15 hours  
Prerequisites: All 100 level VET courses; evening program registration  
Lab fee: \$11.00

**VET 295 Clinical Experience B (W)** **3 credits**  
This course is a continuation of VET 294 designed for the evening program student.  
Lecture: 0 hours – Lab: 15 hours  
Prerequisites: VET 294; evening program registration Lab fee: \$11.00

**VET 296 Clinical Experience C (SP)** **3 credits**  
This course is a continuation of VET 295 designed for the evening program student.  
Lecture: 0 hours – Lab: 15 hours  
Prerequisites: VET 295; evening program registration Lab fee: \$11.00

**VET 297 Clinical Experience D (SU)** **3 credits**  
This course is a continuation of VET 296 designed for the evening program student.  
Lecture: 0 hours – Lab: 15 hours  
Prerequisite: VET 296; evening program registration Lab fee: \$11.00





# Directories and Index

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# Directories and Index

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# Accreditation/Certification/Approval

Columbus State Community College is accredited by The Higher Learning Commission, Member-North Central Assn. (NCA), 30 N. LaSalle St., Suite 2400, Chicago, IL 60602-2504, (312) 263-0456 or (800) 621-7440. Many of Columbus State's degree programs are accredited by professional associations and agencies as listed below.

## Allied Health

### Health Information Management Technology

Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)  
233 N. Michigan Avenue, Suite 2150  
Chicago, IL 60601-5800  
(312) 233-1100

### Medical Assisting

Commission on Accreditation of Allied Health Education Programs (CAAHEP)  
1361 Park Street  
Clearwater, FL 33756  
(727) 210-2350

### Medical Laboratory Technology

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)  
8410 West Bryn Mawr Avenue, Suite 670  
Chicago, IL 60631-3415  
(713) 714-8880

### Multi-Competency Health (Histology)

### Multi-Competency Health (Phlebotomy)

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)  
5600 N. River Road  
Rosemont, IL 60018-5119  
(713) 714-8880

## Respiratory Care

Committee on Accreditation for Respiratory Care (CoARC)  
1248 Harwood Road  
Bedford, TX 76021-4244  
(817) 283-2835

## Automotive Technology

### Automotive Technology and Ford ASSET Program

National Institute for Automotive Service Excellence (ASE)  
National Automotive Technicians Education Foundation (NATEF)  
101 Blue Seal Drive, Suite 101  
Leesburg, VA 20175  
(703) 669-6650

## Business

### Accounting and Finance

### Business Management

### Human Resources Management Technology

### Business Office Applications

Association of Collegiate Business Schools and Programs (ACBSP)  
7007 College Boulevard, Suite 420  
Overland Park, KS 66211  
(913) 339-9356

## Construction Science

### Construction Management

American Council of Construction Education (ACCE)  
1300 Hudson Lane, Suite 3  
Monroe, LA 71201-6054  
(318) 323-2816



**Landscape Design/Build**

Professional Landscape Network (PLANET)  
150 Elden Street, Suite 270  
Herndon, VA 20170  
(703) 736-9666

**Engineering Technologies****Aviation Maintenance Technology**

Federal Aviation Administration  
2780 Airport Drive, Suite 300  
Columbus, OH 43219  
(614) 255-3120

**Electronic Engineering Technology**

Accreditation Board of Engineering and  
Technology, Inc (ABET)  
111 Market Place, Suite 1050  
Baltimore, MD 21202  
(410) 347-7700

**Health, Dental and Veterinary Technology****Dental Hygiene**

American Dental Association Commission on  
Dental Accreditation  
211 East Chicago Avenue  
Chicago, IL 60611-2678  
(312) 440-2915

**Veterinary Technology**

American Veterinary Medical Association  
Committee on Veterinary Technician Education and  
Activities  
1931 North Meacham Road, Suite 100  
Schaumburg, IL 60173-4360  
(847) 925-8070

**Radiography**

Joint Review Committee on Education in Radiologic  
Technology (JRCERT)  
20 North Wacker Drive, Suite 2850  
Chicago, IL 60606-3182  
(312) 704-5300

**Surgical Technology**

Commission on Accreditation of Allied Health Education  
Programs (CAAHEP)  
Accreditation Review Committee on Education in  
Surgical Technology (ARC-ST)  
6 W. Dry Creek Circle, Suite 210  
Littleton, CO 80120-8031  
(303) 694-9262

**Hospitality, Massage Therapy,****Sport and Exercise Studies****Hospitality Management**

Accrediting Commission for Programs in Hospitality Ad-  
ministration  
P.O. Box 400  
Oxford, MD 21654  
(410) 226-5527

**Culinary Apprenticeship Major****Restaurant and Foodservice Management Major**

American Culinary Federation Education Foundation Ac-  
crediting Commission  
180 Center Place Way  
St. Augustine, FL 32095  
(800) 624-9458

**Dietetic Technician Major**

Commission for Accreditation of  
Dietetics Education  
The American Dietetic Association  
120 South Riverside Plaza, Suite 2000  
Chicago, IL 60606-6995  
(800) 877-1600 ext. 4874

**Dietary Manager Certificate**

Dietary Managers Association  
406 Surrey Woods Drive  
St. Charles, IL 60174  
(800) 323-1908

**Massage Therapy**

The State Medical Board of Ohio  
77 S. High Street, 17th Floor  
Columbus, OH 43215-6127  
(614) 466-3934

**Human Services****Mental Health/Addiction Studies/Developmental  
Disabilities**

Council for Standards in Human Service  
Education (CSHSE)  
Susan Kincaid, Ph.D., V.P., Prog. Accreditation  
PMB 703, 1050 Larrabee Avenue, Suite 104  
Bellingham, WA 98225-7367

**Early Childhood Development**

National Association for the Education of Young Children  
Marcia Mitchell, Accreditation Coordinator  
1313 L Street, Suite 500  
Washington, DC 20005  
(202) 232-8777

**Integrated Media and Technology****Supply Chain Management  
Marketing**

Association of Collegiate Business Schools and  
Programs (ACBSP)  
7007 College Boulevard, Suite 420  
Overland Park, KS 66211  
(913) 339-9356

**Justice and Safety Programs****Emergency Medical Technician–Paramedic Program**

Commission on Accreditation of Allied Health Education  
Programs (CAAHEP)  
Committee on Accreditation of Educational Programs for  
the EMS Professions (CoAEMSP)

4101 W. Green Oaks Blvd., Suite 305-599  
 Arlington, TX 76016  
 (817) 330-0080

**Emergency Medical**

Technician–Paramedic Program State of Ohio  
 EMS Agency  
 P.O. Box 182073  
 Columbus, OH 43219  
 (614) 466-9447

**Paralegal Studies**

American Bar Association  
 Standing Committee on Legal Assistants  
 750 North Lake Shore Drive  
 Chicago, IL 60611  
 (312) 988-5618

**Nursing**

**Nursing**

National League for Nursing Accrediting Commission  
 (NLNAC)

61 Broadway, 33rd Floor  
 New York, NY 10006  
 (216) 363-5555 ext. 153

Ohio Board of Nursing

17 S. High Street, Suite 400  
 Columbus, OH 43215-7410  
 (614) 466-3947

**Nurse Aide Training Program (NATP)**

Ohio Department of Health NATCEP Unit  
 246 North High Street  
 P. O. Box 118  
 Columbus, OH 43216  
 (614) 752-8285

**Practical Nursing**

Ohio Board of Nursing  
 17 S. High Street, Suite 400  
 Columbus, OH 43215-7410  
 (614) 466-3947

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# Frequently Used Terms

**Ability to Benefit test** - A federally authorized test used to determine eligibility for financial aid when a student has neither a high school diploma nor a GED certificate

**ACT/SAT** - College entrance exams recommended or required for admission to some colleges

**ADA** - Americans with Disabilities Act

**Alumni** - Graduates of a college or school

**American Sign Language (ASL)** - Language for communicating with the deaf

**Apply** - To submit a completed admission application form to a college or university such as Columbus State

**Articulation** - A specific agreement between two schools that guarantees the transfer of a degree from one school to another; for example, Columbus State A.A. or A.S. degree to Ohio State B.A. and B.S. degree

**Associate Degree** - The degree awarded if you successfully complete an associate degree program at Columbus State; also known as a two-year degree

**Associate of Technical Studies (A.T.S.) Degree** - The A.T.S. degree enables a student to design an individualized program of study to fulfill a unique career goal. Student can select courses from up to four different technical programs.

**Audit a class** - Process by which a student may take and pay for a class for informational instruction only (no grade or credit received)

**Book Buybacks** - The Discovery Exchange (bookstore) buys back used books during finals week each quarter.

**Business and Industry** - Part of the Community Education and Workforce Development Division; B and I assists local businesses with consulting services and training programs.

**Cashiers and Student Accounting** - The office where students can pay fees, purchase parking permits, and take care of other cash related functions; it is located on the second floor of Rhodes Hall on the Columbus Campus and in Moeller Hall on the Delaware Campus.

**C.A.T.S.** - The Computer Automated Touch/Tone System allows students to register for classes using the touch-tone option.

**CET (Computer Enrichment Training)** - Computer training program offered through Business and Industry

**Certificate** - Document testifying that one has fulfilled requirements of either a course or series of courses

**Clawdette Cougar** - Clawdette is the mascot for Columbus State Community College. She appears at athletic contests and other campus gatherings and keeps in contact with students via a Facebook page.

**CLEP** - The College Level Exam Program that allows students to earn college credit for what they already know

**Commencement** - The graduation ceremony held at the close of each academic quarter

**COMPASS® (Placement Test)** - Computerized placement testing for new students to identify the appropriate starting level for reading, writing, and math courses

**Contact Hour** - An hour of in-class time

**Continuing Education** - Educational options available through noncredit courses and seminars designed to meet the licensing and certification needs of professionals in the community

**Contract Training** - Providing training and consulting services to companies

**Cooperative Education (Co-Op)** - An opportunity for students to bridge their program of study with career-related work experience

**Student E-Mail** - Free e-mail program for enrolled students

**Course Description** - A written statement that explains what will be taught in a class

**CPE** - Continuing Professional Education courses offered at Columbus State Community College through noncredit coursework designed to meet licensing or certification needs

**Credit** - Recognition by the college that a student has successfully completed a course requirement leading to a degree or certificate

**Credit Bank Hours** - An agreement between an employer and the college that allows for an exchange of the use of credit hours and internship hours

**Credit Hour** - The unit of measurement for college work that applies to a degree or certificate

**Curriculum** - A series of courses that leads to a degree or certificate; same as a program of study

**Distance Learning** - Classes delivered online, by video, cable TV, Public Television, or by teleconference

**Deferment (student loans)** - Authorized period of time granted by a lender that a student does not need to make regular monthly payments toward his/her student loan

**Degree Audit** - Advising tool that provides a written report of courses in progress, courses completed, and courses remaining for completion of program or degree requirements

**Delaware Campus** – The second full-service campus available to serve the educational needs of Columbus State students. The Delaware Campus is located along US 23 between Greif Parkway and Winter Rd. It opened for Autumn Quarter 2010.

**Developmental Education Courses** - Courses provided to improve or refresh a student's skills in reading, writing and mathematics

**Diploma** - Official record of graduation from or of a degree conferred by a school or college

**DISCOVER** - Computer-based assessment tool that surveys abilities, values, experiences and interests for the purpose of identifying a career direction

**Dropping or Withdrawing (from a class)** - Required process by which a student withdraws from a class in which he/she is enrolled. It is the student's responsibility to initiate that process with the college.

**Educable** (Cable courses) - Cable channel that allows students to view televised classes

**Elective** - A course that is not required in a degree or certificate program but that is counted in total hours required

**ERC** - Educational Resources Center, otherwise known as the library, and located in Columbus Hall

**Evening Classes** - Those offered during the week and that begin at 5:00 p.m. or later

**Exam Credit** (Proficiency Credit) - Students who believe they possess the knowledge contained in a course may request of the academic department to take a proficiency exam.

**Faculty** - College employees hired for their ability to teach and motivate students

**Fee Payment** - Students' fees may include quarterly academic fees, lab fees, the one-time matriculation fee, and other specific fees. These can be paid in the office of Cashiers and Student Accounting, over the telephone, or by mail. All fees must be paid by posted deadlines.

**Fee Refund Appeal** - If a student feels that the refund he/she received is not accurate, the student may fill out a tuition refund appeal form. (Form available in Records and Registration)

**Fee Refund** - Refund of fees sent for student-initiated withdrawals in accordance with the refund schedule for full quarter classes; the dates for refund guidelines can be found online.

**Financial Aid** - Funding in various forms and from a variety of sources that helps students with college expenses; federal and state grants, loans, and work-study programs are available to eligible

students. Scholarships are offered through the college, organizations, foundations, and professional groups.

**Fresh Start Rule** - This rule can help a student who was unsuccessful in a previous academic attempt, voluntarily left the college, and has returned after a substantial period of time. If the student meets the criteria, earlier grades may be expunged while the courses remain on the student's transcript. Rule can be used only once.

**Full-Time Student** - A student who is taking 12 credit hours or more during a quarter

**Future Scientists of Ohio Scholars Program** - A joint initiative of Columbus State and Ohio State which provides full-tuition scholarships and academic support services to new Columbus State students who are interested in science or math-based studies; program is funded by grants from the Ohio Board of Regents and the National Science Foundation.

**General Education** - Courses that give the student an introduction to the liberal arts and can be tailored to meet the student's interests and the requirement of specific degree programs

**General Education Diploma (GED)** - The GED is equivalent to a high school diploma and is accepted by most colleges and universities and by military recruiters.

**Getting Started Orientation (GSO) - In-person or online** process to help new students become acquainted with the college and student services at Columbus State

**Good As Gold Program** - A tuition-free program for senior citizens (60 years old or older) who want to take college classes

**Grade Point Average (GPA)** - A mathematical way of computing academic performance by giving a value to each grade, multiplying the credit hours by the points, and dividing that total by the number of credit hours attempted.

**Graduation Requirements** - The courses and competencies in the program of study that you have to complete successfully in order to qualify for a degree or certificate

**Grades** - At the close of the quarter, and upon the completion of a course, the instructor reports a letter grade indicating the quality of a student's work.

**Grant** - A type of financial aid that is available to students who meet the federal eligibility criteria

**Harassment** - The college strongly opposes and prohibits any offensive physical, written, spoken or nonverbal conduct as defined and prohibited by state and federal law. In cases where a student is the perpetrator, college policy defines sexual harassment and sexual assault as an example of general student misconduct, which may result in penalties, up to and including, dismissal from the college.

**Health Insurance (student)** - All full-time students registered for credit and attending classes at Columbus State Community College are eligible for low-cost, group accident and sickness health care coverage.



**Health Record** - Students in certain health care technologies will be required to have a physician's examination and might be required to have immunizations and laboratory blood studies completed prior to being accepted into health-related technology coursework.

**HECC** - The Higher Education Council of Columbus is an association of colleges and universities in central Ohio.

**Honors** - Formal recognition of high academic achievement

**Housing** - Columbus State Community College does not provide on-campus housing options for its students. Information regarding off-campus housing may be found in the Student Activities and Athletics Office in Nestor Hall 116.

**Identification Cards** - Cougar (student) ID cards, issued by the Department of Public Safety, are required in order to use many campus-related services or activities. **The fee for the original ID is included in the matriculation fee paid by all first-quarter students.** A **\$4.00 fee for replacement** of a lost CougarID can be paid in Cashiers and Student Accounting.

**Instructional Technologies and Distance Learning** - Formerly known as the TLRC, this is a training area housed in the Center for Teaching and Learning Innovation where students and faculty can experiment and be trained in methods of distance learning, teleconferencing, and more.

**Internship** - Approved, on-the-job training and experience in a real world setting in which student earns credit hours towards graduation

**Intramural Sports** - Athletic activities in which Columbus State students, faculty and staff can participate

**K-12 Initiatives** - Columbus State programs that work with students in Kindergarten through 12th grade

**Laboratory (Lab) Hours** - The time in the instructional plan that a student spends applying the theories presented in the lecture portion of a class

**Library** - Located in Columbus Hall, the library is usually referred to as the Educational Resources Center, or ERC. Library services are available through the Learning Commons area on the Delaware Campus.

**Loan** - Financial aid that must be repaid with predetermined terms

**Loan Deferment** - When a loan repayment is "put off" for a certain amount of time

**Modular Courses** - Courses that are offered in shorter, self-contained units

**Noncredit Courses** - Courses that do not offer college credit but meet individual interests or support career advancement

**Nontraditional Credit** - College credit earned through means other than traditional classroom or distance learning

**OTAP** - Orientation to Trade and Apprenticeship Programs is an intense, 8-week, job-training program, which teaches students the skills required to gain employment in the skilled trades and acceptance into apprenticeships or other career training programs.

**Out-of-State Status** - For tuition purposes, this status refers to a student whose permanent residence is outside the state of Ohio, or who has not maintained residency in Ohio for 12 months.

**Parking Citation** - Given for a parking violation at Columbus State; fine must be paid prior to registration each quarter and prior to graduation.

**Part-Time Student** - A student who is taking fewer than 12 credit hours of classes during a quarter

**Payment of Fees** - Fees can be paid online, in person, by mail, or by phone. There is a deadline each quarter for fee payment without a late penalty.

**Peer Tutoring Program** - This tutoring program offers individual or group tutoring to eligible learners through the Developmental Education Department. It is a free service, but is subject to availability of tutors.

**Phi Theta Kappa** - International honor society for students enrolled in a two-year college

**Placement Test** - A test given to students to determine their starting level in subjects such as writing, math and reading

**Prerequisite** - A course that must be completed successfully or a skill that must be demonstrated before a particular course can be scheduled

**Prior Learning Assessment** - This is college credit that can be earned for life or career experience. It is determined by testing.

**Program of Study** - A series of courses that leads to a degree or certificate through a specified curriculum

**Proficiency Credit** - College credit that is earned by testing for proficiency in a certain subject

**Proficiency Test** - A test for proficiency in a subject; can lead to proficiency credit being earned

**PSEO** - The Post-Secondary Enrollment Options program provides a way for current high school students to attend college, earning credit that satisfies both requirements.

**Public Safety** - The Department of Public Safety provides police/EMS, safety/security, parking oversight, and special services to the Columbus State community 24 hours a day, 7 days a week. Public Safety can be reached at **287-2525 on the Columbus Campus and Delaware campuses.**

**Quarter** - Currently, there are four, 11-week, academic quarters at Columbus State, with a nearly two-week break between each. Columbus State, like many other University System of Ohio edu-

cational institutions, will be transitioning to academic semesters in Autumn 2012.

**Records (Student)** - The records kept by Columbus State for the period of enrollment, including grades, fees paid, classes taken, major declared, etc.

**Refund Check** - The money returned to a student if he/she has dropped or been canceled from a class

**Registration** - The process of selecting courses, choosing sections by day and hour, enrolling in classes, and paying tuition and fees

**Remedial Course** - A course taken to learn pre-college skills in various areas such as mathematics or communication skills

**Residency Requirement** - Requirements that must be met for an individual to be considered a resident of the state of Ohio for tuition purposes

**Schedule/Scheduling** - The list of classes for which student has registered for/ the process of registering for classes

**Scholarship** - A sum of money awarded to a student in recognition of academic achievement or other characteristic; stipend is to be used to pay fees or other college expenses and does not require repayment.

**Section** - The individual class meeting at a particular day and time with a specific instructor

**Selective Service Registration** - Registration for the Selective Service is required of all males 18-26 years old.

**Semesters - The academic calendar the college will follow starting Autumn 2012. The autumn and spring semesters will be 16 weeks long, with a slightly shorter summer semester/term. See [www.csc.edu/semesters](http://www.csc.edu/semesters).**

**Speech Rehearsal Lab** - The Speech Lab offers tutoring to students requiring critiques of oral presentations. SRL is located in Nestor Hall 017. Call 287-5391 for an appointment.

**Spring Street** - Columbus State's literary magazine, which is published annually and highlights student work

**Student Athlete** - A student who is participating in varsity athletics at Columbus State, and who must maintain certain academic standards to participate

**Student Ambassador Program** - The primary objectives of this program are to provide students with basic leadership training and opportunities to work with multiple departments on campus and community service agencies off campus.

**Student for a Day** - A program for high school students which allows them to experience the college environment

**Tech Prep Program** - A program for high school students in which they enroll in certain high school courses in preparation for a col-

lege degree program and career in the same area

**Teleconference** - A meeting or class held simultaneously in more than one location via fiber optic connection of video cameras

**Transfer Credit** - College credits, earned at Columbus State or another college, which transfer as the same credits to another college or university

**Transfer Fair** - Annual event at which representatives from more than 50 colleges come to campus and distribute information about their transfer programs to Columbus State students

**Transfer Program** - A program offered by Columbus State designed to transfer credits to other colleges or universities in preparation for continuing with a higher degree such as a bachelor's or master's degree.

**Transcript** - A record of courses taken, grades earned, honors received, and degrees awarded at a previous educational institution, including high school or other colleges attended

**Tuition** - The money a student pays for instruction at any college; additional costs may include books and lab fees

**Tuition Reimbursement** - The money a student can receive back from a company or employer that pays for college courses taken by their employees; usually paid back after the course has been satisfactorily completed

**Tuition Refund** - The money refunded to a student after he/she withdraws from a class

**Veteran** - A person who has served in the United States military and earned benefits as a result of completion of service

**Veterans' Benefits** - The benefits earned by veterans of the U.S. military, which may include educational benefits

**Video-Based Course** - A course offered by Columbus State on videotape, on cable television, or on public television

**Voucher** - A statement of the funds available from a grant to pay fees

**Weather-Related Closing** - Formal cancellation of classes and closing of campus forced by inclement weather; always posted on the college's website ([www.csc.edu](http://www.csc.edu)) and announced via TV, radio stations, and various social media sites

**Web-Based Course** - Course offered online

**Work Study** - A type of financial aid that secures part-time employment for students eligible for financial assistance; this federally funded program helps students to pay for a variety of college expenses.

**Writing Center** - Free, one-on-one composition assistance offered through the English Department; on the Columbus Campus the Writing Center is located in Franklin Hall 245.

# Vision and Values

We see Columbus State Community College as a dynamic and diverse institution offering accessible, affordable, lifelong learning opportunities to meet the educational, employment, and enrichment needs of our community as it participates in the global economy.

## We Value Being

- An integral, respected, trusted partner in our community.
- A dynamic, evolving institution.
- An outstanding learning environment.
- An accessible educational institution.
- A diverse learning community.
- A results-oriented organization.
- Accountable.

## Mission Statement

The mission of Columbus State Community College is to provide quality educational programs that meet the lifelong learning needs of its community. Through its dynamic curriculum and commitment to diverse learners, the college will serve as a catalyst for creating and fostering linkages among the community, business and educational institutions. The college will proactively respond to the changing needs of our community and its role in the global economy through the use of instructional and emerging technologies.

## Institutional Goals

- To recognize, develop, and support excellence in both learning and teaching.
- To provide a learner-centered environment that provides the support services which assure that learners attain their educational goals.
- To provide relevant, thorough, state-of-the-art technical education that prepares students to prosper in the world of work.
- To provide coursework leading to an associate degree and/or lower-division preparation for college/university transfer.
- To provide educational, cultural, economic, social, recreational, or aesthetic programs and services to meet the changing needs of individuals in a multicultural community.
- To provide lifelong educational programming for personal and professional growth, cultural and recreational enrichment, and international education.
- To foster an environment that values an understanding of and appreciation for diversity.
- To develop and strengthen partnerships with industry, primary and secondary education, business, labor, community organizations, and government to enhance the economic development of our service community.
- To broaden learning opportunities through the creation of a strong community outreach program.
- To collaborate with our community to understand and satisfy its needs and expectations to provide quality educational services within available resources.

- To encourage management policies which demonstrate institutional integrity and effectiveness.
- To enhance learning opportunities for students, faculty, staff, and administrators through the effective use of technology.

## Strategic Planning Goals

- Technology Support
- Access
- Global Perspective
- Community Building
- Workforce Development
- Financial Resources Development
- Marketing and College Image
- Human Capacity Development
- Board Development
- Financial Stewardship

## Philosophy of Student Learning Assessment

Columbus State Community College believes that the college can influence how well and how much students learn. The opening line of the college's mission statement declares that Columbus State is charged with providing "quality educational programs that meet the lifelong learning needs of its community."

Consistent with the college's institutional goal "to provide a learner-centered environment that provides the support services which assure that learners attain their educational goals," academic assessment provides systematic, routine processes that allow the faculty and students to determine the degree that students are achieving the stated student learning outcomes. The following questions guide the assessment process:

1. How are students learning?
2. How much are students learning?
3. To what extent are students learning?

## Purpose of Academic Assessment

Academic assessment is the process for *ongoing improvement of student learning and success*. The assessment program at Columbus State Community College has four specific and interrelated purposes:

1. To improve student learning
2. To improve teaching strategies
3. To document successes and identify opportunities for improvement
4. To provide evidence for institutional effectiveness.

Columbus State's assessment program is mission-driven and faculty owned. It includes assessment of courses and programs in the following academic divisions:

- Arts and Sciences
- Career and Technical Programs
- Community Education and Workforce Development

# Academic Programs

## ARTS AND SCIENCES DIVISION

Associate of Arts Degree

Associate of Science Degree

A.A.S. in Technical Communication

## CAREER AND TECHNICAL PROGRAMS DIVISION

Associate of Applied Science Degree

Associate of Technical Studies Degree

Certificate Programs

(A.A.S. Degrees unless the A.T.S. degree is indicated or the program title contains the word “certificate”)

### Accounting

- Certificate of Accounting Concentration (CPA Exam Preparation)
- Certificate of Fraud Examination
- Certificate of Internal Auditing
- Certificate of Taxation Specialist

### Architecture

- Architecture Transfer Option
- Architectural CAD Drafting Certificate
- 3D Visualization Certificate

### Automotive Technology

- Vocational Education Transfer Option with The Ohio State University
- Automotive Service Management Major
- Ford ASSET Program
- Maintenance and Light Repair Certificate
- TechLINK Program
- Toyota – T-Ten Certificates
- YAATC

### Aviation Maintenance Technology

- Aviation Maintenance Technician Certificate

### Business Management

- Vocational Education Transfer Option with The Ohio State University
- Business Management Major
- Entrepreneurship Major
- Public Administration Track
- Basic Project Manager Certificate
- Entrepreneurship Certificate
- Leadership Development Certificate
- Managing Interpersonal Skills Certificate
- Nonprofit Management Certificate
- Pre-MBA Certificate
- Project Management Team Certificate
- Public Administration Certificate

### Business Office Applications

- Administrative Assistant Major
- Administrative Assistant Medical Cognition
- Bookkeeping Certificate
- Office Skills Certificate
- Office Specialist Certificate

### Civil Engineering Technology

- Civil Track
- Survey Track
- Surveying Certificate

### Computer Information Technology

- Vocational Education Transfer Option with The Ohio State University
- Game Developer Track
- MIS Project Management Track
- Network Administrator Track
- Software Developer Track
- Web Developer Track
- CCNA Discovery Certificate
- Computer Literacy Certificate
- Database Specialist Certificate
- Information Security Certificate
- Management Information Systems Certificate
- Network Administrator Certificate
- Software Developer Certificate
- System Z Certificate

### Construction Management

- Vocational Education Transfer Option with The Ohio State University
- Building Information Modeling Certificate
- Construction Project Management Assistant Certificate
- Estimating/Bidding Certificate
- Facility Conservation and Energy Management Certificate
- Field Supervision Certificate
- Residential Construction Management Certificate

### Dental Hygiene

Dental Laboratory Technology/Small Business Management (A.T.S.)

Dental Laboratory Technology Certificate

### Digital Design and Graphics

- Desktop Publishing Certificate
- Digital Design Certificate
- Digital Media Certificate
- Photoshop for Illustration and Design Certificate

### Digital Photography

- Photography Certificate
- Photoshop for Photographers Certificate

### Early Childhood Development

- Child Development Association (CDA) Credential Preparation Certificate
- Preschool Education Certificate

### Electro-Mechanical Engineering Technology

### Electronic Engineering Technology

- Computer Electronics Major (Technology Systems Technician Track)

### Emergency Medical Services Technology

- EMT–Basic Certificate
- EMT–Paramedic Certificate

### EMS/Fire Science (A.T. S.)

### Engineering Technologies Certificates

- Computer Aided Drafting Technician Certificate
- Engineering Assembly Technician Certificate
- Engineering Technician Certificate
- Manufacturing Maintenance Technician Certificate

### Environmental Science, Safety and Health

- Health and Safety for Hazardous Waste Operations Certificate
- Occupational Health and Safety Certificate
- Sustainable Building Certificate
- Water/Wastewater Technology Certificate

### Finance

### Fire Science

### Geographic Information Systems

- GIS Certificate

### Health Information Management Technology

- Medical Coding Certificate

### Heating, Ventilating and Air Conditioning Technology

- High Pressure Boiler License Training Program
- Large Commercial Certificate
- Residential/Light Commercial Certificate

### Hospitality Management

- Culinary Apprenticeship Major
- Dietetic Technician Major
- Hotel, Tourism and Event Management Major
- Restaurant and Foodservice Management Major
- Restaurant and Foodservice Management Major–Baking and Pastry Arts Track
- Baking Certificate
- Dietary Manager Certificate
- Meeting and Event Management Certificate
- School Foodservice Manager Certificate

### Human Resources Management Technology

### Interactive Media

- Digital Video and Sound Major
- Video Game Art and Animation Track
- Rich Media Communication Certificate
- Visual Communication Certificate
- Web Communication Certificate

### Interpreting/American Sign Language Education

- American Sign Language/Deaf Studies Certificate

### Landscape Design/Build

### Law Enforcement

- Corrections Major
- Law Enforcement Major
- Law Enforcement Major –Academy Track

### Marketing

- Direct Marketing Major
- Retail Management Major
- Direct Marketing Certificate
- Electronic Marketing Certificate
- Pre-MBA Certificate

### Massage Therapy

- Massage Therapy LMT Degree Completion
- Massage Therapy Certificate
- Massage Therapy Advanced Techniques Certificate

### Mechanical Engineering Technology

### Medical Assisting (A.T. S.)

- Medical Assisting Certificate

### Medical Laboratory Technology

Clinical Laboratory Assisting Certificate

### Mental Health/Addiction Studies/Developmental Disabilities

- Mental Health Track
- Addiction Studies Track
- Developmental Disabilities Track
- Advanced Mental Health Certificate
- Advanced Addiction Studies Certificate
- Advanced Developmental Disabilities Certificate
- Community/Habilitation Assistant Certificate
- Community Living Specialist Certificate

### Multi-Competency Health

- Basic Electrocardiography Certificate
- Health Care Manager Certificate
- Histology Certificate
- Plebectomy Certificate
- Clinical Laboratory Assisting Certificate
- Complementary Care Certificate
- Nurse Aide Training Program Certificate
- Patient Care Skills Certificate
- Pranic Healing Certificate Level I
- Pranic Healing Certificate Level II
- Pranic Healing Certificate Level III
- Registered Nurse First Assistant Certificate
- Train the Trainer Nurse Aide Certificate

### Nuclear Medicine Technology

### Nursing

- Vocational Education Transfer Option with The Ohio State University
- Practical Nursing Program
- Complementary Care Certificate
- Nurse Aide Training Program Certificate
- Patient Care Skills Certificate
- Pranic Healing Certificate Level I
- Pranic Healing Certificate Level II
- Pranic Healing Certificate Level III
- Registered Nurse First Assistant Certificate
- Train the Trainer Nurse Aide Certificate

### Paralegal Studies

- Paralegal Studies Certificate (Post Baccalaureate Option)

### Quality Assurance Technology

### Radiography

- Limited Radiography Certificate

### Real Estate

- Appraisal Certificate
- Real Estate Pre-Licensure Certificate

### Respiratory Care

- Registered Respiratory Therapist Program
- Sleep Study Certificate

### Skilled Trades Technology

- Apprenticeship Partnership Degree Programs
- Associate of Technical Studies Degree in Construction Trades
- Facilities Maintenance Degree
- Facilities Maintenance Certificate
- Facilities Module Certificates
- Intermediate Welder Certificate
- Introduction to the Construction Industry Certificate

### Sport and Exercise Studies

- Exercise Science Major
- Physical Education Major
- Sport Management Major
- Exercise Specialist Certificate

### Sterile Processing Technology (A.T.S.)

- Sterile Processing Technology Certificate

### Supply Chain Management

- International Commerce Major
- Strategic Procurement Major
- International Business Certificate
- International Commerce Certificate
- Strategic Procurement Certificate
- Supply Chain Management Certificate

### Surgical Technology

- Surgical Technology Certificate

### Veterinary Technology