

Volume 30 • Number 3

Programs and Services 2000-2001



WashTenaw Community College

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This document is for informational purposes only and is not to be construed as a binding offer or contract between WCC and the student. This document was prepared on August 20, 2000 and is subject to change without notice.

2000-2001 Academic Calendar

Fall Semester 2000

September 5Classes Begin
 November 23-24Thanksgiving Recess (no classes)
 December 22Fall Classes End

Winter Semester 2001

January 16Classes Begin
 January 15Martin Luther King Holiday (no classes)
 April 30Winter Classes End

Spring/Summer Semester 2001

May 7Classes Begin
 May 28, 29Memorial Day (no classes)
 June 287½ Week Spring Classes End
 July 4Independence Day Holiday (no classes)
 July 1810 Week Spring Classes End
 August 2215 Week Semester Classes End

Summer Session 2001

June 297½ Week Summer Classes Begin
 July 4Independence Day Holiday (no classes)
 August 227½ Week Summer Classes End

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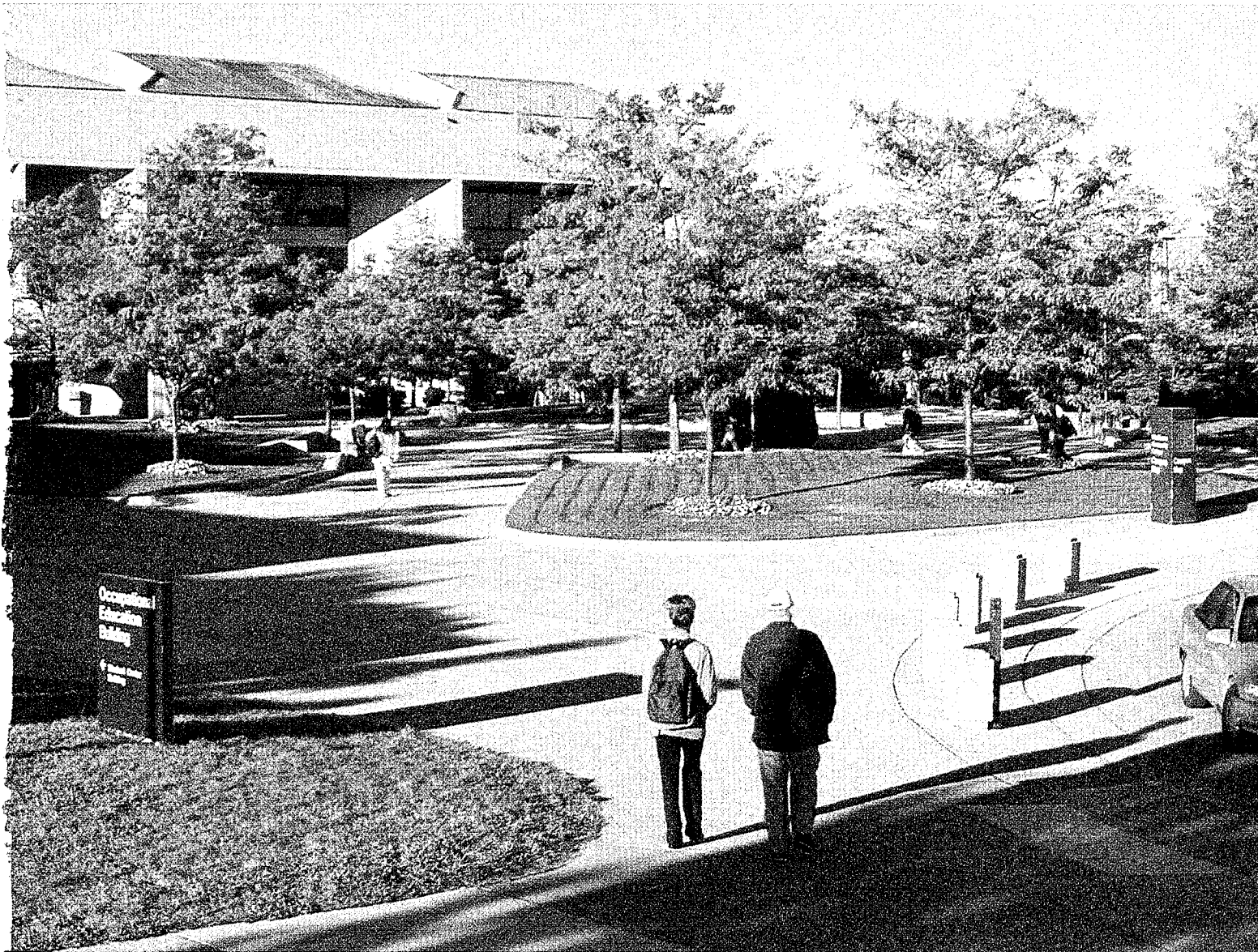
World Wide Web Site Address

See this location for the College Catalog and the Academic Class Schedule information:

<http://www.wccnet.org>

Yours to discover

Explore your community college and along the way
you might discover something about yourself



An invitation	Page II
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The journey begins	Page VIII

Discover



Washtenaw Community College

An Invitation

There comes a time in your life when brief glimpses of your future no longer satisfy. You want the whole picture — your final destination visible on the horizon, with all the milestones clearly marked along the way.

There comes a time for Washtenaw Community College.

Why Washtenaw? Because we've designed a program of instruction and student services best suited for people who:

- Want to take charge of their future
- Are ready to develop more focused goals
- Are willing to assess where their academic strengths lie and where they need to improve
- Are prepared to complete a program of study designed to take them to their specific goal, be it a new job, a career advancement, or transfer to a four-year college

Accept this invitation to get to know your community college. Allow yourself to be surprised by its diversity of people, programs, facilities, and resources. You will find that, the more you learn about Washtenaw, the more you learn about yourself.



An invitation

A curriculum in motion

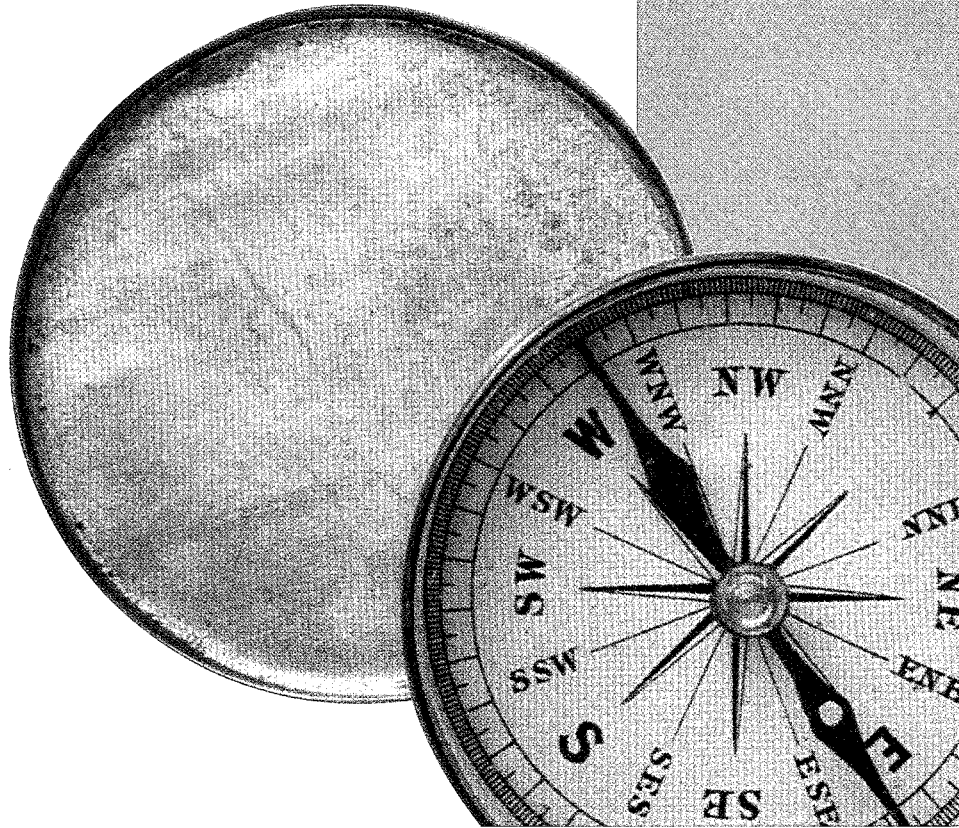
You are ready to make a move, but you are wondering “Which direction?” “How fast?” “How far?” Washtenaw Community College’s curriculum provides the answers, enabling you to take your collegiate and working careers one success at a time. This table provides an overview of your options.

WCC credential:	Gives you:	Average number of required courses:
Certificate	Skills you need to move in to a new job	11
Advanced Certificate	Advanced skills to move up with a promotion	6
Associate in Arts Degree and Associate in Science Degree	The general studies coursework you need to move on to a four-year college or university	21
Associate in Applied Science Degree	The degree required or preferred by some employers for employment or advancement.	21
Post-Associate Certificate	Career-specific skills that complement or enhance your associate’s degree	10

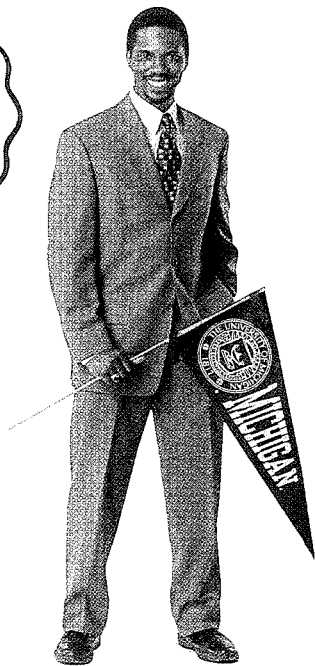
“Which Direction?”

“How Far?”

“How Fast?”



Academics



University parallel programs

The associate in arts and associate in science degrees are designed to serve as the first two years of a bachelor's degree. You can be sure that the general education coursework required for these degrees stands up to the academic rigor expected by four-year institutions because:

Courses meet requirements established by the Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO)

For several years, Washtenaw Community College and Eastern Michigan University students have benefited from transfer courses as part of the WCC/EMU Collaboration Agreement

In some cases there are program-to-program "articulation" agreements in which coursework in a specific program at Washtenaw Community College transfers into a specific (and related) program at the four-year school

WCC has a strong track record of developing successful transfer courses for the most selective institutions, including the University of Michigan (see details on the new WCC Honors/U-M Liberal Arts and Sciences transfer program)

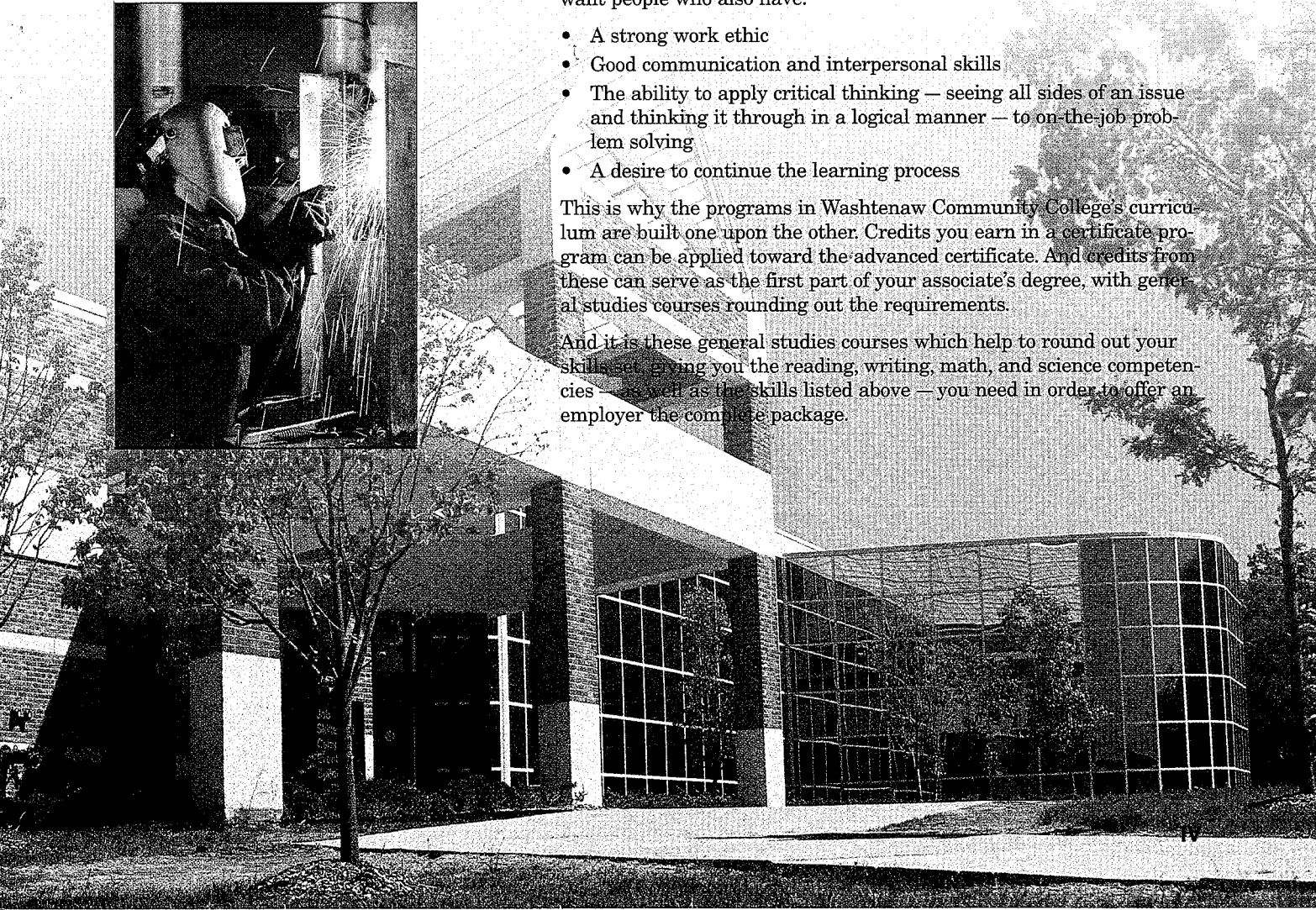
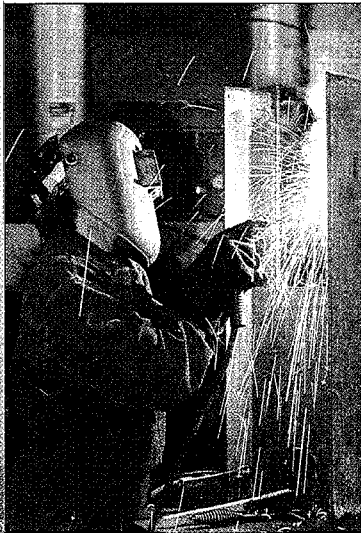
Occupational programs

In one national study after another, the message comes through: Narrowly focused job skills are not enough to satisfy employers. They want people who also have:

- A strong work ethic
- Good communication and interpersonal skills
- The ability to apply critical thinking — seeing all sides of an issue and thinking it through in a logical manner — to on-the-job problem solving
- A desire to continue the learning process

This is why the programs in Washtenaw Community College's curriculum are built one upon the other. Credits you earn in a certificate program can be applied toward the advanced certificate. And credits from these can serve as the first part of your associate's degree, with general studies courses rounding out the requirements.

And it is these general studies courses which help to round out your skill set, giving you the reading, writing, math, and science competencies — as well as the skills listed above — you need in order to offer an employer the complete package.



Personal attention

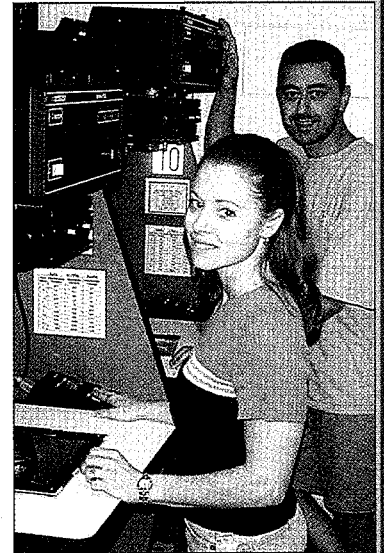
When it comes to learning, personal attention is a proven winner. At WCC, learning takes place in a classroom or lab, not in big lecture halls. It's a setting where you can ask questions...and hear the answers.

A commitment to good teaching

Washtenaw Community College faculty are hired for their expertise in their subject areas and for their passion for teaching. They bring to the classroom solid academic preparation, relevant professional experience, and a commitment to making you a better learner.

A commitment to technology

The tradition of the spoken word is alive and well at Washtenaw Community College; it remains the heart and soul of the teaching and learning experience. Yet the college has embraced technology as a learning tool and as a pathway to your career success. WCC has been busy adding new computers and specialized instructional equipment to its many learning labs; wiring the campus for networking and Internet access; and equipping some classrooms and labs for computer-driven presentations, and, distance learning capabilities.



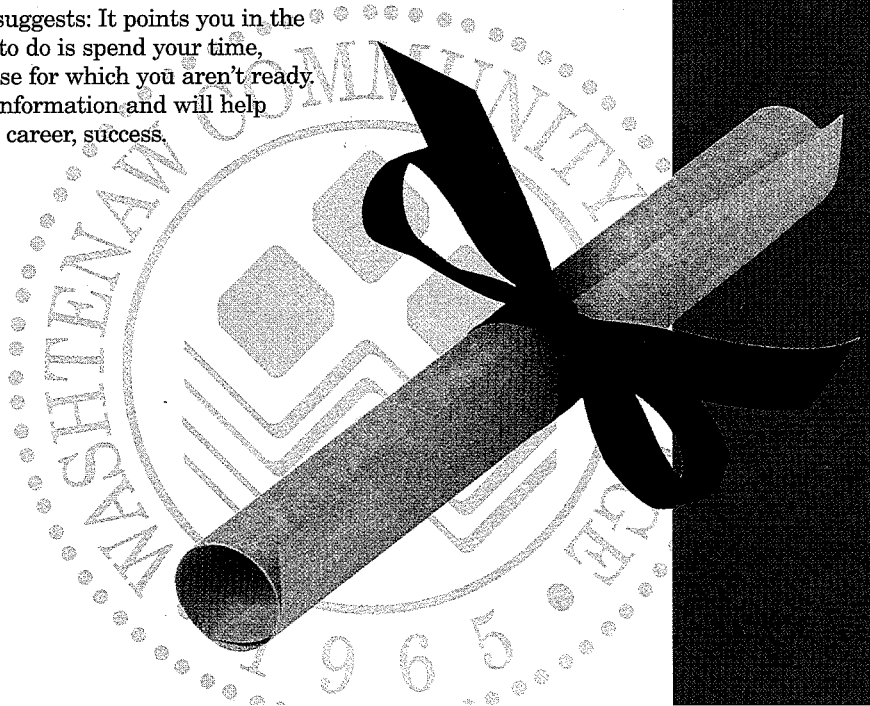
A commitment to your success

If you are willing to take an honest look at your academic readiness in the areas of math, reading, and writing, then you have already taken the first step toward becoming a savvy college student.

The next step is to sit down at a computer and work your way through the COMPASS assessment program. If you have previous experience in college, you might not have to complete the COMPASS program.

If it turns out that you are required to take COMPASS, remember two things: 1) It's easy to complete and 2) It will arm you with powerful information about where your strengths are, and where you need to brush up.

COMPASS does exactly what its name suggests: It points you in the right direction. The last thing you need to do is spend your time, money, and academic energies on a course for which you aren't ready. COMPASS will arm you with valuable information and will help improve your chances for academic, and career, success.



Student Life

Active learning

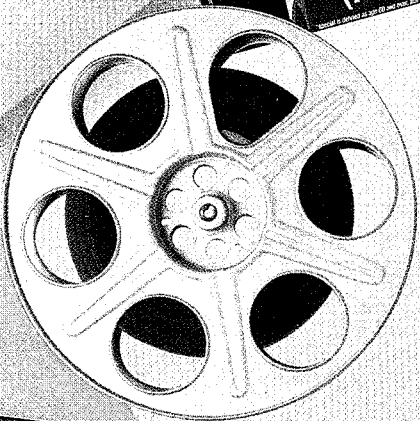
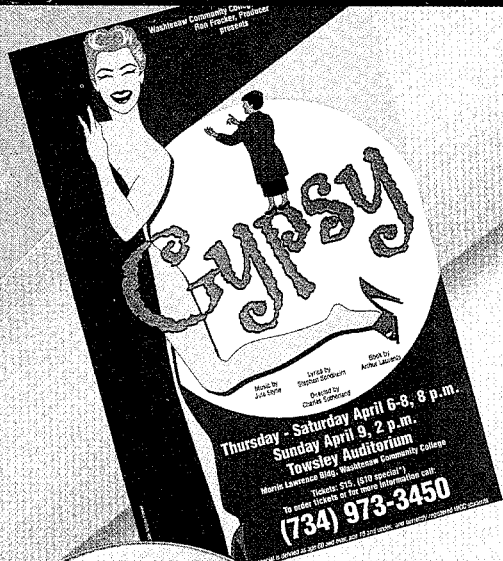
Studies show that a healthy student life promotes a better learning environment because students learn so much through their interactions with each other. Student life looks pretty good on a resume, too.

The fact is, four-year colleges look at more than GPA when they consider your application. The same is true for employers. That is why, in recent years, WCC has been putting more money, staff, space, and energy into student activities. The results include:

- A list of student clubs that is growing and changing all of the time
- An award-winning, four-color student newspaper, the Student Voice
- A club sports program involving hundreds of students in 8 sports
- An ongoing schedule of campus arts and events activities, ranging from theatrical and musical performances to guest lecturers, seminars, poetry readings, and movie showings
- Musical theater productions featuring both campus and community actors
- Concerts and musical seminars and symposia that bring together college and community performers

A world of ideas

One of the most exciting innovations in student life at Washtenaw Community College is the college's funding of discounted tickets for students who wish to explore the rich cultural resources to be found in the greater Ann Arbor and southeast Michigan areas. Concerts, plays, and museum trips are just three examples of the kinds of events that will open up your mind to new experiences, ideas, and cultures, and do it at a price that you and your family can afford.

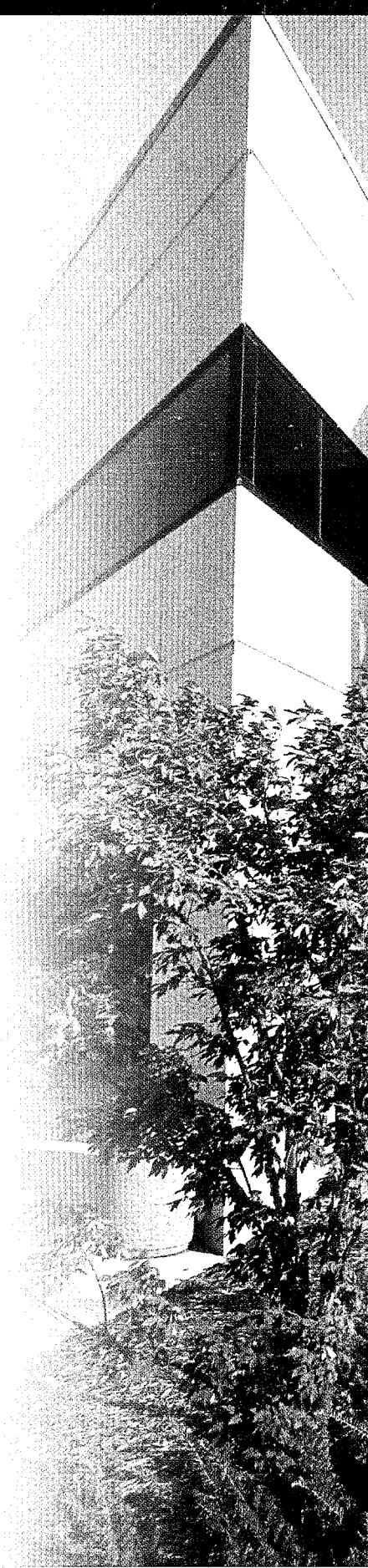


Just like you, our campus has a lot to offer

First-time visitors often tell us, "I had no idea all of this was here." It's understandable. There is a lot to see at Washtenaw Community College, and it is changing all of the time.

Explore our campus and you might be surprised to find:

- A pedestrian-friendly campus that is bordered by woods and wetlands (with nature trails) and offers free parking.
- Beautiful landscaping, some of it planted and maintained by our staff and some of it provided by alumni and friends through donations.
- The Student Connection, a new space on the second floor of the Student Center Building that serves as a "one-stop shopping" registration and records resource for new and current students.
- Art on display throughout campus. This includes travelling exhibitions in two art galleries; displays of student work at various locations; and the college's own art collection, which can be found in public spaces throughout campus. This collection, funded by private donations through the Washtenaw Community College Foundation, features works by artists who have some connection to Washtenaw County.
- Learning labs involving computers (PC and Mac), the sciences (physics, chemistry, biology), and math, reading, and writing, to name just a few. Some courses include lab work in their requirements. For others, the labs are there when you need them. In either case, this is where you put classroom theory into practice. It's also where you can get one-on-one assistance from instructors, tutors, and lab techs.
- Big learning environments with impressive technologies, including a topnotch automotive service, body shop, and paint facility; a factory-floor machine shop complete with computer-driven robots; simulated hospital and pharmacy settings; a photography studio/darkroom setup you have to see to believe; and what is arguably America's best welding lab.
- The Business Education Building, Washtenaw Community College's newest facility and home to computer labs and a classroom equipped for videoconferencing.
- The Morris Lawrence Building, home to Towsley Auditorium, performing arts classes, and meeting/seminar spaces that each year draw more than 100,000 people to special events, public meetings, and training programs.
- A comfortable dining room where Culinary Arts and Hospitality Management students and faculty serve delicious lunches during the academic year.
- A first-floor area in the Student Center Building that is home to the aforementioned restaurant as well as a deli, grill, coffee/pastry shop, convenience store, bookstore, copy center, student activities space, and places to study or socialize.



The Journey Begins

Even the longest journeys of discovery begin with a single step.

So, if you are ready to bring your future into sharper focus, take the first step today:

Call 734-973-3543

Email admissions@wccnet.org

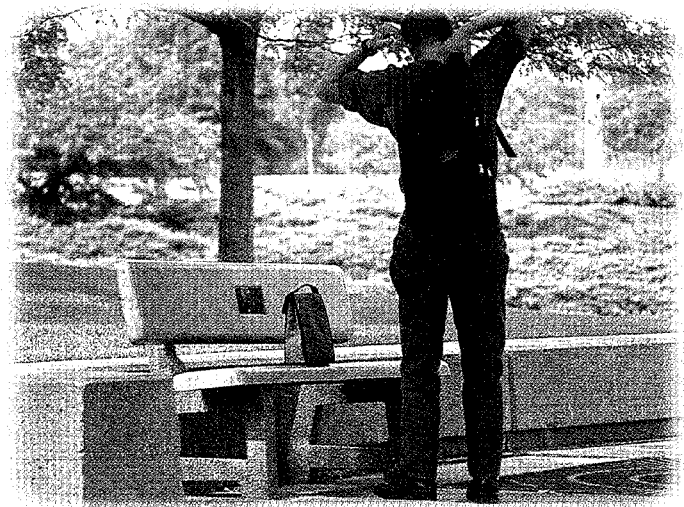
Or visit the Student Connection, 2nd Floor, Student Center Building

Any one of these simple steps will put you in touch with a helpful staff member who can:

- Answer some of your basic questions
- Give you an application for admission
- Schedule your appointment with a WCC counselor
- Provide you with detailed information about programs of study that interest you
- Explore your career options

Once you have completed an application for admission, the resources of the college's career planning office become available to you. Helpful counselors, a library of books and magazines, Internet access, written career interest inventories that are scored by experts, and self-paced career-interest computer programs all await you in this one office.

These small steps will help you begin to answer two of life's biggest questions: Where are you going and how will you get there?



*Let the
journey begin!*



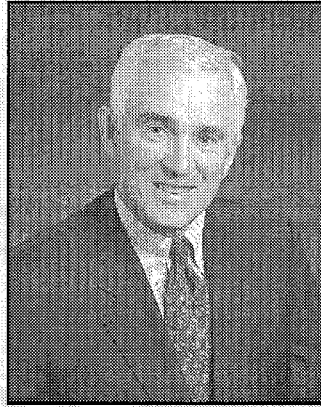
Volume 30 • Number 3

Programs and Services

2000–2001



Greetings From President Larry L. Whitworth



On behalf of Washtenaw Community faculty and staff, welcome to the College. Now in its 32nd year, the College offers its students an educational experience of the highest quality. If you are a current student, congratulations on your decision to invest in your future by accessing the appropriate education to advance your career opportunities. If you are not currently enrolled let me encourage you to consider WCC and its excellent associate degree and certificate programs.

Washtenaw Community College offers each student an educational experience designed to meet his/her future plans. Its comprehensive mission includes broad-based occupational programs, non-credit courses and classes that prepare students for academic transfer. Nearly 100 programs of study are available at WCC. I encourage you to take the time to review this catalog; in these listings, you will discover the courses and programs that will give you the means for expanding your future opportunities.

In addition to providing academic preparation, the College offers its students an array of services such as financial aid, personal and professional counseling, academic skills improvement and tutorial services. Whatever your specific needs are, I encourage you to seek out and use the comprehensive services available to all WCC students.

All our current thinking suggests that the future is wide open for "knowledge" workers. Continuous education is the key to becoming and remaining a "knowledge" worker. But it is not only your economic viability that is enhanced by continuing your education. The quality of other important aspects of your life also will be enriched by your experience as a WCC student. Classes in the arts and humanities can expand your understanding of the beauty of our world; exposure to the social sciences can help build the intellectual foundations required to develop an appreciation of the richness of human diversity; and courses in the natural sciences will enhance your analytic and problem-solving skills.

Your future and the future of those depending on you will be greatly affected by your decision to continue your education. Let me encourage you to decide today to become a dedicated life-long learner.

Sincerely,

A handwritten signature in cursive script that reads "Larry L. Whitworth". The signature is written in dark ink on a light background.

Larry Whitworth
President

■ Statement of Mission and Values

Mission of the College

Our college strives to make a positive difference in people's lives through accessible and excellent educational programs and services.

- We provide a caring, open-door teaching and learning environment.
- We provide excellent teaching, counseling, and support services.
- We reach out to people who have limited income or other barriers to success.
- We enable people to progress in their academic and career pursuits.
- We work in partnership with the communities we serve.

We fulfill our mission by offering the following programs and services:

Occupational and Career Education: We offer certificate and associate degree programs, seminars, workshops, and courses which enable people to pursue employment or advance in a career. We develop and deliver job skills and occupational education programs in partnership with business, industry, government and labor groups.

General and Transfer Education: We offer individual courses and associate degree programs in academic disciplines which transfer to four-year colleges and universities, complement career programs, and enhance personal growth.

Continuing Education and Community Services: We offer credit and non-credit courses and programs at regional centers, at local business and community sites, and via television and the Internet. We develop and offer programs, which respond to the educational needs of specific groups in the community.

Developmental Education: We offer basic courses, which strengthen reading, writing, mathematical, computer and study skills. We also offer instruction and services to people who wish to learn English as a second language.

Student Services: We offer orientation, academic skills assessment, assistance with program and course selection, financial aid, university transfer assistance, personal and career counseling, job placement, tutoring, child care, special needs services, computer and self-paced instructional laboratories, and library services.

Community Leadership: We cooperate with other community organizations in seeking solutions to local economic and social problems. As a primary educational resource in the community, we work to improve the quality of life in the communities we serve.

Values of the College

Teaching and Learning: We embrace teaching and learning as our central purpose.

Support: We make every effort to help learners achieve success.

Diversity: We respect differences in people and in ideas.

Partnerships: We plan and work together with respect, trust, and honesty within the college and with the communities we serve.

Innovation: We seek the best possible ways to conduct our work.

WCC 2000 Vision Statement

WCC is a learner-centered, open-door college dedicated to student, community, and staff success. We offer a wide spectrum of community college services with an emphasis on premier technical and career education programs. The College staff continuously learns to improve learning.

Student Success: Our students come first. We are committed to their learning, success, and satisfaction. We strive to serve every student in an effective, caring, and supportive way. In order to enhance student learning outcomes, we engage in continuous improvement of teaching, programs, processes, and structures. We increase our accessibility by reaching learners where, when, and how they need instruction through the use of learning technologies, workplace learning experiences, and flexible scheduling of classes.

Community Success: We are committed to community learning, success, and satisfaction. WCC's primary contribution to community success is the development of a highly skilled workforce. A strong partnership with area employers emphasizes customized employee training and rapid adaptation of WCC programs to changing job training needs. Through strategic alliances with business, government, labor, and other educational institutions, WCC increases its emphasis on applied technology education, joint technical education programs with the public schools, and basic job training services to under-served and at-risk groups.

Staff Success: We are committed to staff learning, success, and satisfaction. As a staff, we emphasize teamwork within college units and between the units. We support our colleagues and help them to be successful. We learn to improve learning; that is, we continuously increase our capacity to meet the educational requirements of the students, employers, and communities we serve. Through staff learning, we continuously improve services at each stage of the flow of students through WCC. All staff members align their work to contribute to improved teaching and increased student and community learning.

■ Accreditations/Approvals

Institutional Accreditation:

Accredited Member of the North Central Association of Colleges and Secondary Schools
159 N. Dearborn
Chicago, Illinois 60661
(312) 263-0456; (800) 621-7440
www.ncacihe.org
info@ncacihe.org

Program Accreditations:

Business Programs Accredited by The Association of Collegiate Business Schools and Programs

Correctional Science Program Certified by Michigan Correctional Officers' Training Council

Culinary Arts Program Accredited by The American Culinary Federation

Dental Assisting Program Approved by American Dental Association

The Michigan Commission on Law Enforcement Standards Approved by Michigan Law Enforcement Officers Training Council

Nursing Associate's Degree Accredited by National League for Nursing
Program Approved by Michigan Board of Nursing

Radiography Program Accredited by Joint Review Committee on Education in Radiologic Technology

Respiratory Therapy Program Accredited by Joint Review Committee for Respiratory Therapy Education

Surgical Technology Program Accredited by Commission on Accreditation of Allied Health Education Programs

Approvals:
Approved by the State Department of Education, State of Michigan

An Affirmative Action/Equal Opportunity Institution
Inquiries concerning college or program accreditation should be directed to the Office of the Executive Vice President for Instruction located in the Student Center Building, Room 235.

■ Campus Telephone/Office Directory

all area codes are 734 unless otherwise noted

Academic Skills Center	LA 109	973-3301
Admissions	SC 221	973-3542
Adult Transitions	LA 140	677-5006
Alumni Association	SC 207	973-3492
Apprenticeship and Trade Related Programs	OE 170	973-3533
Bookstore	SC 142	973-3593
Campus Safety/Security	PO	973-3411/3502
Cashier	SC 2nd floor	973-3568
Children's Center	FE	973-3538
College Placement	LA 176	677-5155/973-3421
Community and Business Relations	SC 207	973-3306
Continuing Education Services	ML 104	677-5027
Counseling, Career Planning & Placement	SC 201	677-5124/5102
Curriculum/Articulation Services	SC 234	973-3706
Customized Training	ML 104	677-5008
Dean of Business	BE 100	973-3724
Dean of Continuing Ed. and Com. Serv.	ML 104	973-3630
Dean of Enrollment Services	SC 221	973-3540
Dean of Evening, Extension and Learning Support Services	SC 207	677-5003
Dean of Health/Public Services	OE 102	973-3474
Dean of Humanities/Social Science	LA 136	973-3356
Dean of Learning Resources	SC 325	973-3379
Dean of Math/Natural Sciences	LA 148	973-3722
Dean of Technology	TI 214	973-3441
Dental Clinic	OE 110	973-3337
Evening /Weekend/Extension Services	LA 200J	677-5030
Executive Vice President for Instruction	SC 235	973-3488
Financial Aid	SC 223	973-3523
Learning Resource Center	SC 3rd floor	973-3429
Lost and Found	PO	973-3502
Math Center	LA 255	973-3608
Northern Center 7878 Brighton Road, Brighton	(810) 229-1419 Ext.241	
Public Service Training Program	ML 106	677-5024
Registration	SC 221	973-3548
Student Connection	SC 2nd floor	973-3543
Student Activities	SC 112	973-3500
Student Resources and Women's Center	SC 227	973-5105
Student Records	SC 221	973-3548
Switchboard (General Information)	SC 225 A	0/973-3300
Telecourse Information	SC 301	973-3383
Testing Center	LA 101	973-3634
Veteran's Benefits	SC 221	973-3545
Western Center, 7920 Jackson Rd. Ann Arbor	(734) 424-0182/0183	
Writing Center	LA 355	973-3647

Building Abbreviations

BE — Business Education Building	OE — Occupational Education Building
FE — Family Education Building	PO — Plant Operations
LA — Liberal Arts/Sciences Building	SC — Student Center Building
ML — Morris Lawrence Building	TI — Technical and Industrial Building





General Information



General Information

History of Washtenaw Community College

Washtenaw Community College (WCC) was created on January 15, 1965, when the citizens of Washtenaw County voted financial support for its establishment. A board of trustees was elected and a nationwide search for administrators and faculty was initiated while a study to look for a permanent campus location was begun. During construction of the main campus, which began in September 1966, the college held classes in temporary facilities in the Willow Run area of Ypsilanti Township. On September 12, 1966, 1,200 students were enrolled in 30 different programs. The first classes were held in Willow Run in an old elementary school, a fire station, and a bowling alley. Students in automotive programs took courses in a former dairy distribution plant, while those in health programs were taught in the basement of a church in downtown Ann Arbor. In 1969, the permanent 235-acre campus opened with completion of the Technical and Industrial Building and the Liberal Arts and Sciences Building. Today, more than 17,000 students are enrolled annually in credit courses and an additional 6,600 are enrolled in non-credit offerings each year.

Profile of Washtenaw Community College

WCC schedules courses on a semester calendar, and enrolled 10,720 credit students for the Fall 1999 semester. The college employs approximately 170 full-time faculty and more than 450 part-time faculty throughout the academic year. College credit programs of study cover about 100 areas in business, health and public services, humanities and social sciences, math and natural sciences, and technology. More than 50 percent of the students enrolled at WCC pursue a degree, while others take courses for personal interest or to obtain or upgrade job skills. Each year, college certificates and associate degrees are awarded to more than 700 students.

College Governance

Washtenaw Community College is governed by a seven-member Board of Trustees. Collectively, the Board of Trustees is responsible for hiring the College president, making policy decisions and assuring that the College is fiscally sound. Assisting the President in governing the institution are the Executive Vice President for Instruction; the Vice President for Finance and Administration; the Associate Vice President for Facilities, Development and Operations; and the Associate Vice President for Student Services.

Decisions are developed with input from a variety of constituents. If required, the President selects an ad hoc committee to explore solutions to specific questions. The College functions within a mission that seeks to promote student, community and staff success.

Current Facilities

Today, the WCC main campus includes four buildings exclusively dedicated to instructional activities: the Liberal Arts and Sciences Building, the Occupational Education Building, the Technical and Industrial Building, and the Business Education Building. The Student Center Building houses the Learning Resource Center, extensive student support services, a student cafeteria and dining room, college bookstore, and administrative offices. The college also has a child care facility for children of WCC students and staff, which is called the Family Education Building.

The Morris Lawrence Building includes classrooms; an auditorium; exhibition space; conference and special event space, instructional space for art, drama, music, speech, the police academy and public service training, business industry and contract training.

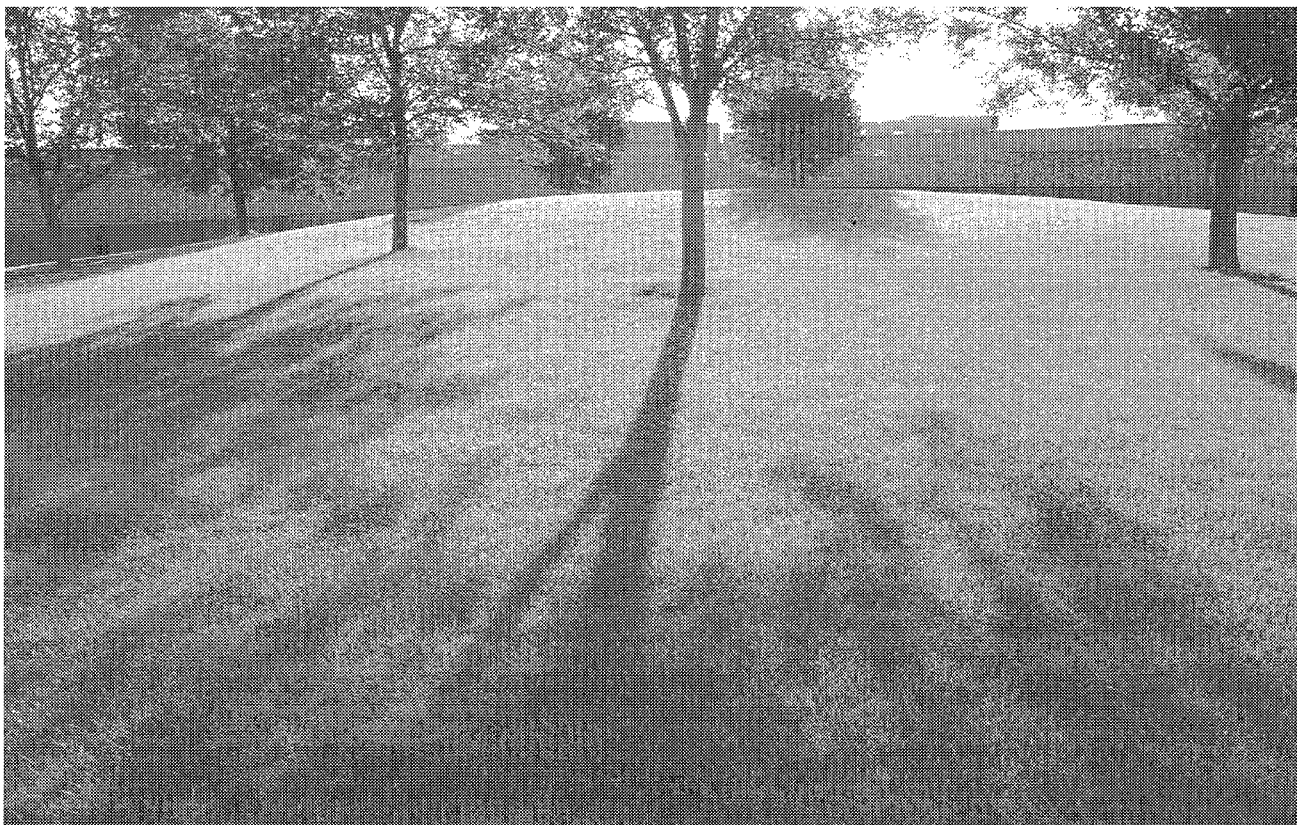
Part-time Faculty Commons

The Part-time Faculty Commons is a one-stop resource center designed to promote student-to-instructor interaction and provide instructional support for part-time faculty. It is conveniently located on the first floor of the Liberal Arts and Sciences Building (LA 178-180). Within the Commons, part-time instructors consult with students, prepare for class at computerized workstations, and access copying and word processing services. It also serves as a communications hub with message services and campus mailboxes. The Commons provides an inviting atmosphere and gathering place for part-time faculty to consult with colleagues on instructional matters, as well as access to resources on effective teaching and learning practices. It offers extended day, evening, and weekend hours. For more information, contact: Teaching and Learning Support Services or visit our website at <http://www.wcnet.org/dept/eels/fac/ptfac.htm>.

Types of Study

There are many educational goals that may be obtained by attending WCC. These goals are realized by taking credit as well as non-credit courses and programs. Some students choose to attend classes for personal interest or to obtain or upgrade job skills. Other students choose to complete college certificates or associate's degrees for transfer to four-year institutions.

WCC also offers a variety of special courses and programs to meet the diverse needs of area citizens, including employee training and skills upgrading classes tailored for specific businesses and industries. The Adult Transitions Program, offers training for the unemployed - from counseling and skill assessment through actual training and job placement. The Technical Training Office offers coursework to fulfill apprenticeship requirements. In addition, the Division of Evening, Extension and Learning Support Services offers off-campus credit courses, pre-produced televised classes, and on-line instruction.



■ Programs of Study

University Parallel: Transfer Programs

Associate in Arts (AA) Degree Programs

Computer Information Systems Transfer (AACIST)

Criminal Justice (AACJ)

General Studies in Liberal Arts (AAGSLA)

Humanities and Social Science (AAHSAA)

Behavioral Science Concentration (BEHS)

Communication Concentration (COMM)

Contemporary Jazz Concentration (CJAZ)

Dance Concentration (DANC)

Drama/Theatre Concentration (DRAM)

Fine Arts Concentration (FINA)

Foreign Language Concentration (FRLG)

Humanities Concentration (HUMA)

International Studies Concentration (INTS)

Musical Theatre Concentration (MUST)

Performing Arts Concentration (PERA)

Social Science Concentration (SOCS)

Writing and Literature Concentration (WRLT)

Human Services (AAHUST)

Liberal Arts Honors Transfer -UM (AALAHT)

Associate in Science (AS) Degree Programs

Business (ASBAS)

Electrical & Computer Engineering Tech (ASECET)

General Studies in Math and Natural Sciences (ASGSMS)

Math and Science (ASMSAS)

Biology/Pre-medicine Concentration (BMED)

Chemistry/Pre-medicine Concentration (CMED)

Computer Science Concentration (COMS)

Mathematics Concentration (MATH)

Physics Concentration (PHYS)

Pre-Engineering Science-Transfer (ASPET)

Career Degree and Certificate Programs

Automotive Programs

Auto Body Repair & Refinishing Certificate (CTABRC)

Collision Repair Advanced Certificate (CVCOLR)

Collision Repair AAS Degree (APCOLM)

Classic Auto Restoration Certificate (CTCAR)

Automotive Technology Certificate (CTATC)

Automotive Mechanics Advanced Certificate (CVAMA)

Automotive Mechanics AAS Degree (APAUTM)

Building Related Programs

Facility Management Administration Certificate (CTFMA)

Heating Ventilation and Air Conditioning Certificate (CTHVAC)

Residential Construction Technology Certificate (CTRCT)

Construction Management AAS Degree (APCONM)

Business Programs

Accounting Certificate (CTCAC)

Accounting AAS Degree (APACCT)

Business Sales and Marketing Certificate (CTBSLM)

E-Commerce Certificate (CTECOM)

Human Resource Management Certificate (CTHRSC)

Management Supervision Advanced Certificate (CVMGTA)

Management Supervision AAS Degree (APMGTM)

Small Business and Entrepreneurship Certificate (CTSBEA)

Business Office Programs

Administrative Assistant Technology Certificate (CTAATC)

Medical Administrative Assistant Technology Certificate (CFMATC)

Administrative Assistant Technology AAS Degree (APAATD)

Computer Software Applications Certificate (CTCSSC)

Medical Transcription Certificate (CTMTR)

Professional Office Systems Certificate (CTPOSC)

Child Care Programs

Child Development Certificate (CTCDA)

Child Care AAS Degree (APCC)

Computer Programs

Computer-Internet

Internet Professional Certificate (CFINPC)

Internet Professional AAS Degree (APINPD)

Computer-Programming

Object Oriented Programming Certificate (CTOOPC)

Web Programming Tools Certificate (CTWPTC)

Windows Visual Basic Developer Advanced Certificate (CVWNVB)

Oracle Developer Post Associate Certificate (CPORAC)

Web Database Developer Post Associate Certificate (GPWDD)

Windows C++/Java Developer Post Associate Certificate (CPWNCJ)

Business Computer Programming AAS Degree (APBCP)

Computer-Systems

Unix/Linux Systems Certificate (CTUNLN)

Computer Systems Technology Certificate (CTCSTC)

Computer Networking Technology I Advanced Certificate (CVCNT)

Computer Networking Technology II Advanced Certificate (CVCNTA)

Computer Networking AAS Degree (APCNTM)

Microcomputer System Support AAS Degree (APMSS)

Criminal Justice Programs

Correctional Science AAS Degree (APCOR)
 Criminal Justice-Law Enforcement AAS Degree (APCJLE)

Culinary and Hospitality Programs

Baking and Pastry Certificate (CTBAKP)
 Culinary Arts Certificate (CFCULC)
 Culinary and Hospitality Management AAS Degree (APCULD)

Drafting Programs

Architectural Technology Certificate (CTARCT)
 Architectural Drafting AAS Degree (APAD)
 Computer Aided Drafting Certificate (CTCADC)
 Computer Aided Drafting Advanced Certificate (CVCADA)
 Computer Aided Drafting and Design AAS Degree (APCADD)
 Mechanical Design Post Associate Certificate (CPMDES)

Electronics

Electronics Technology Certificate (CTELEC)

Engineering Technology

Mechanical/Manufacturing Engineering Technology AAS Degree (APMETT)

Fluid Power Programs

Fluid Power Technology Certificate (CTFLPC)
 Fluid Power Advanced Certificate (CVFLPA)

General Studies

General Studies in Applied Science AAS Degree (APGSAS)

Graphic Design Programs

Graphic Design Certificate (CTGDTC)
 Graphic Design Technology-Design Option AAS Degree (APGDTD)
 Graphic Design Technology-Illustration Option AAS Degree (APGDTI)

Health Programs

Dental Assisting Certificate (CFDAC)
 Nursing Assistant Skills Certificate of Completion (CCNASt)
 Registered Nursing AAS Degree (APNURS)
 Nursing Transfer AAS Degree (APNURT)
 Pharmacy Technology Certificate (CTPHT)
 Radiography AAS Degree (APRAD)
 Respiratory Therapy AAS Degree (APRTH)
 Sterile Processing and Distribution Certificate of Completion (CCSPDC)
 Surgical Technology Certificate (CFSURC)

Machine Tool/Numerical Control Programs

Machine Operator Certificate (CTMOC)
 Machine Tool Technology Advanced Certificate (CVMTTA)
 Machine Tool Technology AAS Degree (APMTTM)

Numerical Control Programming Advanced Certificate (CVNCP)
 Numerical Control Programming AAS Degree (APNCPM)

Photography

Basic Photographic Imaging Certificate (CTBPHO)
 Photographic Technology AAS Degree (APPHOT)

Robotics

Robotics Certificate (CTROBC)
 Robotic Technology AAS Degree (APROB)

Scientific & Technical Communication

Scientific and Technical Communication AAS Degree (APSTC)

Trade Related & Apprenticeship

Construction Supervision AAS Degree (APCNSP)
 Industrial Training AAS Degree (APITRN)
 Journeyman Industrial Certificate (CFJPIC)
 Journeyman Industrial AAS Degree (APJPIM)

Welding

Welding Certificate (CTWLDC)
 Welding Mechanics Advanced Certificate (CVWLDA)
 Welding AAS Degree (APWLDM)

Public Service Training and Police Academy

The WCC Public Service Training Program provides in-service training courses for employees of public service agencies such as law enforcement, corrections, security, and fire protection. Courses are developed to meet the specific needs of the agencies. They may range from one-day seminars to full-semester programs. Approval by the appropriate professional certification group is sought for all courses offered.

Students who complete Police Academy training receive Law Enforcement Certification. Students who complete Criminal Justice program requirements in addition to the Academy are eligible for an Associate in Applied Science degree in Criminal Justice - Law Enforcement Certification.

Technical Education/Construction Institute

WCC representatives are available to assist in the development of apprenticeship and other employee training programs. Trade-related instruction can be provided for most apprenticeable trades with a college representative working directly with the employer and employee to meet the requirements. Assistance is also provided, when requested, to coordinate activities with registering agencies such as the Department of Labor-Bureau of Apprenticeship and Training (BAT). The Trade-Related Instruction program is approved by both the Bureau of Apprenticeship and Training and the Michigan State Department of Education.





Admissions



Admissions

WCC is open to all individuals who can benefit from its educational programs and service. These focus on the individual's growth and development toward academic, career, and personal goals. The college seeks to create an admission process which assists applicants in learning about WCC programs as they relate to the individual's goals, thereby facilitating the best match of student and program.

General Admission Policy

WCC serves a wide and diverse population through its "open-door" admission policy. Any person who has graduated from high school, passed the GED examination, or is 18 years of age or older, and can benefit from the college's programs may be admitted. All new students are required to complete an assessment and, depending on the results, may be required to take preparatory courses while they are taking courses in the regular curriculum. Under certain conditions, students may qualify for an exemption from the assessment (these exemptions are described on page 18). This policy has been developed in accordance with Federal Ability-to-Benefit Regulations, which require that the college demonstrate that each student it admits has the ability to benefit from their chosen educational program. Students under 18 years of age who are not high school graduates, may be admitted with the written recommendation of their high school principal or counselor and the approval of a parent or guardian unless they possess emancipated legal status, giving them full adult legal rights and responsibilities.

Admission to the college does not guarantee admission to programs, which have specific program entry requirements.

Students should not regard enrollment out of reach because of financial need. It is the policy of the college to assist with meeting college expenses to the fullest possible extent consistent with federal, state, and college financial assistance regulations.

Programs with Admission Criteria

Some Washtenaw Community College programs have prerequisites that must be completed prior to program enrollment. Prerequisites are determined by faculty and outside accrediting agencies based on program curriculum. In most instances, these programs require a second admission process. WCC's Office of Admissions is responsible for informing, monitoring, and processing students who are interested in enrolling in these programs.

Admission to High-Demand Programs

When a program is identified by the administration as a high-demand program (more applicants than openings for an entering class), a staff committee will be formed by the executive vice president for instruction to select members of the class based on published criteria, including completion of prerequisites and readiness for program success. All potential students, regardless of residency, may apply to the college. Admission to WCC does not guarantee admission to high-demand programs. These may include programs leading to certification or licensure, as well as other WCC certificate and degree programs. In cases where enrollment in a particular program is in high demand, the following additional priorities will apply to those meeting individual program entry requirements:

- Priority 1:** Legal residents of the Washtenaw Community College district.
- Priority 2:** Legal residents of counties adjacent to the college district.
- Priority 3:** Legal residents of all other counties in the State of Michigan.
- Priority 4:** Persons whose legal residence is outside the State of Michigan, but within the United States.
- Priority 5:** Persons whose official residence is a foreign country.

Admission Procedures

New Students

All new students taking credit classes are required to complete an admission application. New students, regardless of experience or educational background, are urged to meet with a counselor or advisor to learn about opportunities the college offers. Individual assessment in English, Math and Reading is required for appropriate program planning and course selection.

Re-admission of Former Students

Former students who have not registered for classes at the college for one year must reactivate their files at the Student Connection by completing an updated application form. Students reactivating their files are encouraged to see a counselor or advisor prior to registering for classes, or submit it online at www.wccnet.org. Individual assessment also may be recommended.

Dual Enrollment of High School Students

High school students may enroll in classes for college credit that may be counted toward their high school diploma. Application for admission must be supported by the signature of the high school principal or counselor as well as the signature of a parent or legal guardian. Students under 18 years of age who have emancipated legal status do not need the signature of a parent.

Guest Students From Other Colleges

Students enrolled at other colleges and universities may attend WCC as guest students. This status is secured through completion of a Michigan Uniform Undergraduate Guest Application. This application can be obtained from the home institution and should be sent to the WCC Office of Admissions or dropped off in person at the Student Connection. A new guest application must be submitted each semester.

Transfer Students

Students transferring from other colleges follow the same procedure as new students. Those wishing to transfer credit from an accredited college or university may do so by requesting that an official transcript be sent to the Office of Student Records for evaluation. The coursework may be evaluated, at the student's request, after the student has successfully completed at least one credit at WCC. At the time coursework is evaluated, the student is notified of the transfer credit that will be accepted toward program requirements at WCC.

International Students (F-1 visa only)

International F-1 visa students may be admitted to Washtenaw Community College. Admission will be based on meeting the following requirements:

1. A completed WCC application for admission.
2. An original bank statement reflecting the student's ability to meet all tuition, fees, and living expenses while attending WCC. To find out the required amount in U.S. dollars, contact the International Student Admissions office either by phone (734-973-3315) or by e-mail (f1@wccnet.org).
3. A notarized letter from the financial supporter must also be sent with the original bank statement, stating the money in the bank will be used for the student's tuition, books, living expenses, medical expenses, and all other expenses incurred by the student while studying at Washtenaw Community College. This letter must state the name of the person providing the support for the student, the relationship of the sponsor to the student, and the student's full legal name as it appears on the student's passport.
4. Original certified transcripts, in English, of all previous secondary and post-secondary schools attended by the student.
5. Proof of English language proficiency:
 - A. For direct admission into college level courses: a minimum score of 500 on the paper Test of English as a Foreign Language (TOEFL), or 173 on the computer Test of English as a Foreign Language (TOEFL), or 75% or better on the Michigan English Language Assessment Battery (MELAB). Original test scores must be sent to WCC by the testing agency. (NOTE: WCC's TOEFL Identification Number is 1935.)
 - B. For admission to the English as a Second Language (ESL) classes (Fall and winter semesters only!): a minimum score of 450 on the paper Test of English as a Foreign Language (TOEFL), or 133 on the computer Test of English as a Foreign Language (TOEFL), or 63% or better on the Michigan English Language Assessment Battery (MELAB).
6. After arrival and before registering for classes, the student must purchase medical insurance with a repatriation clause. Failure to do so, or cancellation of the policy, will result in the student not being able to register for future semesters at WCC.
7. Upon arrival, the student must schedule an interview with International Student Admissions.

8. Upon arrival, the student must verify visa status, provide a copy of the I-94 card from the student's passport, and provide a copy of the applicant information from the inside of the passport.
9. A WCC orientation and assessment will be scheduled after arrival and prior to class registration.

For answers to specific questions about enrollment, contact International Student Admissions either by phone at (734) 973-3315 or by e-mail (f1@wccnet.org).

Students on an F-1 visa must enroll full-time (at least 12 credit hours per semester) at WCC.

In order to be eligible for re-enrollment in the following semester, the student must earn a passing grade of A, B, C, D, P or S in 12 credit hours.

International Students (all visa classifications except F-1)

International students range from permanent resident aliens to a visitor on any visa from an A visa to an R visa, including refugees and people with asylum. Certain restrictions may apply depending on which status you may hold in the United States.

Permanent resident aliens (green-card holders) who wish to attend WCC are unrestricted in the number of credit hours for which they may register. Admission procedures for permanent resident aliens are as follows:

Submit a completed application with a copy of your green card (front and back), and also include a copy of your driver's license or State of Michigan Identification.

International students who possess refugee status or political asylum in the United States who wish to attend WCC are unrestricted in the number of credit hours for which they may register. Admission procedures for refugees and political asylum are as follows:

Submit a completed application for admission with a copy of your passport (if applicable), appropriate documentation showing your status, and a driver's license or state identification to show where you currently reside.

Admission requirements for visa holders are as follows:

Submit a completed application for admission with a copy of your passport, I-94 card, and a copy of the visa that you currently hold.

There are two orientation programs offered for new international students:

1. International students who have taken the TOEFL and scored a minimum of 500, or have taken the MELAB and scored 75 percent or more, must be scheduled for an orientation which includes an ASSET/COMPASS assessment that must be completed before registering for classes.
2. International students other than F-1 visa holders who have not taken the TOEFL or MELAB test, or who have taken the test and scored below the minimum, must schedule an appointment for the International Student Orientation that consists of the English Placement Test before registering for classes.

Emeritus Students

Individuals who are 65 years of age or older prior to the semester of enrollment and who reside within Washtenaw County may participate in the college's educational and cultural programs without tuition costs. However, these students must follow the general admission criteria of the college and pay the registration fee and mandatory course fees, if applicable, each semester.

Health Occupation Students - Special Admission Requirements

Applicants to the health occupations (e.g. Nursing, Dental Assisting, Pharmacy Technology, Radiography, Respiratory Therapy, and Surgical Technology) must meet specific admission requirements. Generally these are:

1. Compliance with the published application deadline for each program.
2. Graduation from high school or completion of the GED.
3. Completion of specific high school and/or college-level courses required for acceptance. Courses must be completed with a grade of "C" or better.
4. Qualification on certain diagnostic reading, comprehensive and/or computational tests as required for each program.
5. Completion of the program-specific application materials.
6. Submission of a high school transcript and college transcripts with the WCC application.
7. Any other program-specific admission requirements.

Residency

Aspects of Residency

1. The residency of minors (under 18) shall follow that of their parents or legal guardian. Exception: Students under 18 may qualify as in-district residents regardless of their parents' residence if they can provide sufficient evidence that they are independently supporting themselves and reside in the Washtenaw Community College district.

2. The residency of any person, other than a parent or legal guardian, who may furnish funds for payment of college fees, shall in no way affect the residency of the student.
3. Students who are not residents of the district and are currently employed full-time by an in-district company may pay in-district tuition rates at the time of registration by providing appropriate documentation of their employment from their company at the beginning of each semester before the eighth day of the semester. Such documentation should substantiate that the student is currently employed full-time and has been employed full-time for at least 30 days prior to the semester of enrollment. Spouse and dependents do not qualify for in-district rates. If such students attend the college without documentation from their company or industry, tuition rates are determined by their legal residency status.
4. Those students who are transferred to the county by the military must present appropriate documentation to qualify for immediate in-district residency.
5. Veterans whose induction address was within the college district who return to the college within six months after discharge will be classified as in-district students.
6. The student may petition the Office of Student Records to officially change residency status by supplying proof of residency within the college district for 30 days for out-district/country students (or six months for out-state students). Any residency change after the eighth day of the semester will be effective the next semester in attendance.

Residency Classifications

In-District Students:

- Independent applicants who have resided in the WCC district for 30 days immediately prior to the semester of enrollment if previous residency was within Michigan.
- Applicants who live with a spouse who has resided in the WCC district for 30 days immediately prior to the semester of enrollment if previous residency was within Michigan.
- Applicants who live with and are a dependent of the parent or legal guardian who has resided in the WCC district for a minimum of 30 days, immediately prior to the semester of enrollment if previous residency was within Michigan.



- Applicants who have resided in the WCC district for six months immediately prior to the semester of enrollment if previous residency was outside of Michigan.

Out-District Students are applicants who do not meet the requirements of an in-district student, but who have been legal residents of the State of Michigan for at least six months.

Out-State Students are applicants who do not meet the requirements for an in-district or an out-district student and are U.S. citizens or have permanent resident status through the Immigration and Naturalization Service (INS).

Out-of-Country Students are applicants who are on a visa or whose permanent address is out of the country. Students on visas pay out-state/country tuition except those who may qualify for in-district tuition through their employers. In this case, the student must have full-time employment in the WCC district (see #3 under Aspects of Residency above).

Required Student Orientation and Program Planning

Orientation/assessment sessions, scheduled prior to each semester, are required for new students. During these sessions, students complete an entry assessment, which measures their writing, math, and reading skills. Counselors and advisors then assist students in selecting and scheduling courses. Orientation sessions are scheduled at a variety of times to accommodate the busy schedules of prospective students.

Exemptions from Orientation are granted under the following circumstances only:

- Student has verified completion of a degree (an associate's degree or higher) from an English-speaking college or university (60 semester credits that are fully applicable toward a bachelor's degree will qualify).
- Student has documented the completion of 20 or more semester credit hours (30 or more quarter hours) of college academic course work with a cumulative GPA of at least 2.0 (C) from a regionally accredited college/university.
- Student has completed the entry assessment at a prior orientation and can produce a copy of the results.
- Produce ACT results showing a minimum score of 19 in the Reading, Writing and Math segments.
- Student is enrolling only in courses for personal interest or is auditing courses.
- Student has completed a guest student application approved by college personnel at their home institution, and is in good standing with and eligible to return to the home institution.
- Student is enrolling only in a distance learning course and has met the prerequisites for taking distance learning courses and any specific prerequisites for the given course.

Note: Some occupational programs have an additional screening process.

Note: Physically handicapped students who need readers or writers to help them take the ASSET/COMPASS assessment should contact Learning Support Services for assistance (734-973-3342).

Note: International students who have not already taken and passed the TOEFL or MELAB test may be required to attend a special International Student Orientation, which includes an English placement test, instead of or prior to attending the College Orientation. This option is not available for F-1 student visa holders.







Student Records



Student Records

Registration

Each semester the college publishes a class schedule, which includes detailed information on the courses available, registration procedures and dates, add/drop periods, and the refund schedule. Students are expected to pay all tuition and fees before attending class.

No person is allowed to attend a class unless he/she has registered and paid for that class.

Students are withheld from registering if they have failed to meet their financial responsibilities to the college or in certain situations as a result of disciplinary action. Any student registration restriction (“hold”) must be cleared with the office issuing it before registration may be completed. Students having difficulty meeting their financial obligations should contact the Office of Financial Aid.

All students are encouraged to see a counselor or faculty advisor before registering for classes. Students registering for 18 or more credits must have the signature of a counselor. Students on an academic (Grade Point Average hold and/or Ability to Benefit hold) or foreign student (ESL) hold must have their schedule approved by a counselor or advisor before registering for courses.

Adding and Dropping Courses

During the official add/drop period, a student may add or drop a class or change a section without an instructor’s approval. An added course is accepted on a space-available basis during the official add and drop period. After the official add/drop period, students must have an instructor’s signature for adding classes or changing sections. Students may not add a course after the add deadline specified in the semester class schedule. Students are encouraged to discuss changes, drops, and adds with their instructors or counselors. Students should retain copies of any transactions until final grades or refunds are received. Students are responsible for paying all appropriate tuition and fees for added courses.

Students are responsible for officially dropping courses they are no longer attending. If the drop occurs after the refund deadline for the course, the student is responsible for paying full tuition for the course. Courses dropped after the refund deadline will be listed on the student’s transcript with a grade of “W”. Students may drop from courses without instructor approval during the first forty percent of the course - approximately six weeks for a fifteen-week course. After this deadline, students must consult with their instructor, indicated by the instructor’s signature on the drop card, before submitting the card to the Student Connection located on the second floor of the Student Center Building.

Drop cards for a semester must be submitted to the Student Connection before the 100% drop deadline published in the schedule of courses for that semester. Students will receive a refund of 100 % of their tuition and tech fees. Other fees are non-refundable. After the 100% deadline, students may withdraw (a “W” will appear on their transcript and no refund is given) up to the date published without an instructor’s signature. After the deadline to withdraw with instructor’s signature, students must petition for instructor approval to withdraw from the course.

Changing Sections

Students changing from one section to another of the same course must complete the process at the Student Connection. Students are added on a space available basis, and instructor approval is required after the add/drop period.

Repeating a Course

Whenever a course is repeated on a credit basis, the best grade and credits earned are used in computing the grade-point average. All entries remain a part of the permanent academic record.

Auditing a Course

Students who wish to audit a course must register and pay for that course following the established registration procedures. Students do not receive credit for the course; however, the course is included on the transcript with an "AU." Students may change from credit to audit status or vice versa through the first quarter of a course (four weeks for a 15-week course).

Withdrawing from College

Students who withdraw from the college during the semester must initiate the withdrawal procedure at the Student Connection.

In case of official voluntary withdrawal from the college, "W" grades are assigned to all courses if the withdrawal occurs after the 100 percent refund deadline. Semester tuition and fees are subject to the refund policy shown in the Financial Information section of this catalog.

Students who leave the college without obtaining an official withdrawal may be reported as having failed all courses. The withdrawal procedure does not take place automatically for students who leave the campus due to personal or family illness but must be initiated by writing the Student Connection. Students who leave the college without withdrawing properly or who withdraw after the refund period forfeit any tuition or deposits paid to the college and are liable for any deferred tuition payments.

Transcripts/Final Grades

A permanent record of all courses, credits and grades earned by each student is kept in the Office of Student Records. Copies of transcripts are available to students upon their written request. Associate degrees and/or college certificates earned at WCC are posted on transcripts. At the end of each semester final grades are issued to all students enrolled for that semester. Final grade reports are mailed to a student's mailing address unless the student has a financial obligation to the college.

Veteran Certification

All veterans receiving educational benefits must see the Veteran Services Technician before registering. Any drops or changes made by veteran students are to be reported to the Veteran Services Technician in the Office of Student Records immediately. Failure to do so may result in the delay of educational benefits.

New Students

Veterans and other eligible dependents receiving educational benefits under Chapters 30, 32, 34, 35 and 106, Title 38 U.S.C. who have never used their V.A. educational benefits and would like to make application for benefits should report to the Veteran Services Technician in the Office of Student Records prior to registering for classes. Students should bring certified copies of their DD-214, marriage license, and birth certificates of dependent children, if applicable. Students who have prior educational training must provide official transcripts with their application for benefits.

Transfer Students

Students who have previously received V.A. educational benefits at another school must complete V.A. Form 1995 (Change of Place of Training) and submit it to the Veteran Services Technician in the Student Records Office. The DD-214 and transcripts from colleges or universities where the student has completed previous training must accompany the application.

Previously Enrolled Veterans

All previously enrolled veterans should report to the Veteran Services Technician prior to registering to ensure proper credit. Students must turn in a completed certification form after registering for classes every semester to ensure the continuance of their benefits.

Credit for Formal Service School Experience

Credit is granted for formal service school training as recommended by the American Council on Education, through its Commission on Accreditation of Service School Experiences. For complete information contact the Veteran Services Technician in the Office of Student Records.

Standards for Receiving Educational Benefits

In compliance with the Department of Veteran Benefits, Circular 22-80-38, the college has developed standards of progress. Each veteran student must conform to these standards to be eligible for V.A. Educational Benefit Certification. Each veteran student must read, sign, and return the original copy of these standards to the Veteran Services Technician at each enrollment.





Financial Information



Financial Information

Tuition*

Residents of the College District	....\$52.00 per credit hour
Non-Resident/In-State	.....\$77.00 per credit hour
Non-Resident/Out-State	.....\$98.00 per credit hour
Non-Resident/Out-Country	.....\$98.00 per credit hour

Fees*

Registration Fee (each semester)	.....\$23.00
Late Registration Fee	.....\$22.00
Student Photo ID (replacement only)	.....\$10.00
Instructional Technology Fee (per credit hour)	.....\$4.00
Credit by Exam Fee (per credit hour)	.....\$10.00
Books and Supplies**
Payment Plan (processing fee)	.....\$25.00

* The college reserves the right to change tuition and fees without advance notice.

** Students may be required to purchase certain supplies and materials. These are available at the bookstore on the 1st floor of the college's Student Center Building. Books and supplies average \$125 per semester for full-time students, but may be as high as \$300 or more depending on course selections.

Refunds

Refunds are only processed after a student has officially dropped a course(s) or a course is cancelled by the college. If a course is officially dropped, a student is eligible for a refund of tuition as follows:

1. The refund deadline for courses scheduled for parts-of-term of two or more weeks will be one calendar day for each week the course is scheduled to meet, e.g., fifteen days for fifteen week courses, ten days for ten week courses, etc.
2. The refund deadline for courses scheduled to meet in parts-of-term of less than two weeks in length will be before the first class meeting.

3. If the refund deadline falls on a non-business day of the college, the refund deadline will be set as the next official business day.
4. The refund deadline does not apply to course section changes or to instructor approved course level changes processed within a part-of-term.
5. Students dropping and adding courses after the official refund deadline are not eligible for a refund and must pay the tuition for the added classes.
6. A full refund of tuition may be administratively granted upon official withdrawal of the student for the following extenuating circumstances during the first two thirds part-of-term/semester:
 - a. Induction of a student into the U.S. or foreign Armed Services
 - b. Death of a spouse, child, parent, or legal guardian of a student
 - c. Death of a student
 - d. Verifiable error on the part of the college
 - e. Verifiable incapacity, illness, or injury which prevents the student from returning to school for at least four (4) weeks of the semester
7. All fees except the instructional technology fee are non-refundable.

No refund is made if withdrawal occurs after two-thirds of the part-of-term has transpired, regardless of circumstances.

Financial Aid

WCC provides financial assistance to students in the form of scholarships, work-study employment, grants and loans. Several programs also have been developed to provide financial support to honors students and are awarded on the basis of student achievement or merit. For additional information about specific program requirements, contact the Office of Financial Aid on the second floor of the Student Center Building or call (734) 973-3523.

For information concerning grants for educational expenses, childcare and federal grants for single parents, displaced homemakers, and academically and economically disadvantaged students contact the Student Resource & Women's Center on the second floor of the Student Center Building or call (734) 677-5105.

Types of Aid

There are four major types of aid available:

- Scholarships awarded on the basis of achievement and do not need to be repaid.
- Grants awarded on the basis of need and do not need to be repaid.
- Employment requires work for paid wages. Includes the need based College Work-study Program. Student employment opportunities exist in many offices and areas on campus.
- Loans awarded on the basis of need and must be repaid once students leave college or do not continue in college on at least a half-time basis.

Sources of financial aid include Washtenaw Community College, the WCC Foundation, the State of Michigan, and the United States federal government.

By federal regulation (ability to benefit), new and re-admit students who have not graduated from high school or earned a GED must achieve minimal passing scores on the ASSET/COMPASS assessment (administered during new student orientation) in order to be awarded federal (Title IV) financial aid.

Assessment of Need

Once students' financial aid files are complete, the Financial Aid Office reviews the information in light of individual circumstances. After determining the "expected family contribution," the staff then subtracts that amount from the "cost to attend Washtenaw Community College." The difference is the student's financial aid need.

Application

Because the financial aid process can take several months to complete, the earlier you begin, the more likely it is that your application will be approved in time for registration. Obtain the following forms from the Office of Financial Aid as early as possible:

1. The Free Application for Federal Student Aid (FAFSA) must be completed and mailed in the envelope provided. When you receive your Student Aid Report from the processing center, bring it to the Office of Financial Aid for evaluation of your financial aid eligibility.
2. If you have attended other colleges and are transferring to WCC at mid-year, a financial aid transcript may be required. Contact the Office of Financial Aid, (734) 973-3523, for details.
3. Additional documentation of student and/or family resources may be required for evaluation of your application. Such documentation may include federal income tax returns.

After the federal processing center evaluates your financial status and sends the information electronically to the college, the Office of Financial Aid will review the information and notify you in writing of your eligibility for aid. Awards are made in June and July prior to the beginning of the fall semester. Students who wish maximum consideration for financial aid should have all applications in the Office of Financial Aid by the following dates:

Fall Semester	June 1
Winter Semester	November 1
Spring-Summer Semester	February 1

Applications received after the above deadline dates are processed only as funding allows.

Academic Progress Criteria for Financial Aid

The academic progress criteria of the Office of Financial Aid requires that all students receiving aid maintain at least a 2.0 grade point average and complete 75 percent of their semester credits. Students failing to meet this minimum requirement are placed on probation and allowed one additional semester to meet this requirement. Students who do not complete 75 percent of their courses with a 2.0 GPA again are terminated from financial aid. Students who have had financial aid terminated may still continue to register and attend classes using their own funds for payment. Students may re-apply for financial aid when their grades improve.

Students who have attended Washtenaw Community College and have attempted 90 or more credits cannot receive Title IV funds. Students wishing to appeal this regulation may provide a written appeal to the Financial Aid committee.

Academic Progress Policy for William D. Ford Federal Direct Stafford Loan recipients:

In order to continue to receive Stafford loans students:

1. Must have a cumulative grade point average of 2.0 and,
2. Must have maintained satisfactory academic progress at WCC and not be on financial aid probation and,
3. Must have completed the two terms prior to the beginning of the loan period with a minimum of 2.0 G.P.A. for each term and,
4. Must have completed at least 75 percent of the courses taken in the two terms mentioned in item three.

Financial Aid Refund Policy

Students who receive any Title IV funding as a first time student are entitled to a pro-rata refund if they withdraw prior to completing 60 percent of the semester. By federal regulations, pro-rata refunds must be returned in the following order:

1. Federal SLS Loan
2. Unsubsidized Federal Stafford Loan
3. Subsidized Federal Stafford Loan
4. Federal Plus Loan
5. Federal Direct Stafford Loan
6. Federal Direct Loan
7. Federal Perkins Loan
8. Federal Pell Grant
9. Federal SEOG
10. Other Title IV funds
11. Other federal sources
12. State, private, or College aid
13. Student

For students receiving aid for additional semesters, refunds will be issued according to the refund policy established by Washtenaw Community College.

Distribution

Most students who have been awarded and approved for financial aid prior to the start of a semester have their tuition paid at the time they register and receive a check for books on the first day of class. The book check is for the remainder of their financial aid. Students who are approved after the start of a semester have their account credited and receive a check for the balance of their award within two weeks. The following funds are disbursed in this manner:

1. Federal Direct Stafford Loan
2. Federal Direct Unsubsidized Stafford Loan
3. Federal Plus Loan
4. Federal Pell Grant
5. Federal SEOG Grant
6. Scholarships
7. Student

Stafford Loans and PLUS Loans are distributed to students as they are received from the lending institution. Students will be notified when funds have been applied to their account and when they can pick up their balance.

Student Employment on Campus

In addition to the various student financial aid programs previously mentioned, there are a variety of campus employment opportunities for students who would like to gain meaningful work experience while receiving a competitive wage rate. These opportunities can be realized through the College Work-study Program and other employment available to students on campus. Contact the Office of Financial Aid for further details.







Student Support



Student Support Services

Alumni Association

The college stays in contact with former students through the Alumni Association. All former students are eligible to join. The office is located in SC 207; the phone number is (734) 973-3492.

Bookstore

Book Ends, the WCC bookstore is located on the lower level of the Student Center Building and is open during the following hours during the Fall and Winter semesters:

M-Th	8:30 a.m. - 6:30 p.m.
F.....	8:30 a.m. - 3:00 p.m.
S.....	9:30 a.m. - 1:00 p.m.

Hours during the Spring/Summer semester vary.

Book Rush Hours

During registration and the start of each semester, the bookstore has extended evening and weekend hours posted at the bookstore and campus information.

Book Buyback

Students can sell back books any time during the semester providing there is a need at that time for the book.

Shopping at the Bookstore

Books, instructional aids, equipment, materials, and supplies are readily accessible for students and staff. Also available are WCC insignia clothing and gifts, computer software (at education prices), postage stamps, and AATA bus tokens. Special orders are welcome. The WCC Bookstore accepts Visa, MasterCard, Discover, American Express, and personal checks with proper identification.

Receipts must accompany returned merchandise; policies regarding returns are posted in the Bookstore.

Children's Center/Day Care Facility

WCC provides a licensed child care facility in the Family Education Building for children of WCC students, staff, and faculty. The Center is accredited by the National Association for the Education of Young Children and offers a comprehensive child development program, which emphasizes the child's identity and feelings of self-worth. Children are supported in strengthening learning in key areas through active learning, discovery, and problem solving.

The staff is fully trained in early childhood education and development. Additional care is also offered by work-study students and foster grandparents. Practicum students in the child care professional program provide additional new experiences for children. Check with the Children's Center for details on age limitations, enrollment, attendance requirements, fees, hours of operation, meals, and other information. Visitors are always welcome; no appointment is needed.

Counseling/Advising

Counseling services are located on the second floor of the Student Center Building. Hours of operation for each semester are posted on the Counseling Center bulletin board.

Academic Advising

Counselors are available to facilitate the development of academic plans. Counselors assist students with planning schedules, meeting program requirements, placement in the appropriate level of courses, and transferring to four-year colleges and universities, as well as referrals to other support services.

Faculty members, serving as advisors to students, are located in the Counseling Center and other offices; they also can assist you with course selections, program and transfer requirements, and other related information.

Faculty members who are your classroom instructors can provide advice and assistance regarding courses within their field of expertise. They can also assume the role of academic advisor for certain certificate and degree programs. Consult faculty offices for more specific information.

Students intending to transfer to a four-year college or university should contact the Counseling Office or Transfer Center located on the second floor of the Student Center Building for information regarding current transfer agreements between WCC and other area institutions (e.g., Eastern Michigan University, Cleary College). Students transferring to four-year institutions within Michigan should contact a WCC counselor regarding WCC's participation in the Michigan Association of Collegiate Registrars and Admission Officers (MACRAO) Agreement.

Career Counseling

Counselors are available to help students make career changes and career decisions. Counselors may suggest career testing and/or use of information in the Counseling and Career Planning Center located on the 1st floor of the Liberal Arts and Science Building Room 176.

Personal Counseling

The counseling and social work staff also work with students experiencing personal or emotional problems, or problems associated with drug or alcohol abuse. The staff provides referrals to the appropriate agency or service in the community for specialized assistance as necessary. The Student Resource & Women's Center also offers counseling and advising services. For more information please refer to the information provided under Student Resource and Women's Center.

Learning Support Services

The college provides services to differently abled, economically disadvantaged and limited-English-speaking students. These services include tutors, interpreters for the deaf, readers for the blind, and other assistance to help students successfully complete their programs. In order to provide timely services, requests should be made three (3) weeks in advance. For additional information on eligibility for services, contact Learning Support Services (formerly Special Populations), located on the 1st floor of the Liberal Arts Building, Room 104. Hours of service are 9 a.m. - 7 p.m. Monday - Thursday and 9 a.m. - 3 p.m. on Friday. Tutoring is also available on Saturday and Sunday from 10 a.m. - 3 p.m., contingent upon tutor availability. For more information call (734) 973-3342. If you are hearing-impaired, call the TTY number: (734) 973-3635.

Learning Disability Services

The college employs a Learning Disability Specialist who provides diagnostic testing for WCC students who suspect they may have a learning disability (LD) and who have not been tested previously, or whose testing is outdated. In addition to providing cognitive and achievement testing to diagnose and document a learning disability, the LD specialist also provides consultation for students with other learning difficulties and makes recommendations for learning/study strategies, recommends educational accommodations appropriate to specific learning disabilities, and provides information recommendations, or appropriate referrals for other conditions, for example, ADHD/ADD (attention deficit/hyperactivity disorder), that may interfere with learning. These services are offered free of charge to currently registered WCC students. The goals of LD assessment and services are to identify learning problems and educational needs, assist in arranging appropriate remediation programs and accommodations, and help all students develop the confidence and means to reach their potential. The office is located on the 1st floor of the Liberal Arts and Sciences Building, Room 100 and can be reached at (734) 973-3493.

Job Placement/Career Planning/College Transfer Services

The college offers comprehensive services to assist students in career advising, career preparation, job placement and transfer. Counseling/Career Planning is located on the second floor of the Student Center Building in Rooms 227 and 201. College Placement is located in the Liberal Arts and Sciences Building in Room 176.

The Counseling, Career Planning, and Placement Department has a career resources library with numerous publications on career related topics, videotapes and handouts. Other resources available for individual student use are the Michigan Occupational Information System (MOIS), and interactive computerized career guidance programs.

The office maintains listings of job openings, including full and part-time jobs, on-campus opportunities, off-campus postings and placement for graduates. Staff will work with students and academic departments to identify appropriate job opportunities. Workshops on resumé preparation, interviewing, job search techniques, and other related topics are offered throughout each semester.

Current transfer agreements with other area colleges and universities are maintained in the transfer area, including program transfer guides and course transfer information. Current catalogs from two and four-year colleges are available as well as computer stations with Internet access to other colleges' websites.

The EMU Transfer Office is located in the Transfer Center in the Student Center Building, Room 201. Eastern Michigan University staff are available during scheduled hours to provide information and answer questions.

The Michigan Transfer Initiative for Emerging Scholars (M-TIES) program is located in the Counseling, Career and Placement Department (SC 201). This program was developed jointly by WCC and the University of Michigan with the goal of helping underrepresented minority students to attain their educational goals of transferring to U of M. Please contact Alexandra McCracken (477-8519) during scheduled hours to provide information and answer questions.

Office of Student Activities

The Office of Student Activities coordinates college events, student special interest clubs and organizations, HD/TV Theatre shows, and also oversees the student newspaper (The Voice), Club Sports, and Orchard Internet Radio. All student activities are designed to provide challenging learning experiences, give students opportunities to perform, and promote students' personal educational enhancement, growth, and development. The office is located on the 1st floor of the Student Center Building in Room 112 and services are available during regular campus hours. For more information call (734) 973-3500 or e-mail stuact@wccnet.org.

Student Clubs

Student Clubs are established by students to offer a venue for students to learn leadership skills, meet other students with similar interests and to have fun. The Student Activities office is the clearing house for Student Clubs. Interested students can contact the Student Activities assistant director for information about current clubs and how to begin a new club. Currently active groups and clubs include:

African-American Student Association - (A.A.S.A.)

Advisor: Iota Frye, 973-3565 (SC 227)

Meets to unite African, African-American, and other students to help members succeed in academic and other endeavors.

Apostolic Internationals of WCC Club

Advisor: Linda Nwokeji, 677-5230, 971-8678

Association of Information "Technology Professionals"

Advisor: Usha Jindal, 973-3603 (BE 206)

Builds awareness of professional opportunities for computer students.

Business Professionals of America Association

Advisor: Dosye Thompson, 677-5111 (BE 237)

Prepares students for the business world through advancing leadership, citizenship, academic and technological skills.

Creative Expression Club

Advisor: Michael Naylor, 677-5039 (ML 150)

Michelle Shankwiler, 547-5674

Dance Club

Advisor: Noonie Anderson, 973-3378 (LA 300)

Offers students a venue for experiencing dance in all its forms.

Drama Club

Advisor: Tracy Komarmy, 677-5101 (LA 130)

Creates a community where students can experience the theater and grow as actors in a relaxed, academically challenging and supportive atmosphere.

Forever Living in God's Holy Truth Club (FLIGHT)

Advisor: Lester Jordan, 973-3740 (Auto Lab)

A Bible study group.

French Club

Advisor: Juan Redondo, 677-5068 (LA 300)

For language students and those interested in the French culture.

Gay, Lesbian, Bi-Sexual & Transgendered Student Support Group

Advisor: Betty Reisman, 677-5102 (SC 227)

The GLBT is open to all WCC students and staff who are gay, lesbian, bi-sexual or transgendered or friends and family who want to offer support and educate themselves.

Hispanic Student Association

Advisor: Cecilia Canstano Paas, 677-5128 (SC 227)

Supports activities and interaction among students from a Spanish heritage.

International Student Association

Advisor: Cecilia Canstano Paas, 677-5128 (SC 227)

Supports activities and interaction among international students.

Japanese Animation Club

Advisors: Arnett Chisholm, 973-3484 (Counseling)

Provides discussion and sharing of techniques in animation.

Musical Theater Society Club

Advisor: Ron Fracker, 677-5095 (ML 105)

Members enjoy the opportunity to participate in and support musical theater productions.

Muslim Student Association

Advisor: Cole Jordan, 677-5102 (SC 227)

Share information about the Muslim religion with other students at the College.

Native American Student Association

Advisor: Cecilia Canstano Paas, 677-5128 (SC 227)

Supports activities and interaction among students of Native American heritage.

Orchard Internet Radio Club

Advisor: Jim Scheafer, 477-8522

Phi Theta Kappa Honors Society Association

Advisor: Gregg Heidebrink, 973-3367 (BE 235)

An academic honorary fraternity, with the goal of promoting scholarship, leadership, service, and fellowship for WCC students.

Radiography Club

Advisor: Jerry Baker, 973-3336 (OE 102)

The Radiography Club offers support for radiography students and prepares them for participation in state and regional contests.

Respiratory Therapy Club

Advisor: Mimi Norwood, 973-3331 (OE 102)

The club promotes community awareness of the profession and, in conjunction with the American Lung Association, educates the public on prevention and management of various pulmonary diseases.

Washtenaw Christian Cadre Club (WCC2)

Advisor: Philip Geyer, 973-3604 (TI 214)

WCC Jazz Club

Advisors: Cole Jordan, 677-5102 (SC 227)

Michael Naylor, 677-5039 (ML 150)

Offers members the opportunity to play jazz music and explore the history of jazz.

Women in Math, Science and Computers (AWIS)

Advisors: Cathy Gilgenbach, 973-3653 (Women's Center)
Kathleen Strnad, 677-5067 (LA 230)

A club for women students interested in careers in the sciences.

Northern Spies

Students also have the opportunity to contribute to or be involved in the production of a major campus publication. Northern Spies is a yearly publication that includes poetry, short stories, essays, plays, and journal selections written by former and current WCC students through the English/Writing program.

The Student Voice

The Student Voice is a bi-monthly newspaper produced by and for the students of WCC. The newspaper's content is the sole responsibility of the staff and the newspaper's Editorial Board. The newspaper's editorial policy encourages active participation in the exchange of ideas by members of the student body, faculty, and administration. The Student Voice is located in the Student Center Building in Room 117. For more information call (734) 677-5125.

Orchard Radio

Orchard Internet Radio welcomes all students interested in participating in national and international, interactive opportunities, whether as program hosts or as off-air assistants. Students can learn real skills from their experiences with a working radio station located in the Student Center Building. Contact the Orchard Radio office at (734) 424-8522 or e-mail radio@wccnet.org and help make your dreams come true.

Gallery One

Located on the 1st floor of the Student Center Building, Gallery One is an art gallery that showcases original art. The shows change frequently and feature local artists in a variety of mediums. The gallery is open during the day and some evenings. See postings for hours.

Club Sports

Club Sports are open to both men and women who wish to participate on recreational teams. Club sports currently include baseball, basketball, cross country, hockey, golf, soccer, softball and volleyball. Some activity is starting almost every month. The College's practice field (North Athletic Field) with softball diamond, soccer field, and sand volleyball court is located across Huron River Drive from the main campus. Contact the Club Sports office located in the Student Center Building, Room 117, or call (734) 973-3720 for information and sign-up.

Student Resource and Women's Center

The Center provides comprehensive support services, mentoring program, networking opportunities, workshops, cultural events, financial assistance and services that relate specifically to women. The Center advocates on behalf of students to help them overcome barriers that impede their success and to promote an educational environment that values diversity, inclusiveness and quality.

Although everyone is welcome to use the Center, the staff is especially sensitive to the needs of the adult student who most likely has the responsibility of a home, family and full time employment to factor into their educational objectives.

The Center utilizes a case management and holistic approach to providing services to students. This means that within the confines of our established guidelines, it is our goal to consider each student's circumstances individually and wherever possible, and to provide solutions that are prescriptive to his/her particular needs.

The Student Resource and Women's Center offers the following support services:

- Academic, career and professional advising
- Assessment of individual learning styles
- Development of an educational plan
- Financial assistance with educational expenses to students in occupational programs who qualify as single parents, displaced homemakers, men and women entering nontraditional careers, and economically and/or academically disadvantaged
- Emergency financial assistance through grants by the Washtenaw Community College Foundation
- Mentoring programs, library resources, workshops, and cultural events that relate specifically to women

The Center is located on the second floor of the Student Center Building.

Student Rights and Responsibilities

The College maintains a policy on student rights and responsibilities. It addresses student rights and responsibilities as well as student complaint and disciplinary procedures. Copies of the policy may be secured from the Associate Vice President for Student Services office.

Student Complaint Procedure

See the office of the Associate Vice President for Student Services.

Substance Abuse

Alcohol and Drug Policy

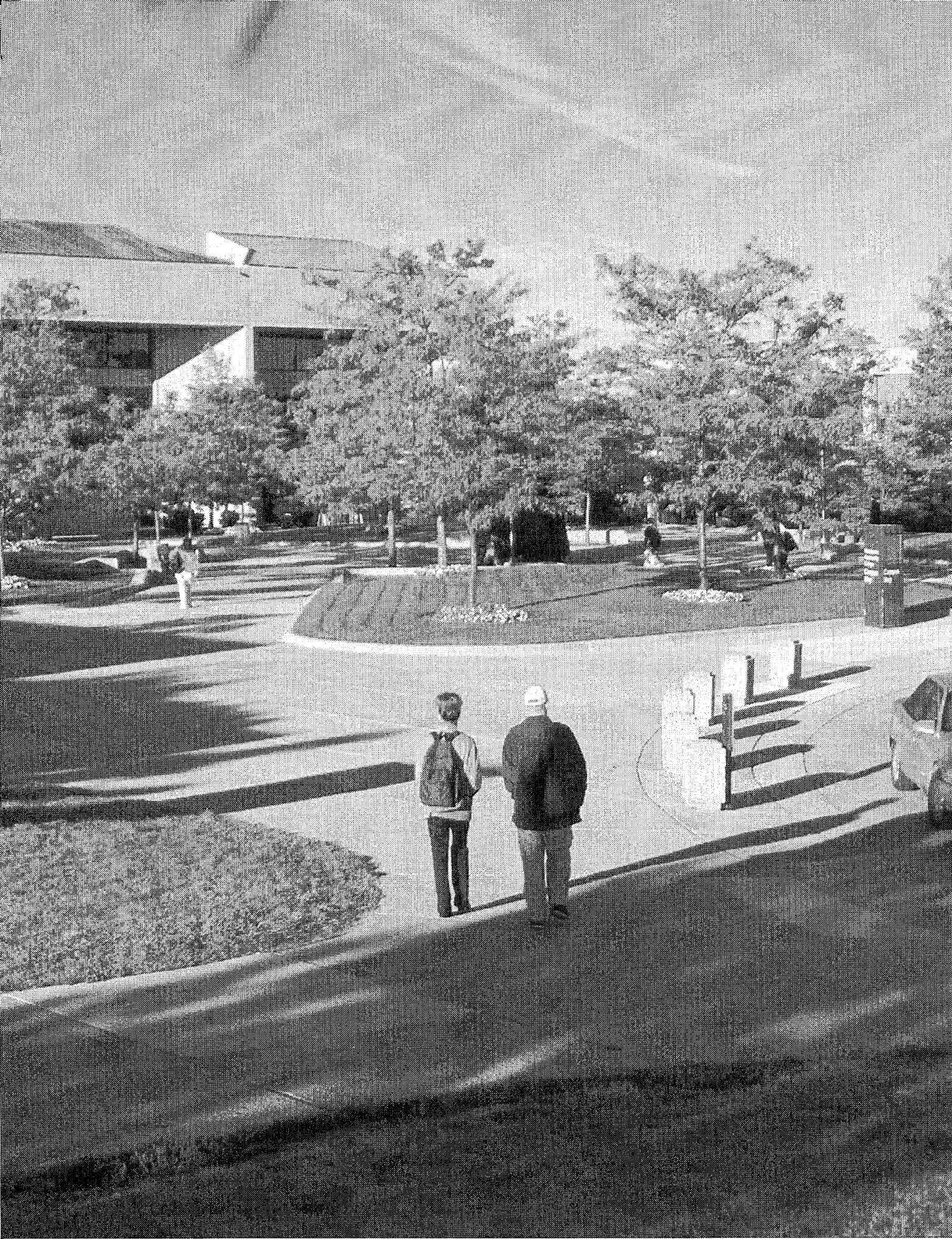
The College has adopted the following position, consistent with requirements of the new federal drug-free campus regulation and with federal, state and local law, with respect to drug use on campus. All students, employees, and visitors are specifically forbidden to use, possess, or distribute alcoholic beverages or illegal drugs, or to be under the influence of the same while on college property. An exception will be made at those functions for which permission to serve alcohol has been obtained through the proper channels and then only for those who are of legal drinking age. Offenders will be subject to legal and/or disciplinary action by the College. Sanctions will be consistent with local, state, and federal law and will range from a disciplinary reprimand or a requirement to complete a rehabilitation program up to suspension, expulsion, or referral for prosecution.

Drug and Substance Abuse Prevention Services

Washtenaw Community College offers special services to increase student awareness of the effects of alcohol and other drugs. The Division of Student Services has organized ADAPT (Alcohol and other Drug Awareness and Prevention Training) to provide information regarding the consequences to health, safety, family, finances, school, and employment that can result from alcohol and other drug use. Information is available through printed literature, video tapes, counseling, crisis intervention, referral for treatment, prevention education, support groups and services, and peer educators. For more information on this or other prevention programs, call the office of Student Activities at (734) 973-3500 during office hours (8 a.m. to 5 p.m.) to make an appointment. Of course, all telephone and in-person transactions will be conducted with confidentiality.

Tutoring Program

The college offers an extensive free tutoring program. Students in need of a tutor may complete the required form in the Learning Support Services Office (LA 104). Tutoring hours are 9 a.m. to 7 p.m. Monday-Thursday and 9 a.m. to 3 p.m. on Friday.







Learning Support Resource



Learning Support Resources

Learning Resource Center

The LRC is an integral part of the total WCC learning environment and offers library, audio-visual, and computing and web services to students and staff. The LRC is an active participant in the instructional and research programs of the College. LRC staff seeks to instruct students in the effective and efficient use of the library and all its resources. The staff encourages students to develop the habit of self-education so that books and other library materials may contribute to their intellectual development in future years.

The LRC provides the use of more than 68,000 books, 550 print periodicals, and more than 1,000 electronic publications, plus 20 print newspapers. Micro-publications, career materials and a pamphlet collection also are available. A collection of media software such as audio and video tapes, films, music CDs, and computer software programs can be borrowed for use on equipment in the LRC or in College classrooms.

Librarians and faculty members work in partnership to select the best of retrospective and current materials to respond to students' curricular needs and to provide accurate, up-to-date information and varying viewpoints on subjects and issues. To help students use the LRC, the librarians provide group research instruction and assist in independent study activities. Students may request to join a library instruction class if their instructor has not scheduled a session.

Librarians provide faculty a full range of reference services, including electronic delivery of information from many off-site informational databases. The LRC actively participates in inter-library loan programs to provide other libraries' resources to faculty and students. In addition, access to other libraries' online catalogs, such as Eastern Michigan University, and Ann Arbor District Library, is available.

The LRC facility includes small seminar rooms, traditional study tables, and informal lounge seating. The College archives, which documents and records the history of WCC, is located in the LRC.

Photo ID/Library cards are available to all currently enrolled students. An automated circulation system and online catalog provide efficient, accurate information on all library materials. Copy services, including photocopies, overhead transparencies, poster size copies, and microform printing are available.

The LRC is open during weekday, evening and weekend hours as posted each semester. Consult the LRC website for more information and electronic access to the many services provided (<http://www.wccnet.org/dept/lrc/>)

Media Services

The Media Service Department (MSD) of the Learning Resource Center is broadly responsible for two aspects of campus operations: 1) maintaining instructional equipment and associated software at locations on campus and at regional centers, and 2) supporting campus events and conference operations.

As part of its instructional mission, the MSD offers a wide range of audio/visual services, including classroom presentation assistance, online video conferencing, visual media preparation, audio and video production and editing, and tape duplication services. In addition, MSD is responsible for maintaining campus cable and satellite operations, the campus video bulletin board system (<http://www.wccnet.org/faculty/bbs.htm>) and WCC's student radio station on the Internet (Orchard Radio) <http://radio.wccnet.org>. MSD prepares non-broadcast educational videotapes that support classroom instruction and also provides off-air taping and teleconferencing services to faculty and staff. The department also operates a loan program that provides digital cameras as well as PC and Mac laptops to faculty.

MSD also provides complete technical support for campus events and conferences across the campus, in the College Theater and in Towsley Auditorium. These services range from assistance with presentation and display setups to complete sound reinforcement and stage lighting for assemblies and theatrical events. The department includes technical coordinators for media services and campus events, two educational support staff, and a highly creative international staff of 7-10 work study students and 10 regular part-time and on-call technicians.

Web Services

The Web Services Department of the LRC is responsible for development of the college's website and maintaining current college publications on the website. The Web Services Department also assists faculty and others who are engaged in online, web-based instruction.

Computer Commons

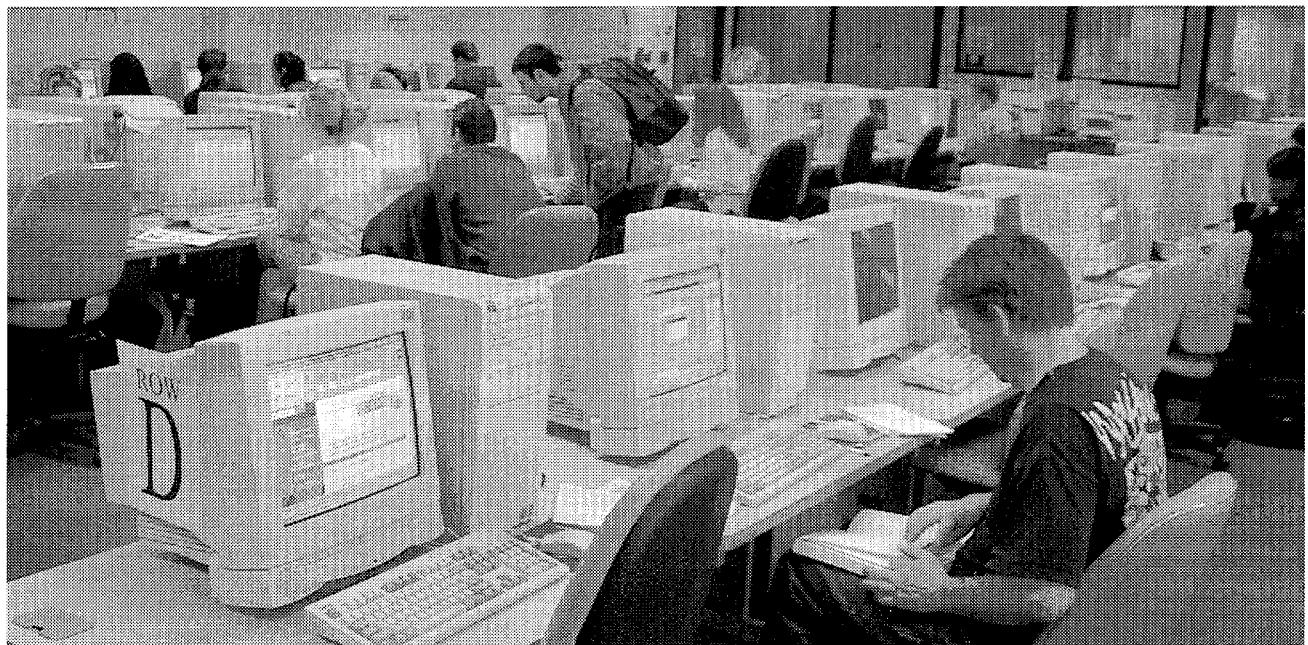
Two computer commons housing many microcomputers for use by students and staff are located in the Learning Resource Center, on the third floor of the Student Center Building and in TI 108. Staff provides assistance to users in the operation of hardware and software in both computer commons. The two commons are open for operation during daytime and evening hours all year and on weekends during fall and winter semesters. (Check postings for exact hours.) Productivity software such as word pro-

cessing, spreadsheets and databases, as well as access to the Internet and the college network are offered in both locations. Specialized software supporting specific instructional programs is also available in the LRC commons.

Specialized Computer Labs

There are specialized computer labs for use by particular units in several locations on campus. At the present time these include:

BE 174, 176	Computer Network
BE 272	Computer Instruction
BE 274	Accounting
BE 276, 280, 282	Business Office Systems
OE 108, 152 (Mac)	Graphic Design Technology
OE 122	Photography
OE 150.....	Health Careers
OE 166	Architectural Drafting
LA 254	Math
LA 354	English/Writing
TI 102, 104 (Mac).....	Graphic Design Technology
TI 110, 112, 114.....	Computer Instruction
TI 127A	Numerical Control
TI 139	Robotics
TI 209.....	Industrial Electricity
TI 223, 227, 229	Industrial Drafting



English as a Second Language (ESL)

The College offers courses (from beginning through advanced) for students who want to learn English as a second language (ESL). These courses prepare students to enter College academic and vocational programs and to participate in the broader English speaking community. For specific information, contact the English Department at (734) 677-5138.

Math Center

The Math Center provides services to improve students' mathematical skills. Many of the self-paced mathematics classes meet in this location (MTH 039, 062, 090, 097A, 097B, 107, 151, 152, 163, 165, 169A, and 169B). Placement tests designed to guide students into the proper level course for their needs and abilities are administered and evaluated. Information regarding courses, procedures, schedules, and program requirements is readily available. For specific information call (734) 973-3392.

Academic Skills Center

The Academic Skills Center provides help for students who desire to improve their reading and study skills and realize academic success. Diagnostic tests designed to guide students into the proper level courses for their needs are administered and evaluated. Students enrolled in Academic and Study Skills (ACS) classes are encouraged to use the facility regularly during the semester. Questions related to reading skills may be directed to the Academic Skills Center.

Testing Center

The Testing Center (LA 101) is a facility for the convenience of students, to provide flexibility and reduce the stress of test-taking. Tests for TV courses, make-up tests, tests for self-paced instruction and other specialized types of tests are given in the Testing Center at the request of faculty and Student Services. The Testing Center is open Monday through Saturday throughout the academic year.

Writing Center

Writing Center staff help students enrolled in English 040, 050, 051, 091, 100, and 111 with assigned written exercises. Writing Center personnel also assist students in completing writing assignments for any course at the college. A student can work with staff on selected problems of any aspect of a writing project, from narrowing a topic, developing a thesis, and organizational patterns to reviewing a rough draft or proofreading a final copy. Usually, work with an individual student is limited to 20 minutes. Macintosh computers are available so students may word process their papers. Check a copy of Writing Center News, available in the Center, for more information.

Writing Center Hours (These times may change. Check the schedule outside LA 355.)

Fall/Winter

Monday	9 a.m.-9 p.m.
Tuesday	9 a.m.-9 p.m.
Wednesday	9 a.m.-9 p.m.
Thursday	9 a.m.-3 p.m. (Closed 3-6 p.m.)
.....	6 p.m.-9 p.m.
Friday	9 a.m.-5 p.m.
Saturday	8 a.m.-12 p.m.
Sunday	Closed

Spring

Monday	8 a.m.-7 p.m.
Tuesday	9 a.m.-8 p.m.
Wednesday	8 a.m.-7 p.m.
Thursday	9 a.m.-8 p.m.
Friday	9 a.m.-1 p.m.
Saturday.....	Closed
Sunday	Closed

Summer

Monday	9 a.m.-8 p.m.
Tuesday	9 a.m.-8 p.m.
Wednesday	9 a.m.-8 p.m.
Thursday.....	9 a.m.-8 p.m.
Friday	9 a.m.-1 p.m.
Saturday.....	Closed
Sunday	Closed







**Programs
That
Provide
Alternative
Education**



Programs That Provide Alternative Education

A variety of alternative education opportunities and other educational services are offered by the College. These opportunities and services extend the resources, facilities and services of the college to on-campus students and the community through many innovative practices and programs. The Office of Evening and Extension Services, the Adult Transitions program and the Continuing Education and Community Services offices offer courses at off-campus locations in Washtenaw, Lenawee and Livingston counties. Distance learning opportunities include televised instruction, on-line courses and participation in programs where students gain skills from a working experience or academic service-learning in a compensated business-related position. WCC also offers articulated programs in conjunction with 18 local public school districts and 11 colleges and universities.

Lifelong educational opportunities are made readily available to the general public through a wide variety of workshops and short courses offered each semester. These activities allow individuals or groups to explore options ranging from new career ideas to the development of personal skills for their professional or community activities along with other life experience credit options. Continuing Education Units (CEU's) are offered for some non-credit programs, courses, or workshops as a measurement of completion.

Continuing Education Units (CEU's)

The Continuing Education Unit (CEU) is a measure of the amount of organized study a person has completed, and provides an orderly format for the recognition and quantification of non-credit learning experiences. A CEU is officially defined as ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction. CEU's are a nationally recognized recording device for substantive non-credit learning experiences and are an appropriate measure of in-service education and training. Courses for which CEU's are awarded are not eligible for college credit.

Teaching and Learning Support Services

Teaching and Learning Support Services provides a comprehensive program of teaching and learning services which ensures that students have adequate support to achieve their learning goals and that faculty have adequate support to pursue their plans for curriculum development and teaching enhancement. Learning Support Services and Learning Disability Services comprise part of the department responsibilities.

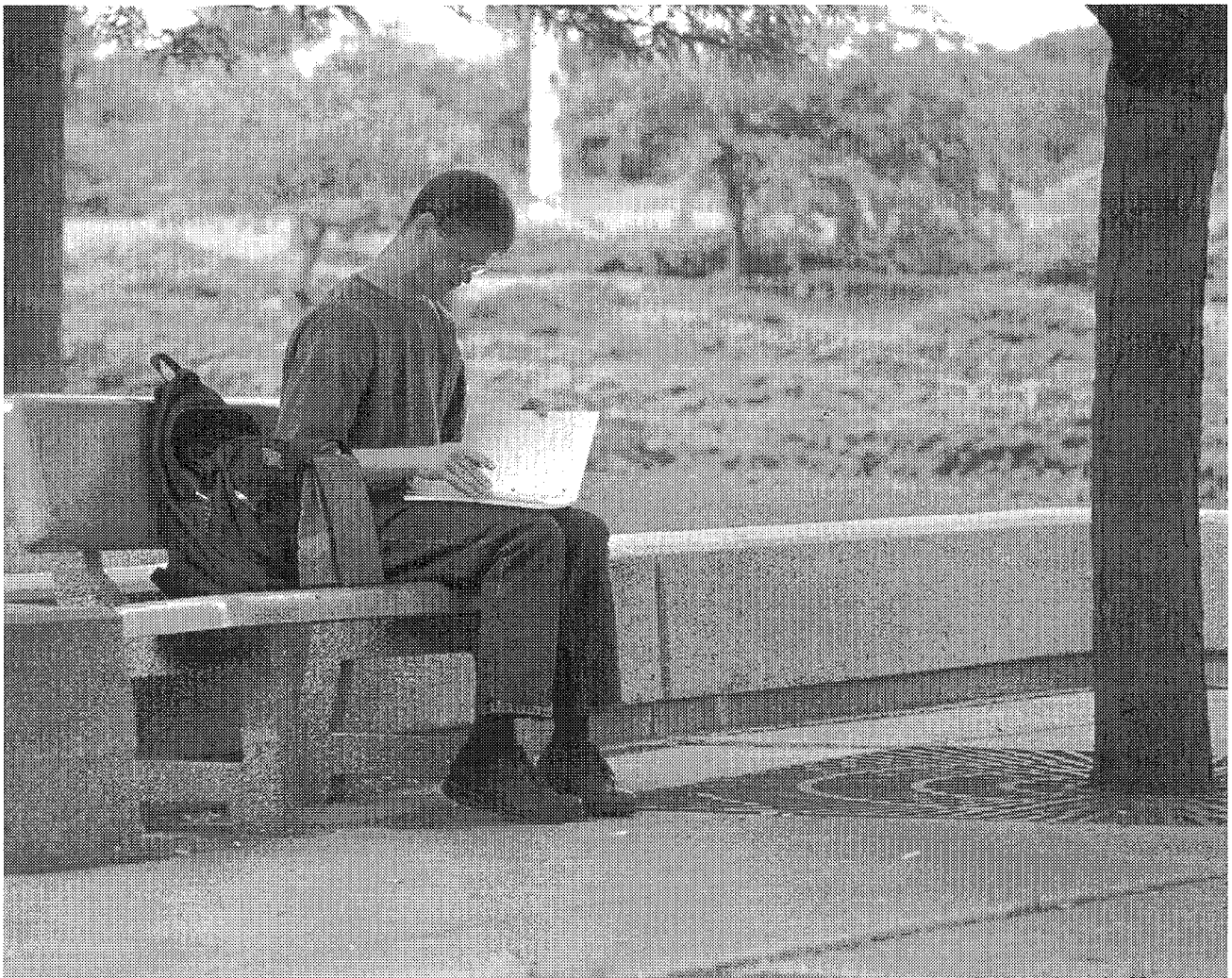
Telecourses and Online Courses

Telecourses are college classes broadcast over local stations or available for viewing in the Learning Resource Center on campus. Students view videotaped lectures and supplement them with outside readings, papers and other assignments. Each course begins with a required orientation/first class meeting with the instructor and may be followed with additional sessions during the semester. Examinations are given periodically. Students earn college credit, which may be applied to appropriate programs of study.

In order to enroll in a telecourse or an online course a student must meet the following criteria:

1. The student must have taken and successfully completed a minimum of 12 credits of college level coursework with a cumulative GPA of 2.5 or higher prior to registering for a telecourse. If the GPA prerequisite is not met and the student does not have any registration holds, the student may enroll with the signature of the instructor scheduled to teach the course.
2. The student must complete a telecourse orientation. Failure to do so may result in the student being dropped from the telecourse.

The College offers several college credit courses over the Internet. These online classes provide flexible scheduling because students can perform class work at any time of the day. Students participate in class discussions through forums and submit assignments electronically. Students considering an online course should have experience using word processing, e-mail and the Worldwide Web. Students will also need an Internet service provider and an e-mail account. The college provides free student e-mail accounts.







Continuing Education and Community Services



Continuing Education and Community Services

Non-Credit Short Courses, Seminars, and Workshops

Washtenaw Community College extends educational resources and facilities to the community by offering non-credit courses, emeritus classes for people 65 years of age or older, customized training for business and industry, community outreach through courses and services offered at off-campus sites, and facility rental for community groups and businesses.

A broad spectrum on non-credit classes is offered to the public throughout the year. This includes the following program areas:

- Business and professional development
- Computer and other technologies
- Self paced computer instruction
- Personal health
- Professional health care continuing education
- It's your life courses for personal enrichment and recreation

For information about these classes, please call (734) 677-5027.

Customized Training

WCC offers customized training to business, labor, and government in Washtenaw County. These educational experiences are designed to help the county and its citizens to be globally competitive and economically viable. In this arena, WCC provides seminars and workshops for businesses, labor, governmental organizations, community organizations, and professional groups.

Depending on the client's needs and objectives, programs can range from half-day workshops to semester-length courses or even associate degree programs spanning several years. Traditional college credit courses also are offered as part of the College's response to the specific educational requirements of business, labor and government. Courses are taught either on campus or at a client's site, whichever is most convenient and most appropriate for the subject and skills being taught.

Extension Sites

WCC offers a variety of credit courses in various sites throughout its Washtenaw/Livingston county service area at convenient locations and times.

The two WCC extension center offices are:

WCC Western Center

7920 Jackson Road (1/4 mile west of Baker Road in Scio Township)
Ann Arbor, MI 48103
(734) 424-0182
FAX (734) 424-0185

Class Locations:

Western Center
Dexter Mill Creek Middle School
WCC Northern Center
Brighton High School
7878 Brighton Road
Brighton, MI 48116
(810) 229-1419
FAX (810) 229-9280

Class Locations:

Brighton High School
Pathfinder School, Pinckney
(old Pinckney High School)

The Western Center and Dexter Mill Creek Middle School offer a variety of day and evening credit and non-credit classes with an emphasis on computer related instruction in the areas of Internet Professional, Graphic Design, Computer Information Systems, and Business Office Systems. Additional credit classes include English, Math, Social Sciences, Behavioral Sciences and Business. The self paced computer lab is also available at this location offering a flexible course schedule in an environment in which students work at their own pace in courses such as Windows 95, Word 97, Access 97, and Power Point.

The Northern Center located in Brighton High School offers evening classes in English, Math, Social Sciences, Behavioral Sciences, Business, Computer Information Systems, Art, Humanities, and Economics. In addition, there are credit courses available in Pinckney at the Pathfinder School (the old Pinckney High School).

Both the Western Center and the Northern Center offer entry assessment for new students, academic advising to new and continuing students, and registration for credit and non-credit courses. Students should contact the respective office for information regarding these services.

This extension program is coordinated and managed through the Office of Evening and Extension Services.

Some credit-free short courses, seminars or workshops also are offered at the regional centers to meet the needs of specific community groups. Students may register at the regional centers in accordance with a pre-determined and published schedule. For general information, call (734) 677-5030.

Emeritus Program

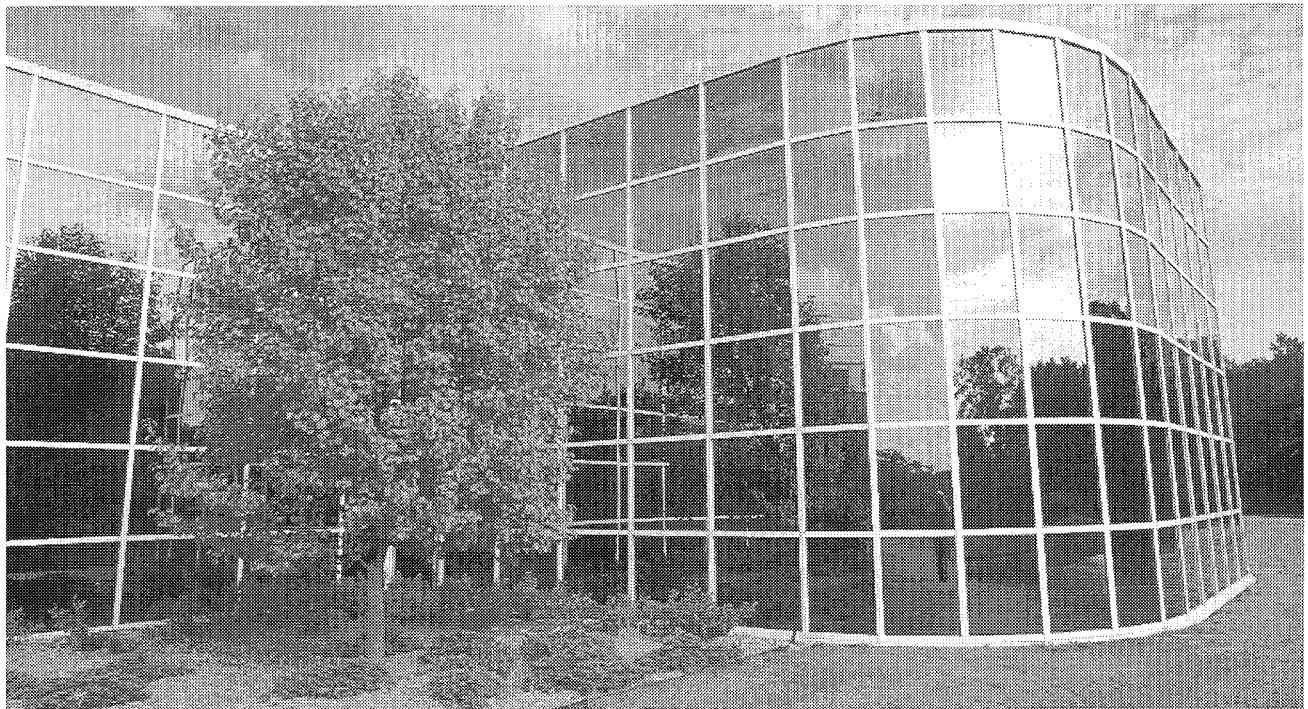
Special opportunities are provided by WCC for county residents who are at least 65 years of age. At various retirement facilities and nutrition sites throughout Washtenaw County, non credit courses, workshops and seminars are provided with tuition waived. Registration is conducted on site.

These residents also might be eligible for tuition-free credit classes, although they are required to pay a per-semester registration fee for credit courses. Contact the Department of Continuing Education and Community Services at (734) 677-5027 for eligibility details.

Conference Services

Washtenaw Community College provides comprehensive meeting and event planning for groups in the community using WCC space. These events range from a 50-person business strategy planning session to a 300-person fundraiser. Flexible conference rooms are available and can accommodate a small retreat to a 50 booth exposition. Towsley Auditorium seats 470 people and is suitable for concerts, recitals and small theater productions. The campus is equipped with state of the art audiovisual equipment and can support teleconferences and videoconferences. On site catering is available.

For information about community group and business rental of college facilities, please call (734) 677-5034.







Academic Policies/ Procedures



Academic Policies/Procedures

Public School Articulation

Articulation agreements currently exist between WCC and 18 public school districts, which allow students to receive college credit for successful completion of specific high school courses and/or programs. As stipulated in all current agreements, students must be recommended by their high school instructor in order to receive credit. Students must apply for articulated credit within two years of high school graduation. Information about high school articulation and applications for articulated credit are available in the WCC Student Records Office.

College and University Articulation Agreements

Articulation agreements between WCC and four-year colleges and universities allow WCC students in specific programs to apply some or all of their credits earned towards a bachelor's degree. If a program has an approved articulation agreement, it will be listed under the description in the program listing. Copies of articulation agreements are available in the Counseling Office and the Placement and Transfer Center.

Cancellation of Classes

The college may cancel course offerings due to low enrollment, lack of an instructor, or any other reason deemed viable by the Executive Vice President for Instruction. Every effort is made to accommodate students into alternate sections. Information regarding the current status of course offerings for all semesters is available on the college's website (wccnet.org) and at the Student Connection.

Class Attendance

Students are expected to attend all sessions of the courses for which they register. Regular class attendance is necessary for maximum success in college. In the event of excessive absence or tardiness, individual instructors

determine whether the quality of students' work has been adversely affected. Students are responsible for all material covered during their absence. No person is allowed to attend a class unless officially enrolled on a credit or non-credit (audit) basis with the appropriate tuition and fees paid.

Class Level

Freshman/First-Year Student - One who has completed fewer than 31 credit hours.

Sophomore/Second-Year Student - One who has completed 31 or more credit hours but has not received an associate degree or has not qualified for upper division classification in a four-year college or university.

Complaint Procedure

See the office of the Associate Vice President for Student Services handbook for details.

Course Load/Student Status

Full-time student	One who enrolls in twelve or more credit hours per semester.
Part-time student	One who enrolls in less than twelve credit hours per semester.
Half-time student	A part-time student enrolled in at least six credit hours per semester.

Students enrolling in 18 or more credit hours in a semester must have their schedule approved by a counselor before their registration may be processed.

Credit for Non-Credit Experiences/Transfer Credit Continuing Education Units (CEU's)

Normally, courses for which CEU's are awarded are not eligible for college credit. However, under special circumstances these courses may be evaluated for college credit as "credit for prior learning." See the details listed below.

Correspondence Courses

Only correspondence courses from accredited colleges and universities are acceptable.

Credit for Prior Learning (CLEP, Credit by Exam, Credit by Portfolio)

Washtenaw Community College recognizes that students come to the college with competencies obtained from prior learning experiences such as work experience, previous training or education, and various forms of self-learning. To receive credit, a prior learning experience must be verified. If such learning is documented and evaluated to be equivalent to college level coursework, it is the College's policy to allow equivalent credit to be granted to the student.

To receive credit, a prior learning experience must be verified by one or more of the following methods: credit by examination, portfolio evaluation, or other college-approved technique for evaluating educational experiences that meet state or national criteria. Credit for prior learning will be evaluated and posted on the student's transcript only after the student has earned one or more credit hours at WCC and will not apply toward satisfying the minimum credits in residence required for graduation.

College Level Examination Program (CLEP)

Credit may be granted for the successful completion of each of the five general examinations of CLEP. Minimum scores for awarding credit are based on Commission of Educational Credit and Credentials of the American Council on Education recommendations:

English Composition*	530
Mathematics	421
Humanities	421
Natural Sciences	421
Social Sciences and History	421

* Students who complete the English Composition General Examination will be granted English elective credit. To receive credit for ENG 111 (Composition I), students must pass the CLEP English Composition Subject Examination With Essay.

Students who have earned six or more credits in any one of the general examination subject areas are not eligible to receive credit for the general examination in that area.

Subject examinations exist in the general areas of composition, literature, history, social sciences, science, mathematics, and business. In general, a maximum of three semester credits may be granted for each college approved subject examination for scores equivalent to a "C" or better in a comparable college course. The Student Connection has CLEP brochures, which contain a complete list of available examinations. Some general and subject examinations also require the successful completion of an essay examination or laboratory demonstration.

Credit by Examination

Students who appear to have proficiency for a course may, upon recommendation of a full-time instructor, and with the approval of the appropriate department chair, take a course examination for credit. The student must first have completed the application process and been accepted to the College as a credit student. The cost of the examination is based on the number of credits in the course. The maximum number of credits earned by examination that may apply toward a degree is 30. Credit is granted and posted on the transcript. Credit earned by examination does not apply toward satisfying the minimum 15 residence credits required for graduation. Each student is responsible for arranging to complete the various examinations. Credit earned by examination does not count as part of a student's credit load for any given semester and is not computed into the grade point average. In most cases, credit earned by examination will not transfer to other colleges or universities. Students are allowed to attempt only one credit by examination per course.

Credit by Portfolio/Document Evaluation

Students with background experiences/certifications obtained through military service, on-the-job training, nursing or apprenticeships, for example, may have this prior learning evaluated for college credit. Students may pick up a Non-Traditional Credit Evaluation form from the Office of Student Records to begin the process, which also includes contacting the appropriate faculty member(s) in the student's enrolled program area. Courses granting CEU's are not normally eligible for college credit.

Students must submit to the appropriate faculty member all official documents and specific information on the length and content, as well as other pertinent documentation, before an evaluation is completed. Normally, a maximum of 20 credits may be accepted in this category (with the exception of students with backgrounds in Nursing or apprenticeship training). Credit earned from non-traditional sources will not be awarded until the student has been fully admitted to the College and completed at least one credit at WCC. Credit earned from nontraditional sources does not apply toward satisfying the minimum 15 credits in residence required for graduation.

Military Training and Schools

College credit for military training is generally awarded as non-traditional credit. Students must submit an in-service training record and DD 214, unless still on active military duty, for an evaluation of service school training. Students must show the exact title of the course, location of the course, and length of the course in weeks. Credit may be granted based on the recommendations found in A Guide to the Evaluation of Educational Experiences in Armed Services. If a course is not listed, no credit is granted. If a course is relevant to a student's occupational degree objective, a decision as to acceptance and applicability of credit, is made by the program advisor and appropriate dean. Other courses may be acceptable as elective credit.

An exception to the above is accredited military schools (e.g., The Community College of the Air Force); credit for courses from accredited schools follows the policies set forth under the category Transfer Credit from Other Colleges and Universities.

National League for Nursing (NLN) Examination.

Advanced Standing Nursing students who are already LPN's may demonstrate competency in maternity nursing by writing the NLN - Nursing of the Childbearing Family examination. Upon successful completion of the test, students will receive credit for NUR 131, Nursing of the Childbearing Family, and NUR 132, Nursing of the Childbearing Family Clinical Practice.

Proprietary Schools

Credits are accepted only from proprietary schools accredited by one of the regional accrediting agencies. (Some specialized business and technical accreditation's may be acceptable.) Students may have to provide course descriptions or catalogs along with an official transcript.

Transfer Credit from Other Colleges and Universities

Applicants must submit an official transcript from all colleges previously attended if they plan to apply the credit from the other institution(s) to their program at WCC. The accreditation of the institution and the listing published in the American Association of Collegiate Registrars and Admissions Officers Transfer Credit Practices of Designated Educational Institutions govern the acceptance of transfer credit. The coursework may be evaluated, at the student's request, after the student has completed at least one credit at WCC.

Credit may be granted for courses in which a grade of "C" or better was earned at any of the institutions with a general (AG) or provisional (AP) rating. Credit is not accepted from schools that have an N or NP rating. If the school is not listed, refer to the section of this catalog titled Non-Traditional Credit.

Transfer courses, which are evaluated as being equivalent to courses WCC offers, are posted on the transcript as such. Courses, which are evaluated as college level but are not equivalent to courses offered at WCC, are posted as elective credit in the appropriate discipline.

Graduation Requirements

To be eligible for graduation, you must file an Application for Graduation with the Office of Student Records at least four months prior to the expected date of graduation. This form is available from the Office of Student Records. The date of graduation that will appear on the diploma and transcript is the last month of the semester in which you complete all requirements for graduation. Associate Degrees and Certificates of 15 or more credit hours are awarded at the College's annual May and December commencement ceremonies. To receive a degree or certificate, you must file an application for graduation even if you do not plan on attending commencement ceremonies. You may not receive a certificate and a degree from the same program area during the same semester.

Graduation Requirements for an Associate Degree

To be eligible for graduation with an associate's degree from Washtenaw Community College you must meet all of the following requirements:

1. Fulfill all prescribed course and credit hour requirements of your specific curriculum (see Programs of Study Section for specific requirements). A minimum of 60 credits is required for a degree. Courses numbered below 100 do not count toward degree completion.
2. Complete a minimum of 15 residence credits (Washtenaw Community College credits) toward completion of each degree pursued. Credit for prior learning, including credit by exam and transfer credit, may not be used as residence credit.
3. Complete the General Education Requirements as specified for the type of degree for which you are applying. See "General Education Requirements" in the Programs of Study for details. This requirement may be waived if you have earned a bachelor's degree or higher from an accredited U.S. college or university. You may request a waiver of general education requirements in the Office of Student Records.
4. Earn a minimum cumulative grade point average of 2.0 or as specified for your program of study.
5. Meet all financial and library obligations to the College.
6. File an Application for Graduation form.

Graduation Requirements for a Certificate

To be eligible for graduation with a Certificate from Washtenaw Community College you must meet all of the following requirements:

1. Fulfill the prescribed requirements of your specific certificate curriculum including courses, credit hours, and/or hours of attendance. (see Programs of Study Section for specific requirements) Courses numbered below 100 do not count toward graduation for the Certificate. Courses numbered below 200 do not count toward graduation for the Advanced Certificate and the Post-Associate Certificate. Courses numbered 051 and below do not count toward graduation for the Certificate of Completion.
2. Complete a minimum of 75% of the total credits required as "residence credit" for each certificate pursued except for the Certificate of Completion, which requires that all credit hours (if there are any) be completed as residence credit. Credit for prior learning, including credit by exam and transfer credit, may not be used as residence credit.
3. Earn a minimum cumulative grade point average of 2.0 or as specified in your program of study.
4. To earn a second certificate in the same program area, you must complete at least nine additional credit hours, including the specific course requirements in the curriculum.
5. Meet all financial and library obligations to the College.
6. File an Application for Graduation form. If you plan on earning a degree in the same program area as your certificate, you must file for and receive your certificate at least one semester before the degree.

Meeting Program Graduation Requirements

In meeting program requirements for graduation, you may select either those requirements that were in effect during the year in which you initially enrolled in your program (if the program is still active) or those in effect when you complete your program. This does not apply to meeting the core curriculum/general education requirements that were in effect before Fall 2000. Students who started associate's degree programs before Fall 2000 have until Fall 2003 to complete their programs using the general education requirements that were in effect when they started. In Fall 2003 and thereafter, all associate's degree students will be required to meet the new General Education Requirements that went into effect in Fall 2000.

Discontinued Programs

When a program is discontinued, you are given a specified amount of time to complete the program (usually three years), after which you must change to a different program. If you change programs you should see a program advisor to select appropriate courses and make course substitutions as necessary. If you interrupt your studies for more than two consecutive semesters, the College strongly encourages you to change to the requirements that were in effect the year in which you returned. Graduation requirements may be completed during any semester.

Course Substitutions

Courses required for a program of study may be substituted by other courses only with the approval of the program advisor and the appropriate Division Dean. A course substitution form must be filed with the Office of Student Records.

Waiver of Program Requirements

Under extreme circumstances, a required course may be waived with the approval of the program advisor, the Division Dean, and the Executive Vice President for Instruction. A Waiver of Program Requirements form must be filed with the Office of Student Records.

Graduation Ceremony

Commencement ceremonies for August and December graduates are held in December. The ceremonies for April and June graduates are held in May. The conferring of degrees and college certificates, and the awarding of honors highlight the commencement exercises. Students receiving associate's degrees or college certificates of 15 credits or more are expected to participate in the commencement. Students must meet all financial and library obligations to the College before a transcript, diploma, or certificate will be issued.

Entry Assessment Policy

WCC is committed to maximizing success for each student. The college is committed to an open access, student-oriented learning atmosphere in which each student has the opportunity to acquire basic literacy skills. While WCC is open to all individuals who can benefit from its educational and service programs, the mandatory assessment process for new students provides information that helps the College match student skill levels with the right courses. Some programs have an additional screening process. See the Admissions section of this catalog. This screening process may include reviewing past educational work experiences as well as current life and educational goals and/or testing.

Grades

Grading Scale

Grade	Grade Points Per Credit Hour
A Superior	4.0
A-	3.7
B+	3.3
B Excellent	3.0
B-	2.7
C+	2.3
C Average	2.0
C	1.7
D+	1.3
D Below Average	1.0
D-	0.7
F Failure	0
S* Satisfactory	0
U* Unsatisfactory	0
I* Incomplete; Credit Withheld	0
IX* Expired Incomplete	0
W* Withdrawal	0
DF* Deferred	0
N* Non-Attendance	0
AU* Auditor	0
P* Pass	0
NP* No Pass	0

NOTE: Grades (except S, P, and AU) having 0 grade points may be treated by other educational institutions as an 'F'.

* Explanation of Grades:

Satisfactory 'S' or Unsatisfactory 'U': 'S' and 'U' grades are given for courses numbered 051 and below. Credits for courses with 'S' or 'U' grades are not figured into credits attempted in determining a student's GPA and do not count toward graduation.

Incomplete Grade 'I' Credit Withheld: If the instructor determines that the student has nearly completed the requirements of a course but is missing a small but essential part of the course due to unforeseen or extenuating circumstances, the instructor may issue an 'I' grade. The 'I' grade will remain on the student's transcript until the requirements of the course are met and a letter grade given or an instructor-determined deadline has passed with a maximum of one year. The final grade will depend on the quality of the completed work and its significance to the course. After the deadline, the grade that has been preset by the instructor will be posted on the transcript. The 'I' grade could become a letter grade such as B, C, D, or S and credit granted or a U, F, or IX (permanent 'I') in

which case a student would need to register in the course again to receive credit. Neither the 'I' or the 'IX' grade will be figured into credits attempted or honor points earned.

Withdrawal 'W': A 'W' grade is posted to the student's permanent academic record for any course the student withdraws from after the 100% refund deadline. The 'W' grade is not considered a deficiency and is not figured into credits attempted in determining a student's GPA.

Deferred Grade 'DF' Credit Withheld: In certain designated courses, a student may be unable to complete the required work until the following semester. If, in the opinion of the instructor, the student is making normal progress, the 'DF' may be assigned. Students must re-enroll in the course and complete the required work the following semester (spring and summer session excluded). The 'DF' grade is not considered a deficiency and is not figured into credits attempted in determining a student's GPA.

Non-Attendance 'N': No credit due to lack of attendance. Generally this grade is assigned to a student who has only attended class once or twice.

Audit 'AU' No Credit: A student may enroll in a credit course on a non-credit (audit) basis. The number of credits the course normally carries is not included as part of the total credit load, however, tuition is assessed by the number of credits for the course. Change from audit to credit or credit to audit status is not permissible after one quarter of the course has elapsed unless approved by the instructor. Refer to the schedule of courses for specific dates each semester. Credit is not earned in courses taken as an auditor.

Pass 'P'/No Pass 'NP': Pass/No Pass grades are given only in specifically-designated courses numbered above 051. The Pass/No Pass grades must be part of the approved course syllabus and will apply to all students in all sections of the course. Students and faculty cannot elect this grading option for other courses. The 'P' grade equates to 'C' or better work and will not be included in a student's GPA. No more than 25 percent of credits applied toward an associate degree or certificate can have a 'P' grade.

Grade Appeal Procedure

A student may appeal any grade from any course. The process consists of the following steps:

1. Student discusses concerns with instructor.
2. If step one does not resolve the appeal, the student submits to the department chair a written request for a meeting. This step must be taken within five months of the mailing of the grade to the student.
3. After discussion with the student and/or the instructor, the department chair may suggest to the student either there is no basis for appeal, or the student may wish to appeal to the dean.

4. If the student wishes to pursue the appeal, he/she should submit the appeal in writing to the division dean with a request for a meeting.
5. The division dean invites both the student and the instructor to a meeting and issues a final decision. This step must be completed within six months of the mailing of the grade to the student.

All parties are to be notified of any action taken during the entire process.

Grade Point Average (GPA)

Grade points measure the achievement of students for the number of credit hours attempted. Grade points are determined by multiplying the grade points per credit hour by the credit hour value of the course attempted. The cumulative grade point average is the total number of grade points earned divided by the total number of credit hours attempted. Attempted credit hours include the number of credit hours of 'F' even though no grade points are earned for this grade.

Assessment of Student Learning

Washtenaw Community College is committed to ensuring that students achieve the learning outcomes established for its programs and courses. To provide feedback that will enable the college to determine whether its programs and courses are successful in achieving this goal, students may be expected to participate in college-wide outcomes assessment activities related to its courses, academic programs, and general education outcomes. In some instances, student work will undergo special reviews. Other activities may include portfolio development, tests, surveys, or other tools to measure student learning. Student participation in assessment activities assures that the college receives information on student learning that can be used to promote continuous improvement of teaching and learning. By choosing to come to WCC, students are expected to participate in assessment activities as may be requested. In all these activities, strict confidentiality of individual student work will be maintained.

Honors

Honor Roll and Graduation Honors

The Deans' Honor Roll acknowledges students who have completed 12 or more credits during a semester with a minimum 3.5 grade point average. Students completing 12 or more credits with a minimum 3.8 grade point average are considered High Honor Roll students. Students attending the college on a part-time basis who, over the previous three semesters (Spring/Summer counts as one semester), have accumulated at least 15 credits and earned a minimum 3.7 grade point average are also on

the Deans' Honor Roll. Students are honored at either a spring or winter honors convocation.

Graduation honors are awarded to students earning a minimum 3.5 cumulative grade point average at the time of graduation; High Honors are awarded to students earning a minimum 3.8 cumulative grade point average at the time of graduation. Honors or High Honors is indicated on students' transcripts, the commencement program, and press releases.

Honor Society (Phi Theta Kappa)

Phi Theta Kappa, the international honor society for two-year colleges, has been recognizing academic achievement since 1918. This organization has chartered 1,100 chapters; it inducted its one-millionth member in 1993.

To be eligible for membership, students must be enrolled at WCC or another regionally accredited institution offering an associate degree program. They must have completed at least 12 hours of course work leading to an associate degree (part-time students may be eligible) and have a cumulative GPA of 3.5.

Students inducted into the organization will receive a Golden Key membership pin, an embossed certificate, the Golden Key Newsletter, and a Phi Theta Kappa Scholarship Directory. Some \$21 million in transfer scholarships is available exclusively for society members as well as many other scholarship opportunities. Society members will wear a gold braid and tassel at commencement ceremonies and receive a gold diploma seal indicating membership. This designation will also be included on students' academic transcripts.

If you meet the eligibility requirements for Phi Theta Kappa or would like further information, a brochure is available from the Student Activities office, or you may call the faculty advisor for Phi Theta Kappa at (734) 973-3367.

Release of Student Information Policy (FERPA)

It is the purpose of the Board of Trustees' Policy on Release of Student Information to ensure students' access to their educational records and to protect their rights to privacy by limiting the transferability of their records without their consent. It is the further purpose of this policy to comply with the Family Educational Rights and Privacy Act (FERPA) of 1974, as amended. A copy of the complete policy may be obtained from Student Records.

Education records are maintained in various offices of Washtenaw Community College, 4800 E. Huron River Drive, Ann Arbor, Michigan. Refer to the Office of Student Records for types and custodians of records.

No one shall have access to, nor will the college disclose, any information from a student's educational records without the written consent of the student except to WCC personnel performing an assigned college activity and those designated by federal law. Although it is the practice of the college not to release information without the informed consent of the student, at its discretion, the College may provide directory information in accordance with the provisions of FERPA to include: student name, address, telephone number, semesters of attendance, full-time/part-time status, degree(s) awarded, major field(s), and date(s) of graduation.

Students may have directory information withheld by filing, within two weeks of the first day of the academic semester, a petition for exemption with the Student Connection. WCC assumes that failure to specifically request the withholding of categories of directory information indicates individual approval for disclosure. Requests for the withholding of directory information are only valid for the current academic year.

Students wishing to review their educational records must file a written request with the custodian of the records, listing the item(s) of interest. Records covered by FERPA will be made available for inspection within 30 days of the request.

The law provides students with the right to inspect and review information in their educational records, to challenge the content of their educational records, to have a hearing if the outcome of the challenge is unsatisfactory, and to submit explanatory statements for inclusion in their file if they feel the decision of the hearing panel to be unacceptable.

Students who believe that the adjudication of their challenge was unfair, or not in keeping with the provisions of FERPA, may request in writing assistance from the president of WCC. Further, students who believe their rights have been abridged may file complaints with the Family Policy and Regulations Office, U.S. Department of Education, Washington, D.C. 20202, concerning the alleged failure of WCC to comply with the Act. Revisions and clarifications of college policies are published as experience with the law warrants.







Campus Information



Campus Information

Alcoholic Beverages on Campus

Students, employees, and visitors of WCC are expected to observe all federal, state, and local regulations governing the use and possession of alcoholic beverages while on College property, and at College-sponsored events while any minor is present. All students, employees, and visitors are specifically forbidden to use or possess alcoholic beverages or to be under the influence of the same while on College property.

College Closing for Emergency and Severe Weather

Occasionally extreme weather conditions or other unforeseen events necessitate closing the College either before or after classes have begun for the day. Students can tune into local radio stations for college closing information: WDET-FM (101.9), WEMU-FM (89.1), WHMI-FM (93.5), WIQB-FM (102.9), WJXQ-FM (106.1), WLEN-FM (103.9), WQKL-FM 107.1 WUOM-FM (91.7), WXIK (KIX 94 News), WAAM-AM (1600), WJR-AM (750), WSDS-AM (1480), WWJ-AM (950), WCM-AM (900), WNRS-AM (1290) and WTKA-AM (1050). The following TV stations will also broadcast college closing information: WJBK (Channel 2), WDIV (Channel 4), WXYZ (Channel 7) and WKBD (Channel 50). A pre-recorded message will be available at the College switchboard giving details of the College closing and reopening.

Dental Clinic

The College has a complete modern dental clinic, which is open to students, faculty, and staff. Treatment is provided by University of Michigan dental students under the supervision of a licensed dentist. Contact the Dental Clinic for current information regarding services provided, hours of operation, and fees.

Eating and Drinking in Classes

Eating and drinking in classes and instructional labs are strongly discouraged. However, faculty members are provided the freedom to make judgments regarding these matters in their particular classes. In instances where eating and drinking in classes are detrimental to the learning atmosphere or the well-being of instructional equipment/facilities, the College administration reserves the right to deny these privileges in selected rooms. Students may also file complaints if they feel that eating and/or drinking rules in a particular course are inappropriate and are inhibiting their learning. Such complaints should be filed with the area dean or the associate vice president for student services.

Emergency Notification Service for Students

If the Office of Campus Safety and Security receives a telephone call stating that an emergency exists for a student on campus, the Campus Safety and Security staff will consult student records and attempt to locate the student in the assigned classroom. If they cannot be located, an attempt will be made to advise the caller that they could not be located. No other information will be released to the caller.

Emergency Telephones and Escort Services

The Office of Campus Safety and Security ensures the safety and security of the College community. This includes nighttime escort services for students walking to their cars. An escort can be obtained by calling 3411 from any in-house telephone. The Office of Campus Safety and Security is located in the Plant Operations building.

Six emergency telephones are available on campus. Locations are:

- Adjacent to the Business Education Building
- Adjacent to the Technical and Industrial Building (near the plaza)
- Lobby of the Occupational Education Building
- Southeast corridor in the Occupational Education Building
- Third floor of the Liberal Arts and Science Building
- Adjacent to Lot C near the Family Education Building

Exterior emergency telephones are answered 24 hours per day. Interior emergency telephones are answered during normal school hours when the Switchboard is staffed.

For more information on additional services provided by the Office of Safety and Security, visit their website (<http://www.wccnet.org/admin/security/>).

Food Services

Schlotszky's Deli and Ann Arbor Steak and Fry (734) 973-0588 offer food services on the 1st floor of the Student Center building. The dining area is open all year. Check the posted times. Further convenience is provided by food and drink vending machines located in every building on campus.

The Artists' Gallery Dining Room (734) 973-3584, operated by the students in the College's Food and Hospitality program, is located next to Schlotszky's Deli. Lunch is served Monday through Thursday from 11:30 a.m. to 12:45 p.m., during the fall and winter semesters only. The dining room is available to students, staff and the general public.

Student Connection

The Student Connection, located on the second floor of the Student Center Building, provides one-stop admission and registration services. Services provided at the Student Connection include: applying for admission, scheduling orientation/COMPASS testing, submitting address changes, registering for courses, requesting and picking-up transcripts, reporting residency changes, applying for graduation, a payment drop box, and getting information on scheduling/room changes. Contact information for instructors and departments is also available. The Student Connection may be reached by calling (734) 973-3543.

Lost and Found

The Lost and Found is located in the Campus Safety and Security Office. Any person finding lost property on campus should call or deliver it to the Campus Safety and Security Office. Persons losing property on college premises should contact the Campus Safety and Security Office with a description and approximate value of the item. A report will be made by the Campus Safety and Security Office if requested.

Medical Emergency Procedures

In the event of a medical emergency, dial (734) 973-3411. Campus Safety personnel are trained in emergency medical procedures and can access other emergency medical services.

Meeting Rooms

Organized student or community groups may secure rooms for meetings by calling the Office of Conference Services at (734) 677-5033.

Parking

Parking is provided on campus for general, handicapped, visitor, vendor and service vehicles. Parking is prohibited in the following areas: bus stops, fire lanes, main travel lanes, sidewalks, handicapped spaces without a permit, restricted parking spaces without a permit, marked crosswalks, building entrances and exits, and outside marked parking spaces. Parking regulations on campus are covered by Campus Safety personal and violations will be issued.

Smoke-Free Campus

In the interest of providing a safe and healthy environment for the College's students, employees, and visitors, smoking is prohibited in all Washtenaw Community College buildings.

Reporting Theft and Vandalism

Incidents of criminal acts should be reported to the Office of Campus Safety and Security where staff will assist in filling out appropriate reports. The Office of Campus Safety and Security will also assist the Washtenaw County Sheriff's Department in establishing the facts surrounding an incident and determining preventive measures.





Curriculum



Curriculum

New Curriculum Structure

During the 1999-2000 academic year, WCC's faculty and staff completed a comprehensive restructuring of the curriculum that resulted in the Board of Trustees' approval for three associate's degree titles, four certificate titles, and a new model for meeting general education requirements in degree programs. The three associate's degree titles that have been retained are widely recognized and accepted at most colleges and universities and clearly reflect the purposes of associate's degree level programs for both transfer and career-entry. The four certificate titles provide a framework for short-term programs that are focused on preparing students for entry-level jobs as well as job advancement. The new General Education Requirements preserve the same values and content areas as the previous Core Curriculum Elements, while employing a more traditional course distribution approach to meeting the requirements. The new structure of degrees, certificates and general education requirements are described below.

■ Associate's Degrees

Effective as of Fall 2000, the College offers three associate's degree titles which are assigned based on a program's primary purpose, and the minimum level of prescribed general education requirements. The degree title and specific program title will appear on the diploma. The degree titles and their purposes are as follows:

1. Associate in Arts (A.A.)

The Associate in Arts is a transfer degree, used primarily by humanities and social science programs. Additionally, some transfer programs in health, technology and business use the A.A. degree title.

2. Associate in Science (A.S.)

The Associate in Science is primarily a transfer degree, used by programs carrying large math and science

requirements. Additionally, some transfer programs in health, technology and business that have large math and science requirements use this degree title.

3. Associate in Applied Science (A.A.S.)

The Associate in Applied Science is the standard career-entry degree. It is used for programs that prepare students for careers in health, business and technology. This degree has dual use for some programs that are primarily career-entry but also transfer to specific four-year college and university programs.

■ Certificates

Effective as of Fall 2000, the College offers four certificate titles which are designed to meet a variety of student needs ranging from preparation for entry-level jobs to advanced job skills for those who are already in the work force. Certificates also can form the foundation for an associate's degree for students who choose to earn one. The certificate titles and their purposes are as follows:

1. Certificate of Completion

The Certificate of Completion is used for short-term programs covering a discrete body of skills and/or knowledge that is intended to prepare students for a specific entry-level occupation or basic literacy attainment. The Certificate of Completion can be credit or noncredit, but is limited to a maximum of eight credit hours.

2. Certificate

The Certificate is for standard credit programs that normally take one or two semesters to complete. Primarily used to prepare students for entry-level occupations, this type of certificate may be used as a discrete program or combined with other certificate programs to form the basis for an advanced certificate or associate's degree.

3. Advanced Certificate

The Advanced Certificate is for students who are pursuing advanced study in an occupational area. These may be short term or longer programs that require completion of a certificate or equivalent industry experience for admission. Some advanced certificates prepare students for industry certification exams. The Advanced Certificate also may be added to a standard Certificate to form the basis for an associate's degree.

4. Post-Associate Certificate

The Post-Associate Certificate is for students who are pursuing advanced study and/or formal certification in an occupational area. These may be from nine to thirty-six credit hours in length and require an associate's degree or equivalent industry experience for admission to the program.

Transition for Current Students to the New Degrees and Certificates

For Fall Semester 2000, many programs have been assigned to new degree or certificate titles and some programs have been discontinued. For example the five General Studies concentrations, that previously came under the former Associate in General Studies (AGS) degree, have been discontinued and replaced by three General Studies programs, one under each of the three remaining degrees (AA, AS, and AAS). All discontinued programs will be phased out over a period of three years. Students will have a choice of completing their programs during this three-year period or transferring to a new program. If you are currently following one of the discontinued programs, and don't expect to graduate within three years, you should see an academic advisor or counselor for assistance in making a smooth transition to a new program of study.

■ General Education Requirements

Philosophy Statement

General Education is highly valued at Washtenaw Community College because it develops and nurtures certain habits of mind that reach beyond a student's area of academic emphasis and enables the student to meet critically, objectively, and successfully the challenges of education, work, and life. By requiring a strong core of common learning, the College demonstrates its commitment to providing a broad-based education to all degree recipients, which includes useful skills, knowledge, and experiences to support a variety of lifelong endeavors. To this end, it shall be the policy of the College to maintain a substantial program of general education to be included in all degree programs.

The College defines general education as a prescribed curriculum that assures a broad acquaintance with the

basic areas of academic study. The general education requirements are designed to provide degree students certain skills and knowledge that include an understanding of and appreciation for the important modes of human thought, communication, and inquiry which are salient characteristics of a WCC associate degree education.

General Education Areas

Effective as of Fall 2000, all students who enroll in an associate's degree program will have to meet general education requirements in the following seven areas. Areas one through six will be met through course distribution requirements. Area seven, critical thinking, will be included in courses from the first six areas.

1. **Writing** - Develop, organize, and express thoughts in writing using Standard English
 2. **Speech** - Speak in an organized and effective manner and listen critically and with comprehension
 3. **Mathematics** - Understand the applications and perform computations using the concepts of college-level mathematics
 4. **Natural Science** - Understand principles and applications of modern science
 5. **Social and Behavioral Science** - Understand principles and applications of social and behavioral sciences in exploring the dynamics of human behavior
 6. **Arts and Humanities** - Understand and apply information related to the nature and variety of the human experience through personal and cultural enrichment
 7. **Critical Thinking** - Demonstrate skill in analyzing, synthesizing and evaluating
- In Fall 2001 and thereafter, students entering degree programs also will have to demonstrate computer and information literacy skills (area 8 below) by competency testing or completion of coursework as a degree graduation requirement.
8. **Computer and Information Literacy** - Demonstrate the skill to use computer information systems including using software and the ability to locate, retrieve, and evaluate networked information

Note: Students who have earned a bachelor's degree or higher from an accredited U.S. college or university may request a waiver of the general education requirements in the Office of Students Records.

Area Course Distribution Requirements

Effective as of the academic year beginning in Fall 2000, all degree programs will require the successful completion of courses from restricted lists in the six areas below. All degree programs will include a minimum of one course at the basic general education level (Group I). The Associate in Arts (AA) degree and the Associate in Science (AS) degree will require additional courses in some of the areas. The six area distribution requirements for the AA, AS, and AAS (Associate in Applied Science) are as follows:

	AA	AS	AAS
1. Writing	6-7 credits	3-4 credits	3-4 credits
2. Speech	3 credits	3 credits	3 credits
3. Mathematics	3-4 credits	6-8 credits	3-4 credits
4. Natural Science	4 credits	7-8 credits	3-4 credits
5. Social & Behavioral Science	6 credits	3 credits	3 credits
6. Arts and Humanities	6 credits	3 credits	3 credits

Transition for Current Students to the New General Education Requirements

If you enrolled in a degree program prior to Fall 2000, and that program is still active, you have three years to complete your program using the Core Curriculum/general education requirements that were in effect when you enrolled. In Fall 2003, if you have not completed your program of study, you will be required to meet the new general education requirements to earn an associate's degree, regardless of when you started. If you change to a different program before Fall 2003, you will have to meet all of the requirements of the new program, including the new General Education Requirements. Academic advisors and counselors will assist you in selecting appropriate courses and making a smooth transition. For those who are continuing to use the 24 Core Curriculum Elements, check the course descriptions in the back of the catalog for the core elements that are approved for specific courses. Courses that meet Core Elements 13 and 14 are listed in Appendix B.

Approved Courses for the Six General Education Areas

Following is the list of all approved courses for the six general education areas. Not all of these courses are appropriate for each degree. Detailed listings of the course requirements specific to each of the degrees can be found in the Programs of Study at the beginning of each section.

Area 1. Writing

Group I

ENG 100 ¹	Communication Skills	4
ENG 107 ¹	Technical Communication	3
ENG 111	Composition I	4

Group II²

ENG 122	Composition II	3
ENG 225	Advanced Composition	3

¹ May be used for the AAS degree only.

² Completion of a Group II composition course will be accepted as evidence of meeting the writing requirement.

Area 2. Speech

Group I

COM 101	Fundamental of Speaking.....	3
COM 102	Interpersonal Communication	3
COM 130	Introduction to Mass Communication	3
COM 142	Oral Interpretation of Literature	3
COM 200	Family Communication	3

Area 3. Mathematics

Group I

MTH 107 ¹	Triangle Trigonometry	3
MTH 148 ²	Functional Math for Elementary School Teachers	4
MTH 151 ¹	Technical Algebra	4
MTH 152 ¹	Technical Geometry and Trigonometry	4
MTH 160	Basic Statistics.....	4
MTH 163 ¹	Business Mathematics	3
MTH 165 ¹	Health Science Mathematics	3
MTH 169	Intermediate Algebra	4

Group II³

MTH 176	College Algebra	4
MTH 178	General Trigonometry	4
MTH 180	Precalculus with Trigonometry	5
MTH 181	Mathematical Analysis I	4
MTH 182	Mathematical Analysis II	4
MTH 191	Calculus I	5
MTH 192	Calculus II	4
MTH 197	Linear Algebra	4
MTH 293	Calculus III	4
MTH 295	Differential Equations.....	4

¹ May be used for the AAS degree only.

² For students following an elementary or early childhood education track only.

³ Completion of a Group II mathematics course will be accepted as evidence of meeting the mathematics requirement.

Area 4. Natural Sciences

Group I

AST 111	General Astronomy	3
BIO 101	Concepts of Biology.....	4
BIO 102	Human Biology	4
BIO 107	Introduction to Field Biology	3
BIO 111	Anatomy and Physiology	5
CEM 105	Fundamentals of Chemistry	4
CEM 111	General Chemistry I	4
GLG 100	Introduction to Earth Science	4
GLG 103	Field Geology	3
GLG 104	Weather	3
GLG 114	Physical Geology	4
PHY 105	Conceptual Physics	4
PHY 110	Applied Physics	4
PHY 111	General Physics I.....	4
SCI 101	The Nature of Science	3

Group II

BIO 103	General Biology II	4
BIO 200	current Topics in Biology	3
BIO 208	Genetics	4
BIO 220	Human Genetics.....	3
BIO 227	Zoology	4
BIO 228	Botany	4
BIO 237	Microbiology	4
CEM 122	General Chemistry II	4
GLG 125	Historical Geology	4
PHY 122	General Physics II	4
PHY 211	Analytical Physics I	5
PHY 222	Analytical Physics II.....	5

Area 5. Social and Behavioral Science

Group I

ANT 201	Introduction to Cultural Anthropology	3
ECO 120	Making of Economic Society	3
ECO 211	Principles of Economics I	3
GEO 101	World Regional Geography	3
GEO 103	Cultural Geography	3
HST 121	Western Civilization I	3
HST 122	Western Civilization II	3
HST 123	Western Civilization: Modern World-1815 to Present	3
HST 201	United States History to 1877	3
HST 202	United States History Since 1877	3
PLS 112	Introduction to American Government	3
PLS 150	State and Local Government and Politics	3
PSY 100	Introductory Psychology	3
PSY 200	Child Psychology	3
PSY 206	Life Span Developmental Psychology	3
SOC 100	Principles of Sociology	3
SOC 205*	Race and Ethnic Relations	3
SOC 230	Marriage and Family	3

Group II

ANT 202	Introduction to Physical Anthropology	3
ECO 222	Principles of Economics II	3
HST 150*	African American History	3
HST 215	History of US Foreign Relations	3
PLS 211	Introduction to Comparative Government	3
PSY 107	Black Psychology	3
PSY 130	Alcoholism and Substance Abuse	3
PSY 209	Psychology of Adjustment	3
PSY 257	Abnormal Psychology	3
PSY 260	Introduction to Human Sexuality	3
SOC 201	Medical Sociology	3
SOC 202	Criminology	3
SOC 203	Aging and Society	3
SOC 207	Social Problems	3
SOC 250	Juvenile Delinquency	3

* Meets EMU's multicultural requirement

Area 6. Arts and Humanities

(6 Credits)

Group I

ART 130	Art Appreciation	3
ART 143*	Art and Culture of Afro-America	3
ART 150*	Monuments from Around the World	3
DAN 180	Dance Appreciation: The World of Dance	3
ENG 160	Introduction to Literature: Poetry and Drama	3
ENG 170	Introduction to Literature: Short Story and Novel	3
ENG 181*	African American Literature	3
ENG 211	American Literature I	3
ENG 212	English Literature I	3
ENG 213	World Literature I	3
ENG 222	American Literature II	3
ENG 223	English Literature II	3
ENG 224	World Literature II	3
HUM 101	Humanities I - Ancient to Medieval Times	3
HUM 102	Humanities I - Renaissance to Modern Times	3
HUM 145	Comparative Religions	3

MUS 180	Music Appreciation	3
PHL 101	Introduction to Philosophy	3
PHL 102	History of Philosophy	3
PHL 205	Ethics	3
PHL 244	Ethical and Legal Issues in Health Care	3

Group II

DRA 152	Acting for the Theatre I	3
ENG 140	Horror and Science Fiction	3
ENG 183*	Special Topics in African American Literature	3
ENG 200	Shakespeare	3
ENG 214*	Literature of the Non-Western World	3
ENG 240	Children's Literature	3
ENG 241	Adolescent Literature	3
ENG 260	Journal Workshop I	3
ENG 261	Journal Workshop II	3
ENG 270	Creative Writing I	3
ENG 271	Creative Writing II	3
FRN 111	First Year French I	4
FRN 122	First Year French II	4
FRN 213	Second Year French I	3
FRN 224	Second Year French II	3
GRM 111	First Year German I	4
GRM 122	First Year German II	4
HUM 150	International Cinema	3
HUM 160	American Film	3
MUS 140	Music Theory I	3
PHL 250	Logic	3
SPN 111	First Year Spanish I	4
SPN 122	First Year Spanish II	4
SPN 213	Second Year Spanish I	3
SPN 224	Second Year Spanish II	3

* Meets EMU's multicultural requirement

Computer and Information Literacy Requirement in 2001

Students enrolling in associate's degree programs beginning in Fall 2001 will be required to demonstrate skill in computer and information literacy. This requirement will be fulfilled by competency testing or through completion of course work as a degree graduation requirement. Some degree programs may already include a course that will satisfy this requirement. Students will be able to check with a counselor or faculty program advisor to find out if a course meets this requirement.

Beginning in Fall 2001, students will be able to undergo an assessment of their computer and information literacy skills at any point during their degree program. However, before graduating, they will have to pass the College's assessment of these skills or, if they do not pass, take the appropriate course. Therefore, it will be recommended that students who wish to fulfill this requirement through competency testing take their computer and information literacy assessment at their earliest opportunity, preferably upon admittance to the College. Frequently scheduled opportunities to take the assessment will be available, and students may undergo testing as part of their orientation/entry assessment session when they are first admitted to the College.



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Transfer: University Parallel Programs

The programs in this section of the catalog are designed to parallel the first two years of study at a university or four-year college. Some of these programs are quite general with many electives and/or concentrations from which to choose, in order to accommodate the requirements of a number of different bachelor's degree programs. Other programs in this section have very defined requirements that are intended to transfer to a specific bachelor's degree program. All of the programs in this section carry either the Associate in Arts Degree or the Associate in Science Degree. Before selecting courses for any transfer program, you should consult with a counselor or academic advisor to obtain an appropriate transfer guide or program articulation agreement. You also should contact the school to which you will transfer for specific admission and curricular requirements. Transfer guides for most Michigan colleges and universities are available in the Counseling Office and the Transfer and Placement Center on the second floor of the Student Center Building. Also available in the Transfer Center are computers with access to the Internet web sites of four-year colleges and universities, where you can obtain transfer and admission information.

MACRAO Agreement

Many of the programs in this section meet the MACRAO Agreement for transferring general education courses between participating, Michigan colleges and universities. If a program meets MACRAO requirements, it will be noted under "Articulation Agreements" in the program description. To use MACRAO, you must request that the Student Records Office endorse your transcript for MACRAO completion before having it sent to the college to which you are transferring. Not all four-year colleges and universities participate in MACRAO; and some that do participate have limitations or exceptions to the agreement. A detailed explanation of the MACRAO Agreement and a list of participating colleges can be found in Appendix A.

Articulation Agreements

Some transfer programs are based on articulation agreements with other colleges. If a program has an articulation agreement, it will be noted under "Articulation Agreements" in the program description. Copies of articulation agreements, which provide additional information including admission requirements and the sequence for taking courses at both colleges, are available in the Counseling Office or the Transfer and Placement Center.

Transfer Guides

Transfer guides are helpful in listing WCC courses that transfer to specific baccalaureate degree programs at colleges and universities in Michigan and regionally. The Placement and Transfer Center and the Counseling Office have copies of transfer guides for all the major four-year institutions in Michigan.

Associate in Arts Degree Programs

The Associate in Arts degree programs are primarily for students who want to transfer to four-year colleges or universities into baccalaureate degree programs in the liberal arts, humanities, or social science.

General Education Requirements for the Associate in Arts Degree

All Associate in Arts degree programs must include one or two courses from each of the following six General Education Areas. The specific number of courses and credit hours for each area is described below. If your Associate in Arts degree program has General Education Electives, you may choose those elective courses from areas one through six below. Some programs require specific courses from the General Education Areas. Check your program of study to see if specific general education courses are required, before selecting courses below. To see descriptions of any of these courses, look in the Course Descriptions that begin on page 150.

Area 1. Writing (6-7 credits)

Complete two courses from the following:

ENG 111 Composition I	4
ENG 122 Composition II	3
ENG 225 Advanced Composition	3

Area 2. Speech (3 credits)

Complete one course from the following:

COM 101, COM 102, COM 130, COM 142, COM 200

Area 3. Mathematics (4 credits)

Complete one course from the following:

MTH 160, MTH 169, MTH 181,
MTH 148 (for students following an elementary education track only)

Note: Successful completion of any Group II math course will be accepted as evidence of competency in mathematics. (See page 70 for Group II math courses)

Area 4. Natural Sciences (4-5 credits)

Complete one course from the following:

BIO 101, BIO 102, BIO 111, CEM 105, CEM 111, GLG 100, GLG 114, PHY 105, PHY 110, PHY 111

Area 5. Social and Behavioral Science (6 Credits)

Complete at least one course from Group I and an additional course from either Group I or Group II:

Group I

ANT 201, ECO 120, ECO 211, GEO 101, GEO 103, HST 121, HST 122, HST 123, HST 201, HST 202, PLS 112, PLS 150, PSY 100, PSY 200, PSY 206, SOC 100, SOC 205*, SOC 230

Group II

ANT 202, ECO 222, HST 150*, HST 215, PLS 211, PSY 107, PSY 130, PSY 209, PSY 257, PSY 260, SOC 201, SOC 202, SOC 203, SOC 207, SOC 250

Area 6. Arts and Humanities (6 Credits)

Complete at least one course from Group I and an additional course from either Group I or Group II:

Group I

ART 130, ART 143*, ART 150*, DAN 180, ENG 160, ENG 170, ENG 181* ENG 211, ENG 212, ENG 213, ENG 222, ENG 223, ENG 224, HUM 101¹, HUM 102¹, HUM 145, MUS 180, PHL 101, PHL 102, PHL 205, PHL 244

Group II

DRA 152, ENG 140, ENG 183*, ENG 200, ENG 214*, ENG 240, ENG 241, ENG 260, ENG 261, ENG 270, ENG 271, HUM 150, HUM 160, MUS 140, PHL 250, or a foreign language FRN 111, FRN 122, FRN 213, FRN 224, GRM 111, GRM 122, SPN 111, SPN 122, SPN 213, SPN 224.

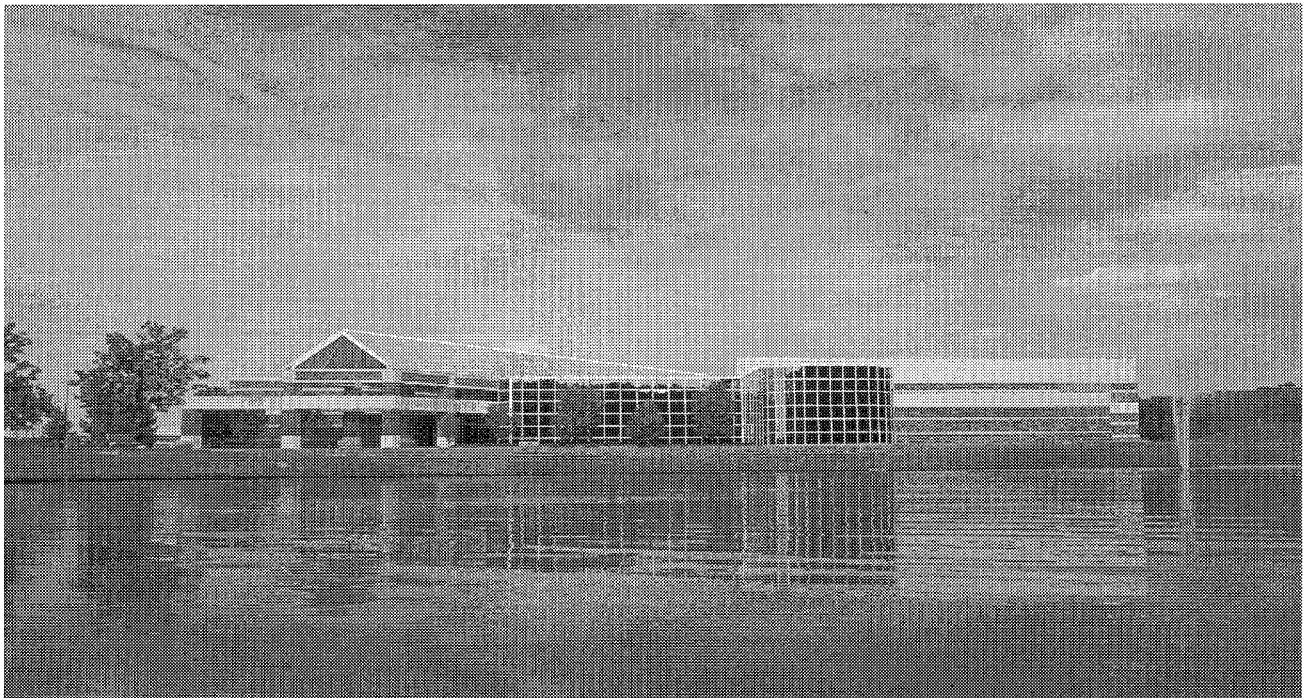
* Meets EMU's multicultural requirement

¹ EMU will accept either HUM 101 or 102 to meet its philosophy requirement; if both courses are taken one may be substituted for the arts requirement.

Computer and Information Literacy Requirement in 2001

Students enrolling in associate degree programs beginning in Fall 2001 will be required to demonstrate skill in computer and information literacy. This requirement will be fulfilled by competency testing or through completion of course work as a degree graduation requirement. Some degree programs may already include a course that will satisfy this requirement. Students will be able to check with a counselor or faculty program advisor to find out if a course meets this requirement.

Beginning in Fall 2001, students will be able to undergo an assessment of their computer and information literacy skills at any point during their degree program. However, before graduating, they will have to pass the College's assessment of these skills or, if they do not pass, take the appropriate course. Therefore, it will be recommended that students who wish to fulfill this requirement through competency testing take their computer and information literacy assessment at their earliest opportunity, preferably upon admittance to the College. Frequently scheduled opportunities to take the assessment will be available, and students may undergo testing as part of their orientation/entry assessment session when they are first admitted to the College.



Computer Information Systems (AACIST)

Associate in Arts Degree

This program prepares you to transfer to a bachelor's degree program in computer information systems at a four-year college or university, where you will continue developing the skills needed for a career in areas such as systems analyst, programmer, software engineer, database specialist, and information systems management administrator. The program was specifically designed to transfer to Eastern Michigan University.

Computer Instruction Department

Advisors: Michael Galea, Phil Geyer, Clarence Hasselbach Usha Jindal, Khaled Mansour, Roland Meade, Janet Remen, John Rinn

Articulation Agreements:

- Eastern Michigan University, College of Business, Bachelor of Business Administration in Computer Information Systems
- Meets MACRAO plus EMU's additional four requirements

Program Admission Requirements:

The following high school courses or equivalent college courses must be completed with a grade of "C" or better:

- Two years of high school algebra (Algebra I and II), or MTH 169, or equivalent score on COMPASS algebra test
- A course in high school word processing and spreadsheets, or CIS 100, or permission of the program advisor

Course Number	Course Title	Credit Hours
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General Education Requirements (33 credits)

BIO 101	Concepts of Biology.....	4
COM 101	Fundamentals of Speaking.....	3
ENG 111	Composition I.....	4
ENG 122	Composition II.....	3
PLS 112	Introduction to American Government.....	3
PSY 100	Introductory Psychology.....	3
Choose one:	COM 102 Interpersonal Communication or ENG 225 Advanced Composition.....	3
Choose one:	ENG 181 African American Literature or ENG 214 Literature of the Non-Western World.....	3
Choose one:	MTH 181 Mathematical Analysis I or MTH 197 Linear Algebra.....	4
Elective	Complete one course from the following: ART 130, ART 143, ART 150, ENG 160, ENG 170, ENG 211, ENG 212, ENG 213, ENG 222, ENG 223, ENG 224, HUM 145, MUS 180, PHL 101, PHL 205.....	3

Course Number	Course Title	Credit Hours
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Major/Area Requirements (29-30 Credits)

ACC 111	Principles of Accounting I.....	3
ACC 122	Principles of Accounting II.....	3
BMG 207	Business Communication.....	3
CIS 110	Intro to Computer Information Systems.....	3
CPS 171	Introduction to Programming with C++.....	4
CPS 271	Object Features of C++.....	4
ECO 211	Principles of Economics I.....	3
ECO 222	Principles of Economics II.....	3
Choose one:	CIS 238 PC Assembly Language or CPS 272 Data Structures with C++.....	3-4

Credits Required for the Program:62-63

² Credit is awarded for EMU's IS 315 Applied Data Structures, if student successfully passes CPS 272 and passes a validation examination at EMU.

Criminal Justice (AACJ)

Associate in Arts Degree

This program prepares you for jobs in police work, probation and parole, and juvenile criminal justice. It also gives you the required academic background to enter the Washtenaw Police Academy, the Law Enforcement Certification program run by Washtenaw Community College, as well as credits that transfer into Eastern Michigan University's Criminology and Criminal Justice program.

Public Service Careers Department

Advisors: Hank Townsend, Ruth Walsh

Articulation Agreements:

Eastern Michigan University, College of Arts and Sciences, Criminology and Criminal Justice program

Program Admission Requirements:

One year of HS algebra or MTH 097 or equivalent score on COMPASS algebra test

Course Number	Course Title	Credit Hours
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General Education Requirements (30 Credits)

ENG 111	Composition I.....	4
ENG 122	Composition II.....	3
MTH 160	Statistics.....	4
PLS 112	Introduction to American Government.....	3
PSY 100	Introduction to Psychology.....	3
Choose one:	COM 101 Fundamentals of Speaking or COM 102 Interpersonal Communication.....	3
Elective	Complete one course from: BIO 101, BIO 102, CEM 105, CEM 111, GLG 100, GLG 114, PHY 105, PHY 110, or PHY 111.....	4

Elective Complete one course from General Education for the AA, Area 6: Arts and Humanities, Group I and a second course from either Group I or Group II 6

Course Number	Course Title	Credit Hours
Major/Area Requirements (35 Credits)		
CJT 100	Introduction to Criminal Justice.....	3
CJT 111	Police/Community Relations	3
CJT 160	Criminal Justice Constitutional Law	3
CJT 120	Criminal Justice Ethics.....	2
CJT 208	Criminal Evidence and Procedure	3
CJT 209	Criminal Law	3
CJT 223	Juvenile Justice	3
CJT 224	Criminal Investigation	3
CJT 225	Seminar in Criminal Justice	3
Elective	Complete one course in Psychology (beyond PSY 100)	3
Elective	Complete two courses in Sociology (SOC)	6

Credits Required for the Program:65

General Studies in Liberal Arts (AAGSLA)
Associate in Arts Degree

This program allows you to design a program of study to meet your own individual needs. This may be a good option if you are undecided about a major or if you simply want to explore various areas in the arts and social sciences. The program also allows you to customize your coursework to the requirements of a senior college or university to which you are transferring. You should begin by meeting with a counselor who will assist you in developing a program of study that meets all of the College's graduation requirements. They can also help you determine your interests and career and educational goals as well as provide transfer and career information.

Advisors: See a counselor in the Counseling, Career Planning and Placement Office

Program Requirements:

1. Complete the General Education Requirements for the Associate in Arts degree (29-30 credits).
2. Complete an additional 15 credits of coursework in disciplines from the Division of Humanities and Social Science (ANT, ART, COM, DAN, DRA, ECO, ENG, FRN, GEO, GRM, HST, HUM, MUS, PLS, PSY, SOC, SPN, and YOG).
3. Complete additional coursework as free electives to bring the total to 60 credits.

Credits Required for the Program:60

Humanities and Social Science (AAHSAA)
Associate in Arts Degree

This program prepares you to transfer to a four-year college or university to pursue a baccalaureate degree with a major in a liberal arts, humanities, or social science discipline. It also gives you skills in communications and analytical, computational and critical thinking, all of which provide flexibility in a changing job market. Liberal arts graduates become economists, foreign service officers, journalists, librarians, lawyers, and psychologists among other possible professions.

Articulation Agreements

Meets the MACRAO transfer agreement plus EMU's four additional requirements.

Program Admission Requirements:

The following high school courses or equivalents must be completed with a grade of "C" or better:

- One year of high school algebra or MTH 097 or higher or equivalent score on COMPASS algebra exam
- Passing score on the College's writing assessment or ENG 091

Course Number	Course Title	Credit Hours
General Education Requirements (30 credits)		
COM 101	Fundamentals of Speaking.....	3
ENG 111	Composition I	4
ENG 122	Composition II	3
PLS 112	Introduction to American Government.....	3
PSY 100	Introductory Psychology	3
Elective ^{1,a}	Complete one course from General Education for the AA, Area 3: Mathematics	4
Elective	Complete one course from General Education for the AA, Area 4: Natural Sciences	4
Elective ^{2,b}	Complete one course from General Education for the AA, Area 6: Arts and Humanities Group I and an additional course from Group I or Group II	6

Support Courses (15-17 credits)

Elective [*]	Complete two courses from the disciplines of anthropology, history, economics, geography, sociology, psychology, or political science	6
Elective ^b	Complete one additional course from Area 6: Arts and Humanities Group I or II	3
Elective ^b	Complete one course from the following: COM 102, ENG 225, FRN/SPN/GRM 111, 122, 213, or 224.....	3-4
Elective	Complete one course from: CIS 100, CIS 110, or CPS 171	3-4

Concentration Requirements (15-17 credits)

Complete the requirements for one of the following concentrations. Courses already completed to meet the General Education Requirements above may not be used to complete a concentration. Please consult an advisor to select appropriate electives.

Credits Required for the Program:60-63

* For the International Studies Concentration complete SOC 100 and ECO 211

Eastern Michigan University Notes:

¹ See a counselor to select an appropriate math course that meets the requirement for the EMU program to which you are transferring.

² Choose one course from Area 6 that meets the cross-cultural requirement at EMU.

University of Michigan Notes:

^a To complete requirements for the Mathematics & Symbolic Analysis distribution area, choose MTH 182 or higher. MTH 169 does not transfer to UM.

^b Except for the Bachelor of General Studies, UM College of L, S & A requires a minimum of 16 credits of one foreign language or fourth semester proficiency.

Humanities and Social Science Concentrations

Behavioral Science (BEHS) (15 Credits)

Behavioral Sciences Department

Advisor: Mike Kollen

Course Number	Course Title	Credit Hours
SOC 100	Principles of Sociology	3
Elective	Complete an additional four courses from: PSY 107, PSY 200, PSY 206, PSY 209, PSY 257, PSY 260; SOC 202, SOC 205, SOC 207, SOC 230, SOC 250.	12

Communication (COMM) (15 Credits)

Humanities Department

Advisors: Robert Kirkland, Paulette Grotrian,
Bonnie Tew

Course Number	Course Title	Credit Hours
COM 102	Interpersonal Communication	3
COM 130	Introduction to Mass Communication	3
COM 142	Oral Interpretation of Literature	3
COM 183	Adv Public Speaking and Persuasion.....	3
COM 200	Family Communication	3

Contemporary Jazz (CJAZ) (17 Credits)

Performing Arts Department

Advisor: Michael Naylor

Course Number	Course Title	Credit Hours
MUS 105	Basic Combo and Improvisation	1
MUS 140	Music Theory I.....	3
MUS 142	Music Theory II	3
MUS 143	Music Composition and Arranging	2
MUS 157	Jazz Improvisation	2
MUS 210	Functional Piano I	3
MUS 285	Self Management for Working Artists	3

Dance (DANC) (16 Credits)

Performing Arts Department

Advisor: Laurice Anderson

Course Number	Course Title	Credit Hours
DAN 101	Beginning Modern Dance I	1
DAN 102	Beginning Modern Dance II	1
DAN 103	Beginning Tap Dance I	1
DAN 105	Beginning Jazz Dance I	1
DAN 106	Beginning Jazz Dance II.....	1
DAN 107	Beginning Ballet I.....	1
DAN 108	Beginning Ballet II	1
DAN 110	Afro-American Dance I.....	1
DAN 130	Dance for Musical Theatre	2
DAN 180	Dance Appreciation	3
DAN 200	Advanced Performance Dance	2
DAN 210	Afro-American Dance II	1

Drama/Theatre (DRAM) (16 Credits)

Performing Arts Department

Advisor: Tracy Komarmy

Course Number	Course Title	Credit Hours
DRA 152	Acting for Theatre I	3
DRA 160	Movement for Actors.....	3
DRA 170	Stratford Theatre Festival.....	2
DRA 167	Theatre Production	2
DRA 208	Acting for Theatre II.....	3
Elective	Complete an additional three credits in DRA, DAN, or MUS	3

Fine Arts (FINA) (16 Credits)

Humanities Department

Advisor: Elisabeth Thoburn

Course Number	Course Title	Credit Hours
ART 102	Color	4
ART 111	Basic Drawing I	4
ART 112	Basic Design I	4
ART 122	Basic Drawing II.....	4

Foreign Language (FRLG) (15 Credits)

Foreign Languages Department

Advisor: Rosalyn Biederman

Course Number	Course Title	Credit Hours
Elective *	Complete a first year sequence from: FRN, SPN, or GRM (111 & 122)	8
Elective	Complete at least 7 additional credits from: Arts and Humanities Groups I & II. For French or Spanish, it is recommended that you take the sec- ond year sequence (213 & 224) plus one addition- al course.	7

Humanities (HUMA) (15 Credits)

Humanities Department

Advisor: Elisabeth Thoburn

Course Number	Course Title	Credit Hours
Elective	Complete at least one course from: HUM 101, HUM 102, HUM 140, HUM 150, HUM 160, ART 130, MUS 180; PHL 101, PHL 120, PHL 200, PHL 205, or PHL 250	3
Elective	Complete an additional 12 credits from: the transfer courses listed above, or other human- ities courses listed in the catalog.	12

International Studies (INTS) (15 Credits)

Humanities and Social Science Departments

Advisors: Elisabeth Thoburn, Randy LaHote

Course Number	Course Title	Credit Hours
ART 150	Monuments from Around the World	3
HUM 145	Comparative Religions	3
PLS 211	Introduction to Comparative Government	3
Choose one:	GEO 100 World Regional Geography or GEO 103 Cultural Geography	3
Choose one:	ANT 201 Intro to Cultural Anthropology or ECO 280 International Economics	3

Note: It is recommended that you complete four semesters of a foreign language to meet General Education and Support Course elective requirements.

** Complete SOC 100 and ECO 211 as support course electives.*

Musical Theatre (MUST) (16 Credits)

Performing Arts Department

Advisor: Ron Fracker

Course Number	Course Title	Credit Hours
MUS 108	Musical Theatre Performance	1
MUS 204	Voice I	3
MUS 205	Voice II.....	3
MUS 209	Musical Theatre Song Performance Seminar.....	1
DAN 101	Beginning Modern Dance I	1
DAN 102	Beginning Modern Dance II	1
DRA 152	Acting for Theatre I	3
Choose one:	DRA 160 Movement for Actors or DRA 208 Acting for Theatre II	3

Performing Arts (PERA) (15 Credits)

Performing Arts Department

Advisors: Tracy Komarmy, Michael Naylor,
Laurice Anderson

Course Number	Course Title	Credit Hours
Elective	Complete 15 credit hours from: DRA 152, DRA 153, DRA 167, DRA 170, DAN 101, DAN 105, DAN 107, DAN 110, DAN 122, MUS 106, MUS 140, MUS 146, MUS 180, MUS 210, MUS 233.....	15

TRANSFER PROGRAMS

Associate in Arts Degree Programs

Social Science (SOCS)

(15 Credits)

Social Science Department

Advisor: Randy LaHote

Course Number	Course Title	Credit Hours
ECO 211	Principles of Economics I	3
ECO 222	Principles of Economics II	3
HST 201	United States History to 1877	3
HST 202	United States History Since 1877	3
Elective	Complete one course from: HST 121, HST 122, HST 123	3

Writing and Literature (WRLT)

(15 Credits)

English/Writing Department

Advisor: Ruth Hatcher

Course Number	Course Title	Credit Hours
Elective	Complete five courses from: ENG 160, ENG 170, ENG 181*, ENG 200, ENG 211, ENG 212, ENG 213, ENG 222, ENG 223, ENG 224, ENG 270, ENG 271 (or choose from other ENG courses listed in the catalog)	15

Human Services (AAHUST)

Associate in Arts Degree

This program prepares you for jobs as a substance abuse, hospice, case, psychiatric, or social services aide in settings such as schools, rehabilitation centers, and mental health clinics, or as a staff member in a community/neighborhood center. The program provides skills you will need to work on a one-to-one basis or in groups to help people cope with problems. The program also prepares you to transfer to a bachelor's degree program where you will continue developing the skills for a career in the field of social work. The program was specifically designed to transfer to Eastern Michigan University.

Behavioral Science Department

Advisors: Nan Holmes, Chris Siehl

Articulation Agreements:

- Eastern Michigan University, College of Health and Human Services, Bachelor of Arts or Bachelor of Science in Social Work. You should meet with an EMU

Social Work Program advisor before completing an admission application to EMU.

- Meets MACRAO plus EMU's additional four requirements

Program Admission Requirements:

- One year of high school algebra or MTH 097 with a grade of "C" or better, or equivalent score on COM-PASS algebra test

Continuing Eligibility Criteria:

To enroll in the Human Services field internships, students must have completed HSW 100 and HSW 200 and have a GPA of 2.0 or better in all Human Services Worker (HSW) courses

Number	Course Title	Credit Hours
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General Education Requirements (30 credits)

COM 101	Fundamentals of Speaking	3
ENG 111	Composition I	4
ENG 122	Composition II	3
MTH 160	Basic Statistics.....	4
PSY 100	Introductory Psychology	3
SOC 100	Principles of Sociology	3
Choose one:	BIO 101 Concepts Of Biology or BIO 102 Human Biology	4
Elective*	Complete one course from General Education for the AA, Area 6: Arts and Humanities Group I and an additional course from Group I or Group II (for EMU transfer select ENG 181)	6

Number	Course Title	Credit Hours
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Major/Area Requirements (28 Credits)

HSW 100	Introduction to Human Services	3
HSW 200	Intro to Interviewing and Assessment Tech.	3
HSW 220	Helping Approaches for Groups.....	3
HSW 230	Field Internship and Seminar I.....	3
HSW 232	Field Internship and Seminar II	3
PSY 206	Life Span Developmental Psychology	4
PSY 210	Behavior Modification	3
PSY 257	Abnormal Psychology	3
SOC 205	Race & Ethnic Relations	3

Support Courses (6 Credits)

CIS 100	Intro to Computer Applications	3
Choose one:	COM 102 Interpersonal Communication or ENG 225 Advanced Composition	3

Credits Required for the Program:64

* If transferring to EMU, select ENG 181 to meet the multi-cultural requirement.

Liberal Arts Honors Transfer to University of Michigan College of Literature, Science and the Arts (AALAHT)

Associate in Arts Degree

This joint articulated program between WCC and University of Michigan prepares you, through an academically challenging curriculum, to transfer to UM's College of Literature, Science, and the Arts. The program is open to students who meet both WCC and UM-LSA admissions requirements and includes tracks that prepare you for humanities, social science, pre-law, economics, math, natural science, or pre-medicine majors at UM. Successful completion of the WCC program guarantees junior-standing admission to the College of Literature, Science, and the Arts where you may complete a bachelor's of arts, bachelor's of science, or bachelor's of general studies degree. Completion of a bachelor's degree program prepares you for careers in fields ranging from law, medicine, or business, to education or fine arts, or to pursue graduate level education.

Social Science Department

Advisor: Randy LaHote

Articulation Agreements:

- University of Michigan Ann Arbor, College of Literature, Science and the Arts

Program Admission Requirements:

Students applying to this program must meet the admissions requirements of both WCC and UM-LSA.

- A minimum high school grade point average of 3.0
- SAT score of 1100 or higher or ACT score of 24 or higher
- Minimum high school work must include
 - Four years of English
 - Three years of math
 - Two years of biology/physical science
 - Three years of history/social studies
 - Two years of one foreign language

Continuing Eligibility Criteria:

To receive admission to the University of Michigan College of Literature, Science, and the Arts through this program agreement, students must complete their WCC coursework within three years with a minimum cumulative GPA of 3.25 in program courses.

Course Number	Course Title	Credit Hours
First Semester (14-16 credits)		
PLS 112	Introduction to American Government.....	3
SPN 111	First Year Spanish I	4
Choose one:	ENG 111 Composition I (4) or ENG 122 Composition II (3)	3-4
Choose one: ¹	MTH 160 Basic Statistics (4) or MTH 191 Calculus I (5)	4-5

Second Semester (17-18 credits)		
CPS 171	Intro to Programming with C++	4
SPN 122	First Year Spanish II.....	4
Choose one:	ENG 122 Composition II or ENG 225 Advanced Composition	3
Choose one:	PSY 100 Introduction to Psychology or HST 201 United States History to 1877.....	3
Choose one: ¹	ENG 170 Intro to Literature: Short Story/Novel (3) or MTH 192 Calculus II (4)	3-4

Course Number	Course Title	Credit Hours
Third Semester (16 credits)		
BIO 101	Concepts of Biology.....	4
ECO 211	Principles of Economics I	3
SOC 224	Race and Ethnic Relations	3
SPN 213	Second Year Spanish I.....	3
Choose one: ²	COM 130 Intro to Mass Communication or HST 202 United States History Since 1877	3

Fourth Semester (16 credits)		
ECO 222	Principles of Economics II.....	3
PHL 102	History of Philosophy	3
SPN 224	Second Year Spanish II	3
Choose one:	BIO 102 Human Biology or BIO 103 General Biology II	4
Choose one: ²	COM 130 Intro to Mass Communication or ENG 211 American Literature I	3

Credits Required for the Program:63-66

¹ Choose MTH 160 and ENG 170 if you plan to go into Humanities, Social Science, or Prelaw. Choose MTH 191 and MTH 192 if you plan to go into Economics, Math, Science, or Pre-medicine.

² You must complete COM 130 as one of the choices to meet WCC's General Education graduation requirement.

Associate in Science Degree Programs

The Associate in Science degree programs are primarily for students who want to transfer to four-year colleges or universities, into baccalaureate degree programs with large math or science requirements.

General Education Requirements for the Associate in Science Degree

All Associate in Science degree programs must include one or two courses from each of the following six General Education Areas. The specific number of courses and credit hours for each area is described below. If your Associate in Science degree program has General Education Electives, you may choose those elective courses from areas one through six below. Some programs require specific courses from the General Education Areas. Check your program of study to see if specific general education courses are required before selecting courses below. To see descriptions of any of these courses, look in the Course Descriptions that begin on page 150.

Area 1. Writing (3-4 credits)

Complete one course from the following:

ENG 111 Composition I	4
ENG 122 Composition II	3

Area 2. Speech (3 credits)

Complete one course from the following:

COM 101, COM 102, COM 130, COM 142, COM 200

Area 3. Mathematics (6-9 credits)

Complete two courses from the following:

MTH 107, MTH 160, MTH 169, MTH 176, MTH, 178, MTH 180, MTH 181, MTH 182, MTH 191, MTH 192, MTH 197, MTH 293, MTH 295

Area 4. Natural Sciences (minimum of 7 credits)

Complete one course from Group I and an additional course from either Group I or Group II:

Group I

AST 111, BIO 101, BIO 102, BIO 107, BIO 111, BIO 200, CEM 105, CEM 111, GLG 100, GLG 103, GLG 104, GLG 114, PHY 105, PHY 110, PHY 111, SCI 101

Group II

BIO 103, BIO 200, BIO 208, BIO 220, BIO 227, BIO 228, BIO 237, CEM 122, GLG 125, PHY 122, PHY 211, PHY 222

Area 5. Social and Behavioral Science (3 Credits)

Complete one course from the following:

ANT 201, ECO 120, ECO 211, GEO 101, GEO 103, HST 121, HST 122, HST 123, HST 201, HST 202, PLS 112, PLS 150, PSY 100, PSY 200, PSY 206, SOC 100, SOC 205*, SOC 230

Area 6. Arts and Humanities (3 Credits)

Complete one course from the following:

ART 130, ART 143*, ART 150*, DAN 180, ENG 160, ENG 170, ENG 181* ENG 211, ENG 212, ENG 213, ENG 222, ENG 223, ENG 224, HUM 101', HUM 102', HUM 145, MUS 180, PHL 101,PHL 102, PHL 205, PHL 244

* Meets EMU's multicultural requirement

' EMU will accept either HUM 101 or 102 to meet its philosophy requirement; if both courses are taken one may be substituted for the arts requirement .

Computer and Information Literacy Requirement in 2001

Students enrolling in associate degree programs beginning in Fall 2001 will be required to demonstrate skill in computer and information literacy. This requirement will be fulfilled by competency testing or through completion of course work as a degree graduation requirement. Some degree programs may already include a course that will satisfy this requirement. Students will be able to check with a counselor or faculty program advisor to find out if a course meets this requirement.

Beginning in Fall 2001, students will be able to undergo an assessment of their computer and information literacy skills at any point during their degree program. However, before graduating, they will have to pass the College's assessment of these skills or, if they do not pass, take the appropriate course. Therefore, it will be recommended that students who wish to fulfill this requirement through competency testing take their computer and information literacy assessment at their earliest opportunity, preferably upon admittance to the College. Frequently scheduled opportunities to take the assessment will be available, and students may undergo testing as part of their orientation/entry assessment session when they are first admitted to the College.



Business Transfer (ASBAS)

Associate in Science Degree

This program prepares you for transfer into a Bachelor's of Business Administration degree program at a four-year college or university, where you'll further improve your communication and interpersonal skills while developing a specialty in accounting, economics, finance, management, computer information systems, or some other aspect of business.

Business Department

Advisor: Ron Zeeb

Articulation Agreements

- Will meet MACRAO requirements if you complete an additional course in Arts and Humanities

Program Admission Requirements:

- Two years of high school algebra or MTH 169 with a grade of "C" or better, or equivalent score on COMPASS algebra test

Course Number	Course Title	Credit Hours
General Education Requirements (28-30 Credits)		
COM 101	Fundamentals of Speaking.....	3
ENG 111	Composition I	4
PLS 112	Introduction to American Government.....	3
Choose one:	MTH 181 Mathematical Analysis I or MTH 197 Linear Algebra	4
Choose one:	MTH 176 College Algebra or MTH 182 Mathematical Analysis II or MTH 191 Calculus I	4-5
Elective	Complete one course from General Education for the AS, Area 4: Natural Sciences, Group I and an additional course from Group I or II (at least one course must include a lab).....	7-8
Elective	Complete one course from General Education for the AS, Area 6: Arts and Humanities	3

Course Number	Course Title	Credit Hours
Major/Area Requirements (24 Credits)		
ACC 111	Principles of Accounting I	3
ACC 122	Principles of Accounting II.....	3
BMG 140	Introduction to Business	3
BMG 207	Business Communication	3
BMG 265	Business Statistics.....	3
ECO 211	Principles of Economics I	3
ECO 222	Principles of Economics II.....	3
Choose one:	BMG 111 Business Law I or BMG 106 Legal Basics in Business	3

Support Courses

(12 credits)

CIS 110	Intro to Computer Information Systems	3
ENG 122	Composition II	3
PSY 100	Introductory Psychology	3
Elective*	Complete one 3-credit course as a free elective ..	3

Credits Required for the Program:64-66

* If transferring to EMU, choose a multi-cultural Arts & Humanities course to meet the MACRAO plus four requirements.

Note:

University of Michigan-School of Business does not accept Business or Accounting courses from community colleges. If you wish to transfer into a business major at UM, please see a counselor.

Electrical and Computer Engineering Technology (ASECET)

Associate in Science Degree

This program gives you a foundation in electronics and computer technology while preparing you for transfer to an engineering technology program at a four-year college. Engineering technologists are employed in manufacturing, industrial automation, instrumentation, telecommunications, power, and computer hardware and software design. Engineering technologists commonly work in teams with engineers and technicians, in the areas of standard design and development, testing, production, manufacturing, technical supervision, field engineering and sales. Technical courses include theory and problem solving in the areas of electricity, digital logic, computer programming, solid state devices, and circuit analysis and design. These are balanced with laboratory exercises in circuit building, and the use of test equipment and computer design and simulation software. Courses in mathematics, science, communications and humanities support the technical courses and meet requirements at four-year institutions. Because requirements at four-year schools vary between institutions and over time, you should consult with a program advisor about your specific plans.

Electronics Department

Advisors: William Cleary, Gary Downen, Lawrence Kramer, Dale Petty

Program Admission Requirements:

- Two years of high school algebra, or MTH 169, or equivalent score on COMPASS algebra test
- One year of high school physics is required for those who choose the Analytical Physics option
- One high school course in word processing and spreadsheets, or CIS 100

Associate in Science Degree Programs

Course Number	Course Title	Credit Hours
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General Education Requirements (28-30 credits)

ENG 111	Composition I	4
MTH 176	College Algebra	4
MTH 178	General Trigonometry	3
Choose one:	COM 101 Fundamentals of Speaking or COM 102 Interpersonal Speech	3
Choose two:	PHY 111 & PHY 122 Gen Physics I & II or PHY 211 & PHY 222 Analytical Phys I & II	8-10
Elective:	Complete one course from General Education for the AS, Area 5: Social and Behavioral Science	3
Elective:	Complete one course from General Education for the AS, Area 6: Arts and Humanities	3

Course Number	Course Title	Credit Hours
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Major/Area Requirements (23 Credits)

CPS 171	Introduction to Programming with C++	4
EET 100	DC Circuit Analysis and Measurements	4
EET 110	Digital Electronics Design I	4
EET 200	AC Circuit Analysis	4
EET 201	Linear Electronics I	4
Elective	Complete an additional 3 credits in electronics (ELE) or computer programming (CPS, CIS)	3

Support Courses (9 Credits)

MTH 191	Calculus I	5
MTH 192	Calculus II	4

Credits Required for the Program:60-62

General Studies in Math and Natural Sciences (ASGSMS)

Associate in Science Degree

This program allows you to design a program of study to meet your own individual needs. This may be a good option if you are undecided about a major and want to explore a variety of discipline areas with a concentration in math and natural sciences. The program also allows you to customize your coursework to the requirements of a senior college or university to which you are transferring. You should begin by meeting with a counselor who will assist you in developing a program of study that meets all of the College's graduation requirements. They can also help you determine your interests and career and educational goals as well as provide transfer and career information.

Advisors: See a counselor in the Counseling, Career Planning and Placement Office

Program Requirements:

- Complete the General Education Requirements for the Associate in Science degree (25-29 credits).
- Complete an additional 15 credits of coursework in disciplines from the Division of Math and Natural Sciences (AST, BIO, CEM, GLG, MTH, PHY, and SCI).
- Complete additional coursework as free electives to bring the total to 60 credits.

Credits Required for the Program:60

Math and Science (ASMSAS)

Associate in Science Degree

This program prepares you for transfer to a four-year college or university to complete a bachelor of science degree, which can lead to jobs such as a teacher, scientist, chemist, biologist, doctor, laboratory researcher, computer programmer, computer systems analyst, nurse, or pharmacist, among other professions. It also gives you the opportunity to choose (within the program) a concentration in biology, chemistry, computer science, math, physics, or pre-medicine.

Please consult with a counselor or academic advisor to select courses that that will transfer to the college and major which you have chosen. Transfer guides are available for most Michigan colleges and universities in the Transfer and Placement Center.

Articulation Agreements:

- This program will fulfill MACRAO requirements if, in addition to the courses completed to meet General Education requirements, you complete one additional course in Arts & Humanities and two additional courses in Social & Behavioral Science. The concentrations in Computer Science and Mathematics include elective credit hours that can be used for this purpose.

Program Admission Requirements:

The following high school courses or WCC equivalents must be completed with a grade of "C" or better:

- Two years of high school algebra or MTH 097 and 169
- One year of high school analysis and trigonometry, or (MTH 176 and 178) or MTH 180.
- One course in high school computer literacy or CIS 100.
- The biology, chemistry, and physics concentrations require one year of high school chemistry or CEM 057 and 058.
- The chemistry, physics, and computer science concentrations require one year of high school physics or PHY 105 or 111.

Course Number Course Title Credit Hours

General Education Requirements (30-31 Credits)

ENG 111	Composition I	4
MTH 191	Calculus I	5
MTH 192	Calculus II	4
Elective	Complete one course from General Education for the AS, Area 2: Speech	3
Elective	Complete one course from General Education for the AS, Area 5: Social Science	3
Elective	Complete one course from General Education for the AS, Area 6: Arts and Humanities	3
Choose two:	BIO 101 and BIO 103, or PHY 211 and PHY 222	8-9

(The Biology concentration requires the biology sequence; the Mathematics concentration may use either sequence; all other concentrations require the physics sequence.)

Support Courses (7 Credits)

CPS 171	Introduction to Programming with C++	4
Choose one:	ENG 122 Composition II or ENG 107 Technical Writing	3

(The Chemistry/Premed and Physics concentrations require ENG 107; all other concentrations require ENG 122.)

Concentration Requirements (25-28 credits)

Complete the requirements for one of the concentrations below. Courses already completed to meet General Education Requirements above may not be used to complete a concentration. You must pick additional courses. Please see a counselor or advisor prior to beginning the program. Check your concentration below for recommended general education courses.

Credits required for the program:62-65

Math and Science Concentrations

Biology/Pre-Medicine (BMED) (28 Credits)

Life Science Department

Advisors: David Shier, Esta Grossman

Course Number Course Title Credit Hours

BIO 215	Introduction to Cell Physiology	3
BIO 216	Introduction to Cell Physiology Lab	1
BIO 227	Zoology	4
BIO 228	Botany	4
CEM 111	General Chemistry I	4
CEM 122	General Chemistry II	4
CEM 211	Organic Chemistry I	4
CEM 222	Organic Chemistry II	4

Recommended General Education Courses: Area 5 PSY 100 or PLS 112

Chemistry/Pre-Medicine (CMED) (28 Credits)

Physical Science Department

Advisors: Kathy Butcher, Judith Fish

Course Number Course Title Credit Hours

CEM 111	General Chemistry I	4
CEM 122	General Chemistry II	4
CEM 211	Organic Chemistry I	4
CEM 222	Organic Chemistry II	4
MTH 197	Linear Algebra	4
MTH 293	Calculus III	4
Elective	Complete one additional course in chemistry	4

Computer Science (COMS) (25 Credits)

Computer Instruction Department

Advisors: Janet Remen, Roland Meade

Course Number Course Title Credit Hours

CPS 271	Object Features of C++	4
CPS 272	Data Structures with C++	4
CIS 238	PC Assembly Language	3
MTH 197	Linear Algebra	4
MTH 293	Calculus III	4
Elective ¹	Complete two additional courses in Area 5: Social and Behavioral sciences and/or Area 6: Arts and Humanities. (PLS 112 and PSY 100 are recommended)	6

Mathematics (MATH) (25 Credits)

Mathematics Department

Advisor: James Egan

Course Number Course Title Credit Hours

MTH 160	Statistics	4
MTH 197	Linear Algebra	4
MTH 293	Calculus III	4
MTH 295	Differential Equations	4
Elective ¹	Complete three additional courses from Area 5: Social and Behavioral sciences and/or Area 6: Arts and Humanities. (PLS 112 and PSY 100 are recommended)	9

TRANSFER PROGRAMS

Associate in Science Degree Programs

Physics (PHYS)

(28 Credits)

Physical Science Department

Advisors: Kathy Butcher, Judith Fish

Course Number	Course Title	Credit Hours
CEM 111	General Chemistry I	4
CEM 122	General Chemistry II	4
CEM 211	Organic Chemistry I	4
CEM 222	Organic Chemistry II	4
MTH 197	Linear Algebra	4
MTH 293	Calculus III	4
MTH 295	Differential Equations	4

¹ These additional credits are not restricted to the General Education courses for the AS degree. You may also choose from Areas 5 and 6 (Groups I & II) for the AA degree. If you choose to take a foreign language, you should take a full year sequence.

Pre-Engineering Science-Transfer (ASPET) Associate in Science Degree

This program will prepare you to transfer into an engineering program (with junior status) at a four-year college where you will continue preparing for a career in one of the fields of engineering. Because requirements vary slightly from one engineering field to another, two pre-engineering options have been developed. A program advisor will help you determine which option best meets your individual needs.

Physical Science Department

Advisor: George Kapp

Articulation Agreements

The General Engineering Option will meet MACRAO if you complete ENG 122 as an elective and complete an additional course in Social and Behavioral Science.

Program Admission Requirements:

The following high school courses or equivalents must be completed with a grade of "C" or better:

- Two years of high school algebra or MTH 169
- One year of high school and Precalculus and trigonometry or (MTH 178 & 176) or MTH 180
- One semester of high school chemistry or CEM 057
- One semester of high school physics or PHY 105 or 111

Course Number Course Title Credit Hours

General Education Requirements (30 Credits)

CEM 111	General Chemistry I	4
CEM 122	General Chemistry II	4
ENG 111	Composition I	4
MTH 191	Calculus I	5
MTH 192	Calculus II	4
Choose one	ART 130, ENG 213, ENG 224, or PHL 101	3
Elective	Complete one course from General Education for the AS, Area 2: Speech	3
Elective	Complete one course from General Education for the AS, Area 5: Social and Behavioral Science	3

Major Requirements (22 Credits)

CPS 171	Introduction to Programming with C++	4
MTH 197	Linear Algebra	4
MTH 293	Calculus III	4
MTH 295 ¹	Differential Equations	4
PHY 211	Analytical Physics I	5
PHY 222 ¹	Analytical Physics II	5

Program Options

(13-14 Credits)

Complete all of the required courses in either the General or the Chemical and Materials Engineering Option below. Check course prerequisites to determine the sequence for taking courses.

Credits Required for the Program:65-67

Options

General Engineering Option (9-10 Credits)

Elective ²	ENG 107 or ENG 122 or MET 100	3-4
Elective	ECO 211, PSY 100, HST 122, or SOC 100	3
Elective	Complete an additional course from Area 6: Arts & Humanities	3

Chemical and Materials Engineering Option

(11 Credits)

CEM 211	Organic Chemistry I	4
CEM 222	Organic Chemistry II	4
ECO 211	Principles of Economics I	3

¹ It is recommended that students take differential equations before Analytical Physics II. Therefore, students may want to take Calculus III, the prerequisite for differential equations, during the Spring-Summer semester following the second semester. Differential equations would then be taken in the third semester.

² Technical Drawing is required for Civil, Mechanical, and Naval Engineering at the University of Michigan. Some engineering schools may require ENG 122 Composition II.

■ Career Degree and Certificate Programs

The programs in this section of the catalog are for students who want to begin working directly after graduation or who want to change to a new career field or gain advanced skills in their current jobs. These programs use all four certificate titles as well as the Associate in Applied Science Degree.

Associate in Applied Science Degree

The Associate in Applied Science is primarily a career-entry degree. Although transfer is not the focus of AAS programs, some of them have agreements with specific four-year colleges or universities that allow students to transfer some or all of their credits into a bachelor's degree program. If a program has a formal articulation agreement it will be noted under "Articulation agreements" in the program description.

General Education Requirements for the A.A.S.

All Associate in Applied Science degree programs must include one course from each of the following six General Education areas. If your AAS program has General Education Electives, you may choose those elective courses from the areas below. Some programs require specific courses from the General Education Areas. Check your program of study to see if specific general education courses are required, before selecting courses below. To see descriptions of any of these courses, look in the Course Descriptions that begin on page 150.

Area 1. Writing (3-4 credits)

Complete one course from the following:

ENG 100 Communication Skills	4
ENG 107 Technical Writing	3
ENG 111 Composition I	4
ENG 122 Composition II	3

Area 2. Speech (3 credits)

Complete one course from the following:

COM 101, COM 102, COM 130, COM 142, COM 200

Area 3. Mathematics (3-4 credits)

Complete one course from the following:

MTH 107, MTH 151, MTH 152, MTH 160, MTH 163, MTH 165, MTH 169,

Note: Successful completion of a Group II math course will also be accepted as evidence of competency in mathematics. (See page 70 for Group II math courses.)

Area 4. Natural Sciences (3-4 credits)

Complete one course from the following:

AST 111, BIO 101, BIO 102, BIO 107, BIO 111, BIO 200, CEM 105, CEM 111, GLG 100, GLG 103, GLG 104, GLG 114, PHY 105, PHY 110, PHY 111, SCI 101

Area 5. Social and Behavioral Science (3 Credits)

Complete one course from the following:

ANT 201, ECO 120, ECO 211, GEO 101, GEO 103, HST 121, HST 122, HST 123, HST 201, HST 202, PLS 112, PLS 150, PSY 100, PSY 200, PSY 206, SOC 100, SOC 205, SOC 230

Area 6. Arts and Humanities (3 Credits)

Complete one course from the following:

ART 130, ART 143, ART 150, DAN 180, ENG 160, ENG 170, ENG 181, ENG 200, ENG 211, ENG 212, ENG 213, ENG 222, ENG 223, ENG 224, HUM 101, HUM 102, HUM 145, MUS 180, PHL 101, PHL 102, PHL 205, PHL 244

Computer and Information Literacy Requirement in 2001

Students enrolling in associate degree programs beginning in Fall 2001 will be required to demonstrate skill in computer and information literacy. This requirement will be fulfilled by competency testing or through completion of course work as a degree graduation requirement. Some degree programs may already include a course that will satisfy this requirement. Students will be able to check with a counselor or faculty program advisor to find out if a course meets this requirement.

Beginning in Fall 2001, students will be able to undergo an assessment of their computer and information literacy skills at any point during their degree program. However, before graduating, they will have to pass the College's assessment of these skills or, if they do not pass, take the appropriate course. Therefore, it will be recommended that students who wish to fulfill this requirement through competency testing take their computer and information literacy assessment at their earliest opportunity, preferably upon admittance to the College. Frequently scheduled opportunities to take the assessment will be available, and students may undergo testing as part of their orientation/entry assessment session when they are first admitted to the College.

Auto Body

Auto Body Repair and Refinishing (CTABRC)

Certificate



This program prepares you for entry-level jobs where you will repair and refinish damaged automobiles under the supervision of an auto body technician. You also get training in welding skills and using manuals for estimating job costs as well as a foundation of coursework that prepares you for the advanced certificate in Collision Repair.

Automotive Services Department

Advisor: Lester Jordan

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
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Major/Area Requirements

ABR 111	Auto Body Fundamentals I	4
ABR 112	Auto Body Fundamentals II	4
ABR 113	Applied Body Welding & Estimating	4
ABR 123	Auto Body Repair Applications	4
ABR 124	Auto Refinishing Applications	4

Credits Required for the Program:20

Collision Repair (CVCOLR)

Advanced Certificate



This program prepares you for jobs in the auto collision repair industry where you will repair major collision damaged vehicles. The program will give you skills in advanced welding techniques, collision damage analysis, structural and mechanical repair, and solving refinish problems.

Automotive Services Department

Advisor: Lester Jordan

Program Admission Requirements:

- Successful completion of the Auto Body Repair and Refinishing Certificate Program (CTABRC)

Course Number	Course Title	Credit Hours
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Major/Area Requirements

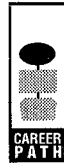
ABR 219	Adv. Auto Body I: Major Repair	4
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ABR 224	Adv. Auto Body II: Refinishing	4
ABR 226	Adv. Auto Body III: Frame/Unibody Align.	4
ABR 229	Adv. Auto Body IV: Auto Components	4
ABR 230	Adv. Auto Body V: Adv. Refinish Applications	4

Credits Required for the Program:20

Collision Repair (APCOLM)

Associate in Applied Science Degree



Some employers require or prefer employees to have an associate degree as a condition for employment or for advancement. You can earn an AAS in Collision Repair, by completing the requirements listed below.

Automotive Services Department

Advisor: Lester Jordan

Requirement	Credit Hours
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Complete the Auto Body Repair Certificate (CTABRC)	20
Complete the Collision Repair Advanced Certificate	20
Electives Complete the General Education Requirements for the AAS	18-21
Electives Complete 2 additional credits as free electives	2

Credits Required for the Program:60-63

Classic Auto Restoration (CTCAR)

Certificate



This program prepares you to work on your own classic automobile or for a job in a classic car shop. The program gives you skills in complete auto restoration and maintaining classic automobiles.

Automotive Services Department

Advisors: Lester Jordan, Peter Pleitner

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
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Major/Area Requirements

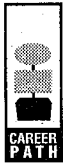
ABR 115	Classic Auto Restoration I	4
ABR 117	Classic Auto Restoration II	4
ABR 215	Classic Auto Restoration III	4
ABR 217	Classic Auto Restoration IV	4

Credits Required for the Program:16

Automotive Mechanics

Automotive Technology (CTATC)

Certificate



This program prepares you for entry-level jobs as an auto mechanic, where you will work under the supervision of an experienced automotive technician. You will develop entry-level diagnosis and repair abilities in the areas of brakes, suspensions, engines, electrical systems, performance, and drive trains. You also get skills that prepare you for jobs in one of the many related fields such as service advisor or testing lab technician.

Automotive Services Department

Advisors: Thomas Hemsteger, John Mann, Bill Schuster

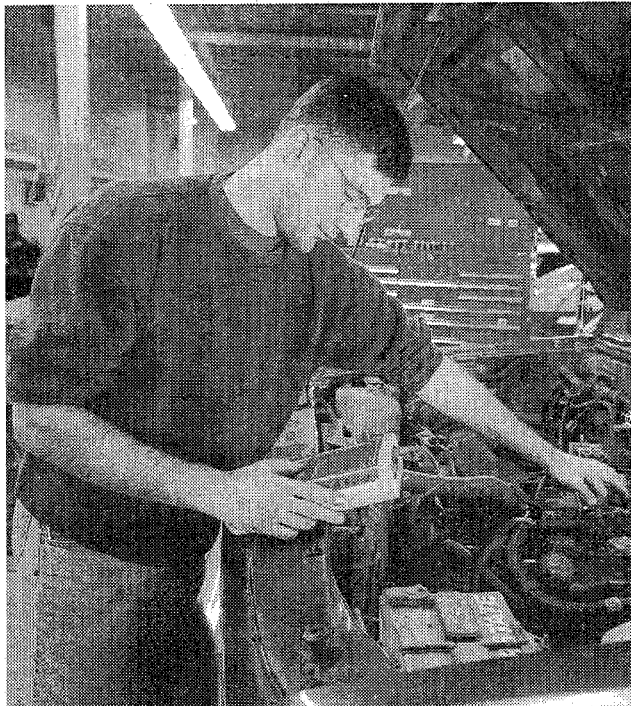
Program Admission Requirements: None

Course Number	Course Title	Credit Hours
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Major/Area Requirements

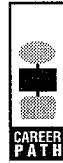
ASV 141	Automotive Mechanics I	4
ASV 142	Automotive Mechanics II	4
ASV 143	Automotive Mechanics III	4
ASV 144	Automotive Mechanics IV	4

Credits Required for the Program:16



Automotive Mechanics (CVAMA)

Advanced Certificate



This program prepares you for jobs as a certified automotive mechanic where you will diagnose and repair malfunctions in today's automobile engines, transmissions, power trains, suspension systems, brake systems, electrical systems, air conditioning systems, engine management systems, and computer systems. The courses also prepare you for the State of Michigan and National mechanic certification exams as well as provide a foundation for completing an associate's degree in automotive mechanics. The program is also for those who already have experience in the auto mechanics field, who wish to advance their skills.

Automotive Services Department

Advisors: Russ Ferguson, Thomas Hemsteger, John Mann, Bill Schuster

Program Admission Requirements: Successful completion of the Automotive Technology Certification (CTATC)

Course Number	Course Title	Credit Hours
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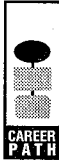
Major/Area Requirements

ASV 241	Engine Repair	2
ASV 242	Automatic Transmissions	2
ASV 243	Manual Drive Trains and Axles	2
ASV 244	Suspension and Steering	2
ASV 245	Brakes	2
ASV 246	Electrical/Electronic Systems	2
ASV 247	Heating and Air Conditioning	2
ASV 248	Engine Performance	2

Credits Required for the Program:16

Automotive Mechanics (APAUTM)

Associate in Applied Science Degree



Some employers require or prefer employees to have an associate degree as a condition for employment or for advancement. You can earn an AAS in Automotive Mechanics, by completing the requirements listed below.

Automotive Services Department

Advisors: Russ Ferguson, Tom Hemsteger, John Mann, Bill Schuster

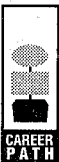
Requirement	Credit Hours
Complete the Automotive Technology Certificate.....	16
Complete the Automotive Mechanics Advanced Certificate	16
Elective Complete 10 credits hours from the following courses: ASV 160, BMG 109, CIS 100, ELE 111, FLP 111, MTT 100	10
Electives Complete the General Education Requirements for the AAS.....	18-21

Credits Required for the Program:60-63

Recommended General Education Courses:
Area 1: ENG 107, Area 3: MTH 151, Area 4: PHY 110

Building

Facility Management Administration (CTFMA) Certificate



This program is designed to provide a career path for individuals who are pursuing careers in Facility Management. Knowledge of effective corporate property asset management is provided in a five-course sequence. Students will acquire skills and knowledge in managing real property assets, specifically in the design, operation, and maintenance of Building Systems, management of the work environment, planning and project management, real estate and general service activities. The program is designed to prepare students for the Building Owners and Managers Institute (BOMI) certification.

Technical Education Department

Advisor: Les Pierce

Program Admission Requirements: None

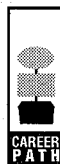
Course Number	Course Title	Credit Hours
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Major/Area Requirements

FMA 101	Facility Management I	2
FMA 103	Facility Management II	2
FMA 105	Facility Management III	2
FMA 107	Technologies for Facility Management.....	2
FMA 109	Facilities Planning & Project Management.....	2

Credits Required for the Program:10

Heating, Ventilation, and Air Conditioning (CTHVAC) Certificate



This program prepares you for entry-level jobs in HVAC contracting companies, HVAC servicing companies, hospitals, schools and other public institutions, and apprenticeships in large manufacturing plants and supply houses. In these commercial, residential, or institutional settings you will combine your diagnostic and repair skills with customer relations skills to service equipment. The program helps prepare you for the third class refrigeration licensure examination.

Advisors: Les Pierce

Program Admission Requirements: None

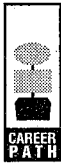
Course Number	Course Title	Credit Hours
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Required Courses (22 Credits)

HVA 101	Heating, Ventilating and Air Conditioning I	5
HVA 103	Heating, Ventilating and Air Conditioning II	5
HVA 105	Heating, Ventilating and Air Conditioning III	5
HVA 107	Heating, Ventilating and Air Conditioning IV	5
WAF 104	Soldering & Brazing.....	2

Credits Required for the Program:22

Residential Construction (CTRCT) Certificate



This program prepares you for entry-level jobs in the broad range of careers in the construction industries, where you'll need an understanding of building systems, the safe use of tools and equipment, materials, and the vocabulary of the field. The program also gives you the potential for being selected for one of the many apprentice classifications associated with the construction field.

Technical Education Department

Advisors: Les Pierce

Program Admission Requirements: None

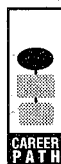
Course Number	Course Title	Credit Hours
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Major/Area Requirements

CON 104	Construction I	5
CON 105	Construction II	5
CON 204	Construction III	4
CON 205	Construction IV	4
Choose one:	CON 174 or 199	2

Credits Required for the Program:20

Construction Management (APCONM) Associate in Applied Science Degree



Some employers require or prefer employees to have an associate degree as a condition for employment or for advancement. You can earn an AAS in Construction Management, by completing the requirements listed below.

Technical Education Department

Advisors: Les Pierce

Requirement	Credit Hours
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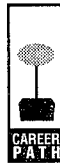
Complete the Residential Construction Certificate (CTRCT)	20
Complete the Management Supervision Advanced Certificate (CVMGTA)	12
Electives* Complete 10 credit hours as free electives	10
Complete the General Education Requirements for the Associate in Applied Science (AAS)	18-21

Credits Required for the Program:60-63

* See your advisor to select appropriate electives

Business

Accounting (CTCAC) Certificate



This program prepares you for entry-level accounting positions with accounting and tax services, CPA firms, and small businesses, where you will provide accounting skills, computer competence, and office support. It also gives you credit that can be applied toward WCC's associate's degree program in accounting.

Accounting Department

Advisors: Cliff Bellers, Mark Johnston

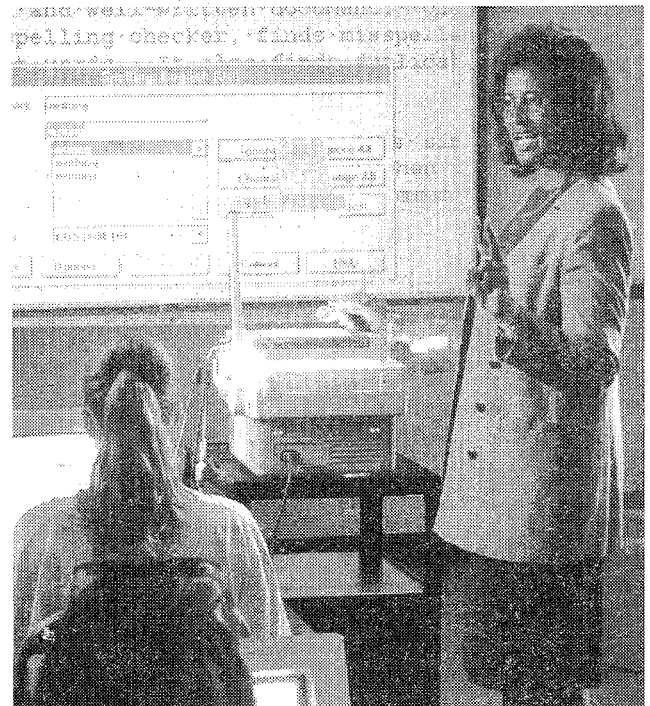
Program Admission Requirements: None

Course Number	Course Title	Credit Hours
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Major/Area Requirements

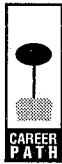
ACC 111	Principles of Accounting I	3
ACC 131	Computer Applications in Accounting	3
BOS 183	Spreadsheet Applications.....	2
CIS 110	Introduction to Computer Information Systems ..	3
TAX 101	Federal Income Taxes for Individuals and Small Businesses.....	3

Credits Required for the Program:14



Accounting (APACCT)

Associate in Applied Science Degree



This program prepares you for jobs with duties assigned to a beginning accountant, such as verifying additions; checking audits, postings, and vouchers; analyzing accounts; and preparing financial statements. Some of the courses transfer to four-year colleges, including programs at Eastern Michigan University, Madonna University, and Walsh College. If your primary goal is to transfer into a bachelor's of business administration program in accounting, you should consider the Business Transfer program (ASBAS) in the transfer section of the catalog.

Accounting Department

Advisors: Cliff Bellers, Mark Johnston

Articulation Agreements:

- Eastern Michigan University (EMU)
- Cleary College¹
- Madonna College
- Walsh College

Program Admission Requirements:

- Two years of high school algebra, or MTH 169, or equivalent score on math placement test

Course Number	Course Title	Credit Hours
---------------	--------------	--------------

General Education Requirements (20-21 credits)

ENG 111	Composition I	4
COM 101	Fundamentals of Speaking.....	3
MTH 181	Mathematical Analysis I.....	4
Elective	Complete one course from General Education for the AAS, Area 4: Natural Sciences	3-4
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Science.....	3
Elective ²	Complete one course from General Education for the AAS, Area 6: Arts and Humanities.....	3

Major/Area Requirements (35 Credits)

ACC 111	Principles of Accounting I	3
ACC 122	Principles of Accounting II.....	3
ACC 131	Computer Applications in Accounting	3
ACC 213	Intermediate Accounting	3
ACC 225	Managerial Cost Accounting	3
BMG 111	Business Law I.....	3
BMG 140	Introduction to Business	3
BMG 207	Business Communication	3
BMG 265	Business Statistics.....	3

BOS 183	Spreadsheet Applications.....	2
CIS 110	Intro to Computer Information Systems	3
TAX 101	Federal Income Taxes for Individuals and Small Businesses.....	3

Support Courses (6 Credits)

ECO 211	Principles of Economics I	3
ECO 222	Principles of Economics II	3

Credits Required for the Program:61-62

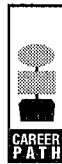
¹ The Cleary College articulation agreement is open to students who already possess a bachelor's degree. It includes courses outside of the Accounting Program and prepares students for the CPA exam and a Bachelor's of Business Administration degree from Cleary College. Copies of this agreement are available in the Office of Admissions.

² ENG 181 or ENG 214 will meet the cross-cultural requirement at EMU.

Note: University of Michigan-Ann Arbor Business School does not accept Business or Accounting courses from community colleges. If you wish to transfer into an accounting major at UM, please see a counselor.

Business Sales & Marketing (CTBSLM)

Certificate



This program prepares you for immediate employment in sales jobs that require skills in sales presentation, negotiation, customer service, display preparation, inventory analysis, and basic market research. The courses in this program may be applied toward an Associate in Applied Science degree in Management Supervision.

Business Department

Advisor: Steve Ennes

Program Admission Requirements: None

Note: Competency in keyboarding is necessary for success in this program. If you need to improve your keyboarding skills you should take BOS 101A before beginning the program.

Course Number	Course Title	Credit Hours
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Major/Area Requirements

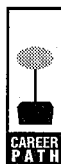
BMG 140*	Introduction to Business	3
BMG 160	Principles of Sales	3
BMG 207	Business Communication	3
BMG 250	Principles of Marketing	3

Credits Required for the Program:12

* BMG 140 should be taken before other program courses. For students with business experience, credit for BMG 140 can sometimes be awarded through credit for prior learning experience. Talk to your faculty advisor for more information.

E-Commerce (CTECOM)

Certificate



This program prepares you to work with the latest industry software and web technologies used to create an e-commerce site that complies with legal requirements. It also gives you the skills to purchase goods and services on the web, perform e-commerce customer service functions, perform comparative analysis of e-commerce web sites, and identify and evaluate available e-commerce software and hosting options. You will be able to prepare a competitive analysis of a small business e-commerce plan that includes setting up an e-commerce web site using a commercial software package. Managers and staff in accounting, administration, communications, customer service, finance, marketing, operations, sales, strategic planning, and public relations would benefit from this certificate.

Business Department

Advisor: Cheryl Gracie

Program Admission Requirements:

- Passing score on Internet placement examination or INP 159

Course Number	Course Title	Credit Hours
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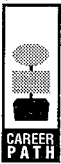
Major/Area Requirements (13 Credits)

BMG 155	Business on the Internet	3
BMG 215	Planning an E-Commerce Site	3
INP 160	Internet II	2
INP 165	Basic HTML	2
INP 200	Web Site Fundamentals	3

Credits Required for the Program:14

Human Resource Management (CTHRSC)

Certificate



This program prepares you for entry-level jobs as a human resource assistant or specialist where you will be assisting in activities that range from recruiting, interviewing and hiring job candidates to evaluating jobs, negotiating contracts, and ensuring company compliance with equal opportunity regulations. This program also provides you with basic management skills that will improve your ability to manage people.

Business Department

Advisor: Colette Young

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
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Major/Area Requirements

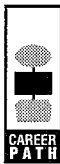
BMG 140*	Introduction to Business	3
BMG 150	Labor-Management Relations	3
BMG 200	Human Relations in Business	3
BMG 208	Principles of Management	3
BMG 240	Human Resources Management	3
BMG 279	Performance Management.....	3

Credits Required for the Program:18

*BMG 140 should be taken before other program courses. For students with business experience, credit for BMG 140 can sometimes be awarded through credit for prior learning experience. Talk to your faculty advisor for more information.

Management Supervision (CVMGTA)

Advanced Certificate



This program prepares you to move into a position as a supervisor, team leader, or first-line manager by adding basic supervisory skills to the occupational/technical skills you already possess. Through case studies, experiential exercises and how-to activities, you will gain skills in problem-solving, decision-making, communicating, and motivating people in groups and teams. The program also can be applied toward a WCC Associate in Applied Science degree.

Business Department

Advisor: Colette Young

Program Admission Requirements:

- Successful completion of a career certificate or degree program

Course Number	Course Title	Credit Hours
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Major/Area Requirements

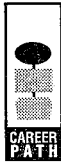
BMG 230	Introduction to Supervision	3
BMG 273	Managing Operations	3
BMG 279	Performance Management.....	3
ACC 220	Financial Planning, Budget, and Control	3

Credits Required for the Program:12

CAREER PROGRAMS

Management Supervision (APMGTM)

Associate in Applied Science Degree



Some employers require or prefer employees to have an associate degree as a condition for employment or for advancement. You can earn an AAS in Management Supervision, by completing the requirements listed below.

Business Department

Advisor: Colette Young

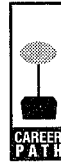
Requirement	Credit Hours
Complete a certificate or degree in any specialty area with a minimum of 15 credit hours.....	15
Complete the Management Supervision Advanced Certificate (MGTA)	12
Electives* Complete an additional 9 credit hours of business courses (BMG).....	9
Electives* Complete an additional 6 credit hours in the disciplines of ACC, BMG, CIS, and/or INP	6
Electives Complete the General Education Requirements for the AAS.....	18-21

Credits Required for the Program:60-63

* See your advisor to select appropriate electives.

Small Business and Entrepreneurship (CTSBEA)

Certificate



This program provides you with concepts, theory and practice in starting and operating a small business enterprise. In addition, the program also provides a feeling for “intrapreneurship” - your opportunities within the corporate structure. Through the use of the Internet, telephone, face-to-face conversation, text materials, commercial software, and a business venture simulation you make many of the decisions and must demonstrate many of the skills involved in starting and operating a small business. You are also introduced to and encouraged to use the resources of the Michigan Small Business Development Center (SBDC) at Washtenaw Community College.

Business Department

Advisor: Granville Lee

Program Admission Requirements: None

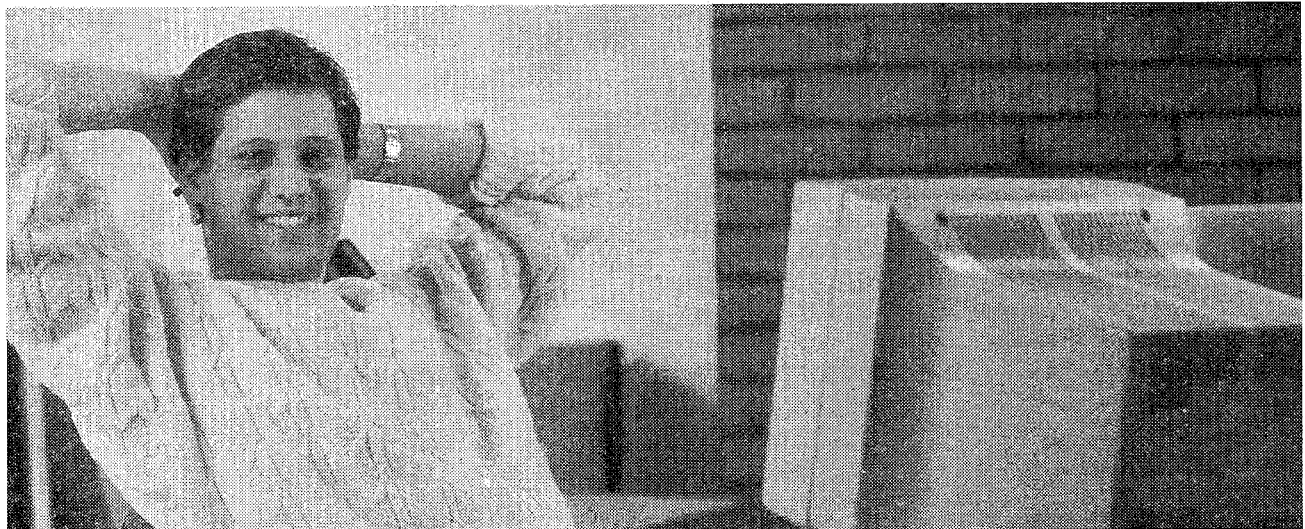
Note: Basic computer and Internet usage skills are needed.

Course Number	Course Title	Credit Hours
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Major/Area Requirements

BMG 109	Intro to Home-Based Small Business Mgmt	3
BMG 209	Writing the Business Plan	3
BMG 292	Operating a Small Business: An Experience	3

Credits Required for the Program: 9



Business Office

Administrative Assistant Technology (CTAATC)

Certificate



This program prepares you for immediate employment in entry-level information processing, data entry, receptionist, and general office positions where skills in keyboarding and document formatting using computers, record management, and Internet communication skills are important. It also gives you credits that can be used toward a Washtenaw Community College associate's degree in Administrative Assistant Technology.

Business Office Systems Department

Advisors: Lynn Allison, Eleanor Charlton, Rosalyn Culver, Dosye Thompson

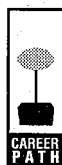
Program Admission Requirements: None

Course Number	Course Title	Credit Hours
Major/Area Requirements		
BOS 100	Information Processing I	4
BOS 107	Clerical Methods and Procedures	4
BOS 111	Document Preparation and Word Processing I.....	5
BOS 122	Document Preparation and Word Processing II	5
BOS 130	Office Financial Applications	3
BOS 183	Spreadsheet Applications.....	2
BOS 206	Scheduling and Internet Office Applications	2
BOS 250	Administrative Office Systems and Procedures....	4

Credits Required for the Program:29

Medical Administrative Assistant Technology (CFMATC)

Certificate



This program prepares you for entry-level positions in doctor's offices, clinics, hospitals, pharmaceutical or insurance companies, or public health facilities where you will prepare, analyze, and retrieve health information. You may also perform receptionist duties, prepare charts and reports, schedule and bill patients, code and submit bills to insurance companies, and carry out some patient care duties such as sterilizing instruments and taking vitals. The program also provides the first two semesters of the Associate in Applied Science Degree in Medical Administrative Assistant Technology.

Business Office Systems Department

Advisors: Lynn Allison, Eleanor Charlton, Rosalyn Culver, Dosye Thompson

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
Major/Area Requirements		
BIO 102	Human Biology	4
BOS 100	Information Processing I	4
BOS 107	Clerical Methods and Procedures	4
BOS 111	Document Preparation and Word Processing I.....	5
BOS 122	Document Preparation and Word Processing II	5
BOS 223	Medical Office Procedures.....	3
BOS 224	Medical Office Insurance and Billing	4
HSC 101	Healthcare Terminology	1
HSC 115	Medical Laboratory Procedures	3

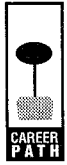
Credits Required for the Program:33



CAREER PROGRAMS

Administrative Assistant Technology (APAATD)

Associate in Applied Science Degree



This program prepares you for higher-level support positions in office settings where increased responsibilities require technical skills in desktop publishing, presentation software, accounting, and database software. You will also gain broader skills through completion of the core curriculum competencies required for an associate's degree.

Business Office Systems Department

Advisors: Lynn Allison, Eleanor Charlton, Rosalyn Culver, Dosye Thompson

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
General Education Requirements (19-20 Credits)		
ENG 111	Composition I	4
COM 101	Fundamentals of Speaking	3
MTH 163	Business Mathematics	3
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Science	3
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3
Elective	Complete one course from General Education for the AAS, Area 4: Natural Sciences (BIO 102 is required for the Medical Administrative Assistant Option)	3-4

Course Number	Course Title	Credit Hours
Major/Area Requirements (29 Credits)		
BOS 100	Information Processing I	4
BOS 107	Clerical Methods and Procedures	4
BOS 111	Document Preparation and Word Processing I	5
BOS 122	Document Preparation and Word Processing II	5
BOS 182	Database Applications	2
BOS 183	Spreadsheet Applications	2
BOS 206	Scheduling and Internet Office Applications	2
BOS 207	Presentation Software Applications	2
BOS 225	Advanced Document Preparation	3

Program Options (13-14 Credits)

Complete all of the required courses in either the Administrative Assistant or Medical Administrative Assistant Option below. Check course descriptions for prerequisites.

Credits Required for the Program:61-63

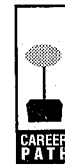
Options

Course Number	Course Title	Credit Hours
Administrative Assistant Option (13 Credits)		
ACC 111	Principles of Accounting I	3
BOS 130	Office Financial Applications	3
BOS 208	Desktop Publishing for the Office	3
BOS 250	Administrative Office Systems and Procedures	4

Medical Administrative Assistant Option (14 Credits)

BOS 210	Medical Transcription	3
BOS 223	Medical Office Procedures	3
BOS 224	Medical Office Insurance and Billing	4
HSC 101	Healthcare Terminology	1
HSC 115	Medical Laboratory Procedures	3

Computer Software Applications (CTCSSC) Certificate



This program focuses on upgrading your basic keyboarding and computer skills to intermediate or advanced levels in six typical office software applications, using the Microsoft® Office Suite as well as a web browser. Successful completion of the required courses prepares you to take the Microsoft® Office User Specialist (MOUS®) certification exams.

Business Office Systems Department

Advisors: Lynn Allison, Eleanor Charlton, Rosalyn Culver, Dosye Thompson

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
Major/Area Requirements		
BOS 101A	Introduction to Keyboarding	1
BOS 101B	Keyboarding	1
BOS 157	Word Processing Applications I	2
BOS 182	Database Applications	2
BOS 183	Spreadsheet Applications	2
BOS 206	Scheduling and Internet Office Applications	2
BOS 207	Presentation Software Applications	2
BOS 257	Word Processing Applications II	2

Credits Required for the Program:14

Medical Transcription (CTMTR) Certificate



This program prepares you for entry-level positions as a medical transcriptionist in a hospital, doctor's office, or private transcription company. It also gives you a foundation for work on the Certificate or Associate in Applied Science degree in Medical Administrative Assistant Technology.

Advisors: Lynn Allison, Eleanor Charlton, Rosalyn Culver, Dosye Thompson

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
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Major/Area Requirements

BIO 102	Human Biology	4
BOS 111	Document Preparation and Word Processing I	5
BOS 122	Document Preparation and Word Processing II	5
BOS 210	Medical Transcription.....	3
HSC 101	Healthcare Terminology	1

Credits Required for the Program:18

Professional Office Systems (CTPOSC) Certificate



This program prepares you for entry-level office jobs requiring skills in keyboarding, information processing, and written communication. The program also gives you a foundation for continued study in one of Washtenaw Community College's Business Office Systems associate's degree programs.

Advisors: Lynn Allison, Eleanor Charlton, Rosalyn Culver, Dosye Thompson

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
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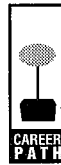
Major/Area Requirements

BOS 100	Information Processing I	4
BOS 111	Document Preparation and Word Processing I	5
BOS 107	Clerical Methods and Procedures	4

Credits Required for the Program:13

Child Care

Child Development (CTCDA) Certificate



This program prepares you for the assessment exam required for the Child Development Associate (CDA) credential and for employment in child care centers or in family home daycare settings working with infants and toddlers, or preschoolers. It also provides you with skills from the 13 functional areas required by the National Council for Early Childhood Professional Recognition, as well as courses that transfer into WCC's associate's degree childcare program.

Public Service Careers Department

Advisor: Sally Adler

Articulation:

The courses in this program may be transferred into the Child Care Associate's Degree program as CCP 108, 110, 118, and 119.

Program Admission Requirements:

- Students must be at least 18 years of age and have a high school diploma or equivalent.

Course Number	Course Title	Credit Hours
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Major/Area Requirements

CCP 122	Child Development Credentialing I.....	4
CCP 123	Child Development Credentialing II	4
CCP 132	Child Development Practicum I	1
CCP 133	Child Development Practicum II	1
HSC 131	CPR/FPR and First Aid	1
Elective *	Optional (not required): CCP 124 and/or CCP 134	

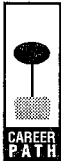
Credits Required for the Program:11

* These additional courses are not required for the WCC Certificate, but may be taken to prepare for the final assessment test administered by the National Council and to complete the final observation assessment for the Child Development Associate credential.



Child Care (APCC)

Associate in Applied Science Degree



This program prepares you for jobs as a child care professional in a day-care center where you are expected to organize and lead activities for children from birth through age twelve.

Completion of the program qualifies you as an educational director of a childcare center in the State of Michigan. It also gives you some courses that can be applied to four-year programs in early childhood development and education.

Public Service Careers Department

Advisor: Sally Adler

Program Admission Requirements:

One year of HS algebra, MTH 097, or equivalent COMPASS math score

General Education Requirements (20 Credits)

ENG 111	Composition I	4
MTH 148	Functional Math for Elementary Teachers I	4
MUS 180	Music Appreciation	3
PLS 150	State & Local Government and Politics	3
COM 101	Fundamentals of Speaking	3
Elective	Complete one course from: AST 111, BIO 101, GLG 100, GLG 104, or SCI 101	3

Major/Area Requirements (31 Credits)

CCP 100	The Exceptional Child	2
CCP 101*	Child Development	3
CCP 103	Establishing Programs for Children	2
CCP 104	Basics of Child Care	1
CCP 107	Math & Science Activities for Children	3
CCP 108	Expressive Arts for Children	2
CCP 109	Language and Communication for Children	2
CCP 110	Social & Emotional Development	2
CCP 111	Management of Child Care Programs	2
CCP 113	Health, Safety and Nutrition for Child Care	3
CCP 118	Beginning Child Care Seminar	1
CCP 119	Beginning Child Care Practicum	2
CCP 200	Working with Parents	3
CCP 218	Advanced Child Care Seminar	1
CCP 219	Advanced Child Care Practicum	2

Support Courses (10 Credits)

HSC 131	CPR/FPR and First Aid	1
ENG 240	Children's Literature	3
Elective	Complete two courses from the following: CIS 100, MUS 140, COM 102, PSY 100, or SOC 100	6

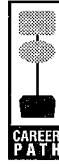
Credits Required for the Program: 61

* CCP 101 must be taken before or concurrently with any other CCP course.

Computers-Internet

Internet Professional (CFINPC)

Certificate



This program prepares you for a job as an Internet professional where you will provide services which might include designing web pages, administering a web site, programming for the web, or conducting business on the web depending on whether you choose the design or technical option. The program also provides you with a well-rounded experience in all aspects of Internet development and prepares you for industry certification examinations.

Internet Professional Department

Advisor: Laurence Krieg

Program Admission Requirements:

- Passing score on Internet placement test or INP 159
- Passing scores on COMPASS placement tests.

Course Number	Course Title	Credit Hours
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Major/Area Requirements (16 Credits)

ENG 208	Advanced Technical Communication	3
INP 160	Internet II	2
INP 165	Basic HTML	2
INP 200	Web Site Fundamentals	3
INP 230	Advanced Web I	3
INP 260*	Advanced Web II	3

Program Options (20 Credits)

Complete all of the required courses in either the Design or Technical Option below. Check course prerequisites to determine the sequence for taking courses.

Credits Required for the Program : 36

Options

Design Option (20 Credits)

GDT 112	Graphic Communication	4
INP 143	Imaging for the Web	3
INP 240	Advanced Imaging for the Web	3
INP 250	Audio and Video for the Web	3
INP 255	Animation on the Web	3
Choose one:	GDT 100 Typography I or	
PHO 127	Digital Photo Imaging	4

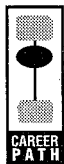
Technical Option (20 Credits)

CIS 121	Linux/UNIX Fundamentals	3
CIS 265	Programming the Web.....	3
CIS 286	UNIX Systems Administration	4
INP 283	Databases and the Web	3
INP 287	Web Server Security	3
Choose one:	CPS 171 Intro to Programming with C++ or CPS 185 Introduction to Visual Basic Programming.....	4

* INP 260 is a capstone course that should be taken in the last semester of the program.

Internet Professional (APINPD)

Associate in Applied Science Degree



This program prepares you for a job as an Internet professional where you will provide services which might include designing web pages, administering a web site, programming for the web, or conducting business on the web depending on whether you choose the design or technical option. The program also provides you with a well-rounded experience in all aspects of Internet development and includes the courses you need to complete the core curriculum requirements for an associate's degree. It also prepares you for industry certification examinations.

Internet Professional Department

Advisor: Laurence Krieg

Program Admission Requirements:

- Passing score on Internet placement examination or INP 159.
- Passing scores on COMPASS placement tests.

Course Number	Course Title	Credit Hours
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General Education Requirements (21 Credits)

COM 101	Fundamentals of Speaking.....	3
ENG 111	Composition I	4
Elective	Complete one course from: MTH 151, MTH 169, MTH 181	4
Elective	Complete one course from: BIO 101, CEM 105, CEM 111, PHY 105, or PHY 111.....	4
Elective	Complete one course from: ANT 201, ECO 211, GEO 100, HST 121, HST 122, HST 123, HST 201, HST 202, PLS 112, or SOC 100	3

Elective	Complete one course from: ART 130, ART 143, ART 150, ENG 160, ENG 170, ENG 181, ENG 211, ENG 213, ENG 223, ENG 224, HUM 145, MUS 180, or PHL 101	3
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Major/Area Requirements (25 Credits)

BMG 250	Principles of Marketing	3
ENG 208	Advanced Technical Communication	3
INP 160	Internet II	2
INP 165	Basic HTML	2
INP 200	Web Site Fundamentals	3
INP 230	Advanced Web I.....	3
INP 260*	Advanced Web II	3
Elective	Complete at least 3 credits from the disciplines of CIS, CPS, GDT, or INP	3
Elective	Complete one course from: BMG 109, BMG 155, BMG 230, BMG 272.....	3

Program Options (20 Credits)

Complete all of the required courses in either the Design or Technical Option below. Check course prerequisites to determine the sequence for taking courses.

Credits Required for the Program:66

Options (20 Credits)

Design Option		
GDT 112	Graphic Communication	4
INP 143	Imaging for the Web	3
INP 240	Advanced Imaging for the Web	3
INP 250	Audio and Video for the Web.....	3
INP 255	Animation on the Web	3
Choose one:	GDT 100 Typography I or PHO 127 Digital Photo Imaging.....	4

Technical Option (20 Credits)

CIS 121	Linux/UNIX Fundamentals	3
CIS 265	Programming the Web.....	3
CIS 286	UNIX Systems Administration	4
INP 283	Databases and the Web	3
INP 287	Web Server Security	3
Choose one:	CPS 171 Intro to Programming with C++ or CPS 185 Intro to Visual Basic Programming.....	4

* INP 260 is a capstone course that should be taken in the last semester of the program.



Computers-Programming

Object Oriented Programming (CTOOPC)

Certificate



This program prepares you for jobs as a computer programmer where you will write code and develop applications utilizing object-oriented programming techniques. You will also develop skills that can be applied to the related jobs of programmer/analyst and software architect and documentation of accomplishments in object-oriented programming skills. The program also gives you twenty-three credits to apply toward the Associate in Applied Science degree in Business Computer Programming.

Computer Instruction Department

Advisors: Clarence Hasselbach, Khaled Mansour, Janet Remen, Phil Geyer, Usha Jindal

Program admission requirements:

- Two years of high school algebra or MTH 169 or equivalent score on COMPASS algebra test
- One semester of high school word processing and spreadsheets, or CIS 100, or permission of program advisor

Course Number	Course Title	Credit Hours
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Major/Area Requirements

CIS 110	Intro to Computer Information Systems	3
CIS 117	Windows® Operating System	2
CIS 121	Linux/UNIX® Fundamentals	3
CIS 288	Systems Analysis and Design	3
CPS 171	Introduction to Programming with C++	4
Choose one:	CPS 271 Object Features of C++ or CPS 290 Object Oriented Programming	4
CPS 272	Data Structures with C++	4

Credits Required for the Program23

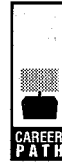
The following sequence of courses is recommended.

Please check course descriptions for pre and co-requisites:

I	II	III	IV
CIS 110	CIS 121	CIS 288	CIS 272
CIS 117	CPS 171	CPS 271	

Web Programming Tools (CTWPTC)

Certificate



This program prepares you for jobs requiring server-side programming skills in Common Gateway Interface programming, Java programming, and in the writing of HTML code and JavaScript®. It also gives you skills that can be applied to the related jobs of Java software developer, Web programmer, and Web application developer. Students should already be familiar with HTML.

Computer Instruction Department

Advisors: Clarence Hasselbach, Phil Geyer, John Rinn

Program admissions requirements:

- Passing scores on COMPASS placement tests.
- One semester of high school word processing and spreadsheets, or CIS 100, or permission of the program advisor
- Two years of high school algebra or MTH 169 or equivalent score on COMPASS algebra test

Course Number	Course Title	Credit Hours
---------------	--------------	--------------

Major/Area Requirements

CIS 110	Intro to Computer Information Systems	3
CIS 117	Windows® Operating System	2
CIS 121	Linux/UNIX® Fundamentals	3
CIS 265	Programming the Web.....	3
CIS 277	Java for Programmers	3
CIS 282	Small System Data Base	3
CPS 171	Introduction to Programming with C++	4
INP 165	Basic HTML	2

Credits Required for the Program:23

The following sequence of courses is recommended.

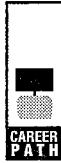
Please check course descriptions for pre and co-requisites:

I	II	III
CIS 110	CIS 121	CIS 265
CIS 117	CPS 171	CIS 277
	INP 165	CIS 282



Windows® Visual Basic Developer (CVWNVB)

Advanced Certificate



This program prepares you for a job as a developer of graphical user interface programs on a PC. It is intended for students who need to acquire skills in Windows application development in Visual Basic and for students who wish to acquire skills in programming active server pages. The program also gives you skills that can be applied to the related jobs of programmer/analyst, Windows programmer, PC programmer, and Web programmer.

Computer Instruction Department

Advisor: John Rinn, Khaled Mansour

Program admissions requirements:

- Successful completion of the Web Programming Tools Certificate (WPTC)

Course Number	Course Title	Credit Hours
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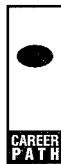
Major/Area Requirements

CIS 266	Web Programming/Active Server Pages	4
CPS 185	Introduction to Visual Basic Programming	4
CPS 285	Advanced Visual Basic Programming	4

Credits Required for the Program12

Business Computer Programming (APBCP)

Associate in Applied Science



This program prepares you for entry-level or trainee computer programmer positions, where you'll work with a systems analyst in an applications environment to support information processing functions. The program also gives you the opportunity to focus your program in a particular discipline by choosing from a list of elective courses covering topics such as UNIX®, web site management, Visual Basic programming, object-oriented programming, among others.

Computer Instruction Department

Advisors: Phil Geyer, Roland Meade, Khaled Mansour, John Rinn, Michael Galea, Clarence Hasselbach

Program Admission Requirements:

- A high school course in word processing and spreadsheets or CIS 100 or permission of program advisor
- A high school course in Windows operating system, or CIS 117, or permission of the program advisor

Course Number	Course Title	Credit Hours
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General Education Requirements (19-20 Credits)

COM 101	Fundamentals of Speaking	3
Choose one:	ENG 100 Communication Skills or ENG 107 Technical Communications or ENG 111 Composition I	3-4
Choose one:	MTH 169 Intermediate Algebra or MTH 176 College Algebra or MTH 181 Mathematical Analysis I	4
Elective	Complete one course from General Education for the AAS, Area 4: Natural Sciences	3
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Sciences	3
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3

Course Number	Course Title	Credit Hours
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Major/Area Requirements (31-34 Credits)

CIS 110	Intro to Computer Information Systems	3
CIS 121	Linux/UNIX® Fundamentals	3
STS 240	Career Practices Seminar	2
CIS 282	Small Systems Data Base	3
CIS 288	Systems Analysis and Design	3
CPS 171	Introduction to Programming with C++	4
CPS 271	Object Features of C++	4
CPS 272	Data Structures with C++	4
Choose one:	CIS 122 The Linux® Operating System, or CIS 221 UNIX® Tools and Scripts, or CIS 286 UNIX® Systems Admin	2-4
Elective	Complete one course from: CIS 174, 238, 277, 265; CPS 185, 285, 293, 295, CNT 200, 210, 211; INP 165	3-4

Support Courses (12 Credits)

ACC 111	Principles of Accounting I	3
ACC 122	Principles of Accounting II	3
BMG 200	Human Relations in Business	3
Elective	Complete one course from: BMG 150, BMG 208, BMG 230, or BMG 240	3

Credits Required for the Program: 62-72

Note: See also the Computer Information Systems Program and the Computer Science Program in the Transfer Section.

Oracle® Developer (CPORAC) Post Associate Certificate



This program prepares you for a job as an Oracle database application developer. These courses are intended for a person who already has a background in object oriented programming and relational database theory and practice. The program also gives you skills that you can apply to the related jobs of programmer/analyst, database application developer, Oracle developer, Web database developer, or e-commerce software architect. You will also be prepared for completion of the certification exams that are offered by Oracle University.

Computer Instruction Department

Advisors: Michael Galea, Khaled Mansour, Clarence Hasselbach

Program admission requirements:

Completion of one of the following degree programs with a GPA of 2.0 or better:

- Computer Information Systems Transfer (CIST)
- Math and Science (MSAS) with a Computer Science Concentration (COMS)
- Business Computer Programming (BCP)
- Internet Professional with the Technical Option (INPD).

The following courses in these programs must be completed with a grade of "C" or better:

- CIS 282 Small Systems Database
- CPS 171 Introduction to Programming with C++

Course Number	Course Title	Credit Hours
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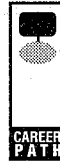
Major/Area Requirements

CIS 291	Introduction to Oracle SQL and PL/SQL	4
CIS 292	Introduction to Oracle Developer	3
CIS 293	Advanced Oracle Developer	4

Credits Required for the Program11

Note: The courses in this program must be taken in sequence.

Web Database Developer (CPWDD) Post Associate Certificate



This program prepares you for jobs developing Web databases and e-commerce applications. It is intended for students with a strong programming background and prior experience with SQL. The program also gives you skills that can be applied to the jobs of e-commerce software architect, e-business strategist, Java software developer, and Web application developer.

Computer Instruction Department

Advisors: Michael Galea, Clarence Hasselbach, Khaled Mansour

Program admission requirements:

Completion of one of the following degree programs with a GPA of 2.0 or better:

- Computer Information Systems Transfer (CIST)
- Math and Science (MSAS) with a Computer Science Concentration (COMS)
- Business Computer Programming (BCP)
- Internet Professional with the Technical Option (INPD).

The following courses in these programs must be completed with a grade of "C" or better:

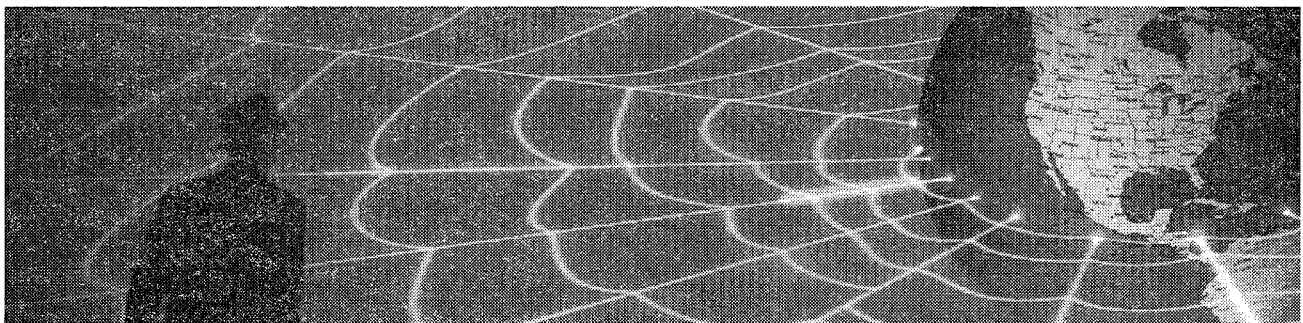
- CIS 282 Small Systems Database
- CPS 185 Introduction to visual Basic Programming

Course Number	Course Title	Credit Hours
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Major/Area Requirements

CPS 273	Web Programming/Oracle Database Access	4
CIS 266	Web Programming Using Active Server Pages	4
CIS 277	Java for Programmers	3
CIS 278	Advanced Java Programming	3

Credits Required for the Program14



Windows® C++/Java® Developer (CPWNCJ)

Post Associate Certificate



This program prepares you for work developing graphical user interface programs on a PC. These courses are intended for students who already have a strong background in C++ programming and who need to acquire skills in Windows application development in Visual C++ and Java. The program also gives you skills that can be applied to the related jobs of programmer/analyst, Windows programmer, or PC programmer. Prior coursework or experience in using HTML to compose web pages is helpful.

Computer Instruction Department

Advisor: Clarence Hasselbach, Khaled Mansour

Program admission requirements:

Completion of one of the following degree programs with a GPA of 2.0 or better:

- Computer Information Systems Transfer (CIST)
- Math and Science (MSAS) with a Computer Science Concentration (COMS)
- Business Computer Programming (BCP)
- Internet Professional with the Technical Option (INPD).

Course Number	Course Title	Credit Hours
---------------	--------------	--------------

Major/Area Requirements

CPS 293	Visual C++ Windows® Programming	4
CPS 295	Adv Visual C++ Windows® Programming.....	4
CIS 277	Java® for Programmers	3

Credits Required for the Program11

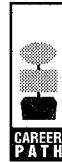
Note: CPS 293 must be taken before CPS 295.



Computers-Systems

Computer Systems Technology (CTCSTC)

Certificate



This cross-disciplinary program is managed by the Computer Instruction and Electronics Departments. The program prepares you for the rigorous Computer Technology Industry Association's (CompTIA) A+ Certification exam and for employment as a microcomputer service technician, where you'll be expected to be equally adept at hardware solutions, working with operating systems, and relating to customers. It also provides the foundation for Washtenaw Community College's two advanced certificates in computer networking.

Computer Instruction Department

Electronics Department

Advisors: Gary Downen, John Trame, Michael Galea, Phil Geyer, Usha Jindal, Roland Meade, John Rinn, Catherine Wagner

Program Admission Requirements:

The following high school courses or equivalents must be completed with a grade of "C" or better:

- A high school course in Windows operating systems or CIS 117 or permission of the program advisor
- A high school course in word processing and spreadsheets or CIS 100 or permission of the program advisor
- One year of high school algebra or MTH 097 or equivalent score on COMPASS test

Course Number	Course Title	Credit Hours
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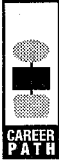
Major/Area Requirements

CIS 110	Intro to Computer Information Systems	3
CIS 121	Linux/UNIX Fundamentals	3
CPS 185	Introduction to Visual Basic Programming	4
ELE 118	MS DOS for Technicians	2
ELE 150	PC Hardware Concepts and Troubleshooting.....	4
ELE 155	Advanced Computer Concepts and Troubleshooting	4
ELE 216A	Modem Hardware Install, Configuration & Troubleshooting	2
ELE 225A	Network Installation and Troubleshooting	2
Choose one:	ELE 174 Computer Networking Co-op I or ELE 299 Customer Relations	1

Credits Required for the Program:25

Computer Networking Technology I (CVCNT)

Advanced Certificate



This program prepares you for a job as a Microsoft® technician, where you will install, configure, and troubleshoot Local Area Networks under the supervision of a network administrator. It also gives you the knowledge you'll need to pass the first required Microsoft® Certified Systems Engineer exam.

Computer Instruction Department

Electronics Department

Advisors: John Trame, Michael Galea, Phil Geyer, Usha Jindal, Roland Meade, John Rinn

Program Admission Requirements:

Successful completion of the Computer Systems Technology Certificate (CTCSTC) with a GPA of 2.0 or better, or equivalent industry experience

Major/Area Requirements

CNT 200	Networking Fundamentals	4
CNT 211	Network Administration	3
CNT 221	Server Technologies.....	3
CNT 225	Introduction to Routers	4
CNT 235	Advanced Local Area Networks	4
CNT 245	Introduction to Wide Area Networks	4

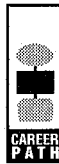
Credits Required for the Program:22

The following sequence of courses is recommended. Please check course descriptions for pre and co-requisites:

I	II	III	IV
CNT 200	CNT 211 CNT 225	CNT 221 CNT 235	CNT 245

Computer Networking Technology II (CVCNTA)

Advanced Certificate



This program provides you with the advanced skills needed for a job as a Microsoft® network administrator, where you will design, install, configure, and troubleshoot Local and Wide Area Networks. It also prepares you to pass the Microsoft® Certified Systems Engineer exam.

Computer Instruction Department

Electronics Department

Advisors: John Trame, Michael Galea, Phil Geyer, Usha Jindal, Roland Meade, John Rinn

Program Admission Requirements:

- Successful completion of the Computer Networking Technology I Advanced Certificate (CVCNT)

Major/Area Requirements

CNT 231	MS Windows Enterprise Technologies.....	3
CNT 241	Internetworking MS TCP/IP®	3
CNT 251	Microsoft Internet Information Server	3
CNT 255	Advanced Router Configuration	4
CNT 265	Remote Access Networks	4
CNT 275	Multi-Layer Switching	4
CNT 285	Network Troubleshooting.....	4

Credits Required for the Program:25

The following sequence of courses is recommended. Please check course descriptions for pre and co-requisites:

I	II	III	IV
CNT 231	CNT 241 CNT 251	CNT 255 CNT 265	CNT 275 CNT 285



Computer Networking (APCNTM)

Associate in Applied Science Degree



Some employers require or prefer employees to have an associate degree as a condition for employment or for advancement. You can earn an AAS in Computer Networking, by completing the requirements listed below.

Computer Instruction and Electronics Departments

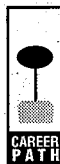
Advisors: Gary Downen, John Trame, Michael Galea, Phil Geyer, Usha Jindal, Roland Meade, John Rinn

Requirement	Credit Hours
Complete the Certificate in Computer Systems Technology (CTC-STC).....	25
Complete the Advanced Certificate in Computer Networking I (CVCNT).....	22
Electives Complete the General Education Areas for the AAS.	18-21

Credits Required for the Program:65-68

Microcomputer System Support (APMSS)

Associate in Applied Science Degree



This program prepares you for jobs where you support the end user in hardware and software matters and where you analyze the user's needs and implement the application packages best suited for the situation. The program also emphasizes people skills.

Computer Instruction Department

Advisors: Roland Meade, John Rinn, Phil Geyer

Program Admission Requirements:

The following high school courses or equivalents must be completed with a grade of "C" or better:

- One year of high school algebra or MTH 097 or Compass algebra score of 46 or higher
- A high school course in word-processing and spreadsheets, or CIS 100, or permission of the program advisor
- A high school course in Windows Operating System, or CIS 117, or permission of the program advisor

Course Number	Course Title	Credit Hours
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General Education Requirements (19-21 Credits)

COM 101	Fundamentals of Speaking.....	3
MTH 169	Intermediate Algebra	4
Choose one:	ENG 100 Communication Skills (4) ENG 107 Technical Communications (3) or ENG 111 composition I (4).....	3-4
Elective	Complete one course from General Education for the AAS, Area 4: Natural Sciences	3-4
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Science ...	3
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3

Course Number	Course Title	Credit Hours
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Major/Area Requirements (36-41 Credits)

BOS 157	Word Processing Applications I.....	2
BOS 182	Database Applications	2
BOS 183	Spreadsheet Applications.....	2
CIS 110	Intro to Computer Information Systems	3
CIS 121	Linux/UNIX Fundamentals	3
CIS 288	Systems Analysis and Design	3
CIS 290	Microcomputer System Support	4
ELE 118	MS DOS for Technicians	2
ELE 150	PC Hardware Concepts and Troubleshooting.....	4
ELE 155	Advanced Computer Concepts and Troubleshooting	4
Choose one:	CPS 171 Intro to Programming with C++ or CPS 185 Intro to Visual Basic Programming.....	4
Choose one	CNT 200 Networking Fundamentals or ELE 225A Network Installation and Troubleshooting	2-4
Elective	Complete one course from: CIS 174, CIS 221, CIS 238, CIS 260, CIS 265, CIS 286, CNT 211, COM 102, ELE 216A, ELE 216B	1-4

Support Courses (11 Credits)

ACC 111	Principles of Accounting I	3
STS 240	Career Practices Seminar.....	2
Choose one:	BMG 200 Human Relations in Business PSY 100 Introductory Psychology.....	3
Elective	Complete one course from: BMG 150, BMG 208, BMG 215, BMG 230, BMG 240.....	3

Credits Required for the Program:66-72

Unix/Linux® Systems (CTUNLN)

Certificate



This program prepares you for jobs installing, configuring, and managing various UNIX and Linux operating systems. You will learn about UNIX/Linux file and directory organization, basic and advanced commands, shell scripting, networking, UNIX/Linux system administration and more. These skills can be applied to the related jobs of computer operator, system administrator, data recovery planner, and computer security coordinator.

Computer Instruction Department

Advisor: Michael Galea, Phil Geyer

Program Admission Requirements:

The following high school courses or equivalents must be completed with a grade of "C" or better:

- Two years of high school algebra (Algebra I and II), or MTH 169, or equivalent score on COMPASS algebra test
- A high school course in word processing and spreadsheets, or CIS 100, or permission of the program advisor

Course Number	Course Title	Credit Hours
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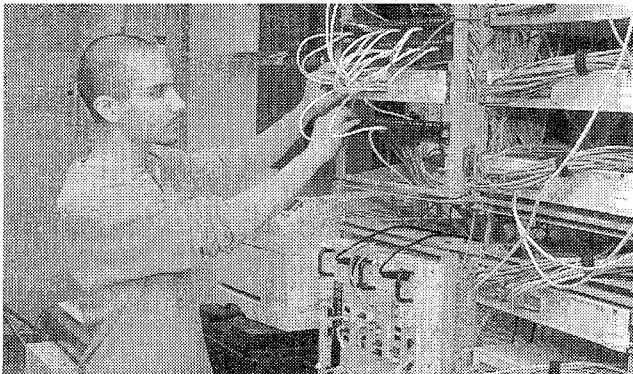
Major/Area Requirements

CIS 110	Intro to Computer Information Systems	3
CIS 121	Linux/UNIX Fundamentals	3
CIS 122	The Linux Operating System	3
CIS 221	UNIX Tools and Scripts	2
CIS 286	UNIX Systems Administration	4

Credits Required for the Program 15

The following sequence of courses is recommended. Please check course descriptions for pre and co-requisites:

I	II	III
CIS 110	CIS 121	CIS 122
		CIS 221
		CIS 286



Criminal Justice

Correctional Science (APCOR)

Associate in Applied Science Degree



This program prepares you for taking the required exams for jobs in county- and state-level correctional facilities. Corrections is an advancement-oriented field, as long as you're successful on the job, willing to keep going back to school, and able to pass the required exams. The program also includes the courses you need to complete an associate in arts degree. The program is certified by the Michigan Corrections Officers Training Council.

Public Service Careers Department

Advisor: Ruth Walsh

Program Admission Requirements: None

Course Number	Course Name	Credits Hours
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General Education Requirements (19-21 Credits)

COM 102	Interpersonal Communication	3
PLS 112	Introduction to American Government	3
Choose one:	ENG 100 Communications Skills or ENG 111 Composition I	4
Elective	Complete one course from General Education for the AAS, Area 3: Mathematics	3-4
Elective	Complete one course from General Education for the AAS, Area 4: Natural Science	3-4
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3

Course Number	Course Name	Credits Hours
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Major/Area Requirements (41 Credits)

COR 122	Introduction to Corrections	3
COR 132	Correctional Institutions	3
COR 211	Legal Issues in Corrections	3
COR 219	Client Relations in Corrections	3
COR 228	The Correctional Client: Growth and Development	3
CJT 100	Introduction to Criminal Justice	3
CJT 160	Criminal Justice Constitutional Law	3
CJT 120	Criminal Justice Ethics	2
CJT 225	Seminar in Criminal Justice	3
Elective	Complete three courses from the following: PSY 100, PSY 107, PSY 130, PSY 200, PSY 209, PSY 257, PSY 260	9
Elective	Complete two courses from the following: SOC 100, SOC 202, SOC 205, SOC 207, SOC 250	6

Credits Required for the Program: 60-62

Criminal Justice-Law Enforcement (APCJLE)

Associate in Applied Science Degree



This program prepares you for certification to work in law enforcement jobs in the State of Michigan. You must complete the academic program prior to entering the Police Academy component of the program.

Public Service Careers Department

Advisor: Ruth Walsh

Program Admission Requirements: None

Continuing Eligibility Criteria:

Admission to the Police Academy component of this program (CJT 221 A, B and C) is based on passing reading, writing, and physical activity examinations as well as fingerprinting and criminal history checks. Students who do not enter the academy may complete the Criminal Justice Associate in Arts Degree program instead of the Criminal Justice Law Enforcement Associate in Applied Science, and will not be certified for employment. Students admitted to the Police Academy are required to purchase gym clothes, khaki uniforms, textbooks, and other supplies. Academy students are required to adhere to additional rules of behavior and discipline beyond the general code of conduct.

Course Number	Course Name	Credits	Hours
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General Education Requirements (19-21 Credits)

COM 102	Interpersonal Communication	3	
ENG 107	Technical Communication	3	
Choose one:	MTH 151 Technical Algebra or MTH 160 Basic Statistics or MTH 169 Intermediate Algebra	4	
Choose one:	PSY 100 Introductory Psychology or PSY 200 Child Psychology	3	
Elective	Complete one course from General Education for the AAS, Area 4: Natural Science	3-4	
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3-4	

Course Number	Course Name	Credits	Hours
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Major/Area Requirements (50 Credits)

CJT 100	Introduction to Criminal Justice.....	3	
CJT 111	Police/Community Relations	3	
CJT 160	Criminal Justice Constitutional Law.....	3	
CJT 120	Criminal Justice Ethics.....	2	
CJT 225	Seminar in Criminal Justice	3	
CJT 221A	Law Enforcement Investigations	13	

CJT 221B	Law Enforcement -Skill Areas	13	
CJT 221C	Law Enforcement-Community Policing & Communication	4	
PEA 102	Cardiovascular Training	1	
PEA 105	Weight Training-Cybox/Free Weights	2	
Elective:	Complete one course from the following: SOC 100, SOC 202, SOC 205, SOC 207, SOC 250, CJT 223	3	

Credits Required for the Program:69-71

The following sequence is recommended for Criminal Justice courses.

I	II	III	IV	V
CJT 100	CJT 111	CJT 225	CJT 221A	CJT 221B
CJT 120	CJT 160		CJT 221C	

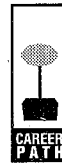
Note: It is recommended that students take one or two semesters of Spanish in addition to program requirements.

Note: See also the Criminal Justice Associate in Arts Program in the Transfer Section of the catalog.

Culinary and Hospitality

Baking and Pastry (CTBAKP)

Certificate



This program prepares you for careers in commercial baking, where you will work in retail deli-bakeries, country clubs, resorts, hotels, and institutional food service operations. It also gives you on-the-job experience in the form of 120 hours in a cooperative education placement, as well as courses that can be applied toward the Associate in Applied Science Degree in Culinary Arts.

Culinary and Hospitality Management Department

Advisors: Don Garrett, Jill Beauchamp, Paul McPherson

Program Admission Requirements: None

Course Number	Course Name	Credits	Hours
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Major/Area Requirements

CUL 110	Sanitation and Hygiene	3	
CUL 120	Culinary Skills	3	
CUL 121	Introduction to Food Preparation Techniques	3	
CUL 114	Baking I	3	
CUL 115	Pastry I	3	
CUL 124	Baking II.....	3	
CUL 125	Pastry II	3	
CUL 130	Beginning Cake Decorating	1	
CUL 131	Wedding Cake Design	1	
CUL 140	Bakery Management and Merchandising	2	
CUL 174	CUL Co-op Education I	1	

Credits Required for the Program:26

Note: Please check course descriptions for pre- and co-requisite information.

Culinary Arts (CFCULC)

Certificate



This program prepares you for a job as a food production specialist in a hotel, restaurant, or institution, where sautéing, roasting, broiling, baking, vegetable preparation, producing soups and sauces, food storage, and sanitation will be among the skills you will need. The program also gives you a foundation for continued study in the associate's degree program in culinary arts.

Culinary and Hospitality Management Department

Advisors: Jill Beauchamp, Don Garrett, Paul McPherson

Program Admission Requirements: None

Course Number	Course Name	Credits Hours
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Major/Area Requirements

CUL 100	Introduction to Hospitality Management	3
CUL 110	Sanitation and Hygiene	3
CUL 120	Culinary Skills	3
CUL 121	Introduction to Food Preparation Techniques	3
CUL 114	Baking I	3
CUL 150	Food Service Management	3
CUL 151	Food Service Marketing	3
CUL 230	Quantity Food Production	3
CUL 231	A La Carte Kitchen	3
Choose one:	CUL 210* Garde Manger or CUL 250 Principles of Beverage Service	3
Elective	Complete one course from the following: MTH 090, MTH 151, MTH 152, or MTH 163	3-4

Credits Required for the Program:33-34

**This course is offered in spring semesters only.*

Culinary and Hospitality Management (APCULD)

Associate in Applied Science Degree



This program prepares you for a career as a culinary arts technician in a restaurant, hospitality, or institutional setting. Culinary arts technicians have a variety of responsibilities that may include supervising and coordinating the activities of food service workers or dining room employees, planning menus, estimating daily or weekly needs, ordering and maintaining inventories of supplies and equipment, and keeping records of meals served. The program also gives you a foundation for continued culinary arts studies at a four-year college and for training as a chef.

Culinary and Hospitality Management Department

Advisors: Don Garrett, Jill Beauchamp, Paul McPherson

Program Admission Requirements: None

Course Number	Course Name	Credits Hours
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General Education Requirements (18-21 Credits)

COM 101	Fundamentals of Speaking	3
Elective	Complete one course from the following: MTH 151, MTH 152, or MTH 163	3-4
Elective	Complete one course from the following: ENG 100 Communication Skills (4) ENG 107 Technical Communication (3) or ENG 111 Composition I (4)	3-4
Elective	Complete one course from General Education for the AAS, Area 4: Natural Sciences	3-4
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Science	3
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3

Course Number	Course Name	Credits Hours
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Major/Area Requirements (49-50 Credits)

CUL 100	Introduction to Hospitality Management	3
CUL 110	Sanitation and Hygiene	3
CUL 114	Baking I	3
CUL 118	Principles of Nutrition	3
CUL 120	Culinary Skills	3
CUL 121	Introduction to Food Preparation Techniques	3
CUL 150	Food Service Management	3
CUL 151	Food Service Marketing	3
CUL 210	Garde Manger	3
CUL 220	Organization/Management of Food Systems	3
CUL 224	Principles of Cost Control	3
CUL 228	Layout and Equipment	3
CUL 230	Quantity Food Production	3
CUL 231	A La Carte Kitchen	3
HRM 174	HRM Co-op Education I	2
Choose one:	CUL 115 Pastry I or CUL 124 Baking II	3
Choose one:	CUL 125 Pastry II or CUL 227 Advanced Culinary Techniques or CUL 250 Principles of Beverage Service	2-3

Credits Required for the Program:67-71

The following sequence is recommended for Culinary Arts courses. Please check course descriptions for pre and co-requisites:

IF	IW	IS	2F	2W
CUL 100	CUL 114	CUL 210*	CUL 115 or 124	HRM 174
CUL 110	CUL 118	CUL 228*	CUL 224	CUL 125 or
CUL 120	CUL 150		CUL 230	CUL 227 or
CUL 121	CUL 151		CUL 231	CUL 250
	CUL 220			

**CUL 210 & 228 are offered in spring semesters only.*

Drafting

**Architectural Technology (CTARCT)
Certificate**



This program prepares you for jobs as an architectural drafting detailer where you're expected to draw each part shown on a layout by giving dimensions, materials, and any other necessary information to make the drawing clear and complete.

Drafting and Design Department

Advisors: Michael Pogliano, James Teevens

Program Admission Requirements:

- One year of high school algebra, or MTH 097 with a grade of "C" or better, or equivalent score on college placement test.
- One year of high school drafting or ARC 099

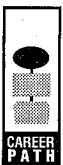
Course Number	Course Title	Credit Hours
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Major/Area Requirements

ARC 111	Architectural Drawing I	6
ARC 117	Construction Materials.....	3
ARC 120	Mechanical and Electrical Systems for Buildings..	3
ARC 122	Architectural Drawing II.....	6

Credits Required for the Program:18

**Architectural Drafting (APAD)
Associate in Applied Science Degree**



This program prepares you for positions as an architectural drafting technician where you will prepare detailed drawings based on rough sketches, specifications, and calculations made by scientists, engineers, architects, and designers. You'll also calculate the strength, quality, quantity, and cost of materials.

Drafting and Design Department

Advisors: Michael Pogliano, James Teevens

Program Admission Requirements:

- One year of high school algebra, or MTH 097 with a grade of "C" or better, or equivalent score on college placement test.

Course Number	Course Title	Credit Hours
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General Education Requirements (18-21 Credits)

Electives* Complete the General Education Requirements for the AAS.....18-21

Major/Area Requirements (43 Credits)

ARC 100	Specifications.....	1
ARC 109	Site Layout.....	3
ARC 111	Architectural Drawing I	6
ARC 117	Construction Materials.....	3
ARC 120	Mechanical and Electrical Systems for Buildings..	3
ARC 122	Architectural Drawing II.....	6
ARC 210	Structure in Architecture	2
ARC 213	Architectural Drawing III	6
ARC 218	3D Presentation/CAD	4
ARC 224	Architectural Drawing IV	6
ARC 227	Estimating Construction Costs.....	3

Credits Required for the Program:64

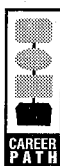
* Recommended General Education courses

Area 3: MTH 152

Area 4: PHY 105

Note: Please check course descriptions for pre- and co-requisites

**Computer Aided Drafting (CTCADC)
Certificate**



The Computer Aided Drafting certificate program prepares you for entry-level work in drafting and detailing, where you will use CAD software to create details from layout drawings and sketches based on industry standards.

Drafting and Design Department

Advisors: Michael McGraw, Belinda McGuire, Barry Swan

Program Admission Requirements:

- Two years of high school algebra or MTH 169 with a grade of "C" or better or equivalent score on COM-PASS algebra test

Course Number	Course Title	Credit Hours
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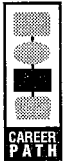
Major/Area Requirements

CAD 111	CAD I - Detailing	6
CAD 113	CAD II - Drafting and Layout	6
CAD 115	Descriptive Geometry	4
IDD 111	Drafting Standards and Conventions	3
IDD 113	Theory of Dies	2
MTT 111	Machine Shop Theory and Practice	5

Credits Required for the Program:26

Computer Aided Drafting (CVCADA)

Advanced Certificate



This program prepares you for jobs as a CAD Designer/Drafter. You will prepare CAD based models of assemblies and details. From these models you will generate complete and accurate assembly and detail drawings using industry conventions for manufacturability and economy. You will work from rough sketches specifications, catalogs, existing CAD parts and models, and calculations provided by engineers and designers.

Drafting and Design Department

Advisors: Michael McGraw, Belinda McGuire, Barry Swan

Program Admission Requirements:

- Completion of the Computer Aided Drafting Certificate (CTCADC).

Course Number	Course Title	Credit Hours
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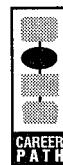
Major/Area Requirements

CAD 211	Parametric Modeling	4
CAD 213	Mechanisms	4
CAD 215	Geometric Dimensioning & Tolerancing	3
CAD 217	Mechanical Design	6
IDD 211	Theory of Jigs & Fixtures	2
Choose one:	MTH 107 Triangle Trigonometry or MTH 178 General Trigonometry	3

Credits Required for the Program:22

Computer Aided Drafting and Design (APCADD)

Associate in Applied Science Degree



This program prepares you for jobs as a CAD operator or technician, where you'll prepare clear, complete, and accurate detail and assembly drawings from rough sketches, specifications, and calculations of engineers and designers to be used for mechanical applications.

Drafting and Design Department

Advisors: Michael McGraw, Belinda McGuire, Barry Swan

Program Admission Requirements:

The following high school courses or equivalents must be completed with a grade of "C" or better:

- Two years of high school Algebra, or MTH 169

Course Number	Course Title	Credit Hours
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General Education Requirements (19-20 Credits)

COM 1011	Fundamentals of Speaking	3
Choose one:	ENG 107 Tech Communication (3) or ENG 111 ¹ Composition I (4)	3-4
Choose one:	MTH 107 Triangle Trigonometry or MTH 178 ¹ General Trigonometry	3
Choose one:	PHY 105 Conceptual Physics or PHY 111 ¹ General Physics I	4
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Science	3
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3

Course Number	Course Title	Credit Hours
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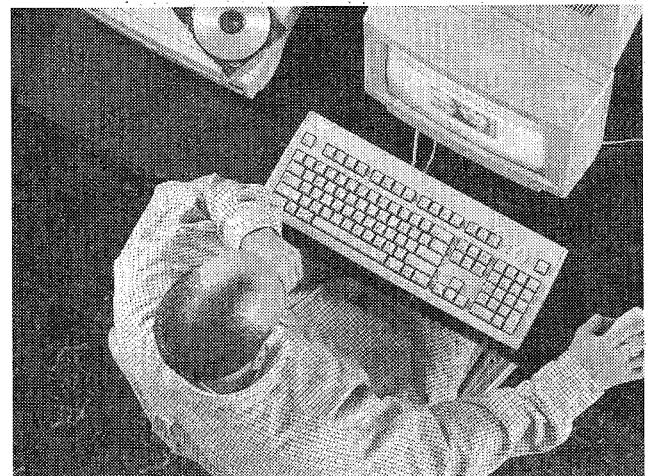
Major/Area Requirements (53 Credits)

CAD 111	CAD I - Detailing	6
CAD 113	CAD II - Drafting & Layout	6
CAD 115	Descriptive Geometry	4
CAD 211	Parametric Modeling	4
CAD 213	Mechanisms	4
CAD 215	Geometric Dimensioning & Tolerancing	3
CAD 217	Mechanical Design	6
IDD 111	Drafting Standards and Conventions	3
IDD 113	Theory of Dies	2
IDD 211	Theory of Jigs and Fixtures	2
MTT 103	Introduction to Materials	3
MTT 111	Machine Shop Theory and Practice	5
NCT 112	Introduction to CNC Machining	5

Credits Required for the Program:72-73

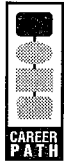
¹ Choose these courses if you plan to transfer to a four-year college. The following course sequence is recommended for major/area courses. Please check course descriptions for pre and co-requisites:

IF	IW	2F	2W
CAD 111	CAD 113	CAD 211	CAD 217
CAD 115	IDD 113	CAD 213	NCT 112
IDD 111	MTT 103	CAD 215	
MTT 111	MTH	IDD 211	



Mechanical Design (CPMDES)

Post-Associate Certificate



This program provides advanced skills in the development, modification, and analysis of solid model parts and assemblies. The program will give you the skills to create complex three-dimensional free form surfaces based on mathematical concepts and equations using the tools within the SDRC I-DEAS Master Series. You must have an associate's degree in CAD-Drafting, or equivalent industry experience to enroll in this program.

Drafting and Design Department

Advisor: Belinda McGuire

Program Admission Requirements:

Successful completion of an associate degree or higher degree in CAD-Drafting, or related industry experience.

Course Number	Course Title	Credit Hours
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Required Courses

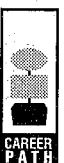
CAD 280	Part Modeling I	3
CAD 282	Constructing Assemblies	2
CAD 284	Part Modeling II	3
CAD 286	Part Modeling III	2
CAD 290	Working Details	2
CAD 292	Free Form Surfacing	2

Credits Required for the Program:14

Electronics

Electronics Technology (CTELEC)

Certificate



This program prepares you for entry-level jobs in almost any of the electricity/electronics cluster of occupations, where you'll be expected to be skilled in the installation, maintenance, and troubleshooting of personal computers, electric motors, and motor controls and in relating to customers, managers, and co-workers.

Electronics Department

Advisors: William Cleary, Gary Downen,
Lawrence Kramer, Dale Petty, John Trame,
Catherine Wagner

Program Admission Requirements:

- Two years of high school algebra with a grade of "C" or better, or MTH 169, or equivalent score on math placement test
- One year of high school Windows operating system with a grade of "C" or better, or CIS 117, or permission of the program advisor.

Course Number	Course Title	Credit Hours
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Major/Area Requirements

ELE 111	Electrical Fundamentals	4
ELE 134	Motors and Controls	4
ELE 137	Switching Logic	4
ELE 139	Microprocessors	4
ELE 150	PC Hardware Concepts and Troubleshooting.....	4
ELE 209	Operational Amplifiers	2
ELE 211	Basic Electronics	4
Choose one:	ELE 174 Electronics Co-op I or	
	ELE 299 Customer Relations	1

Credits Required for the Program:27

Engineering Technology

Mechanical/Manufacturing Engineering Technology (APMETT)

Associate in Applied Science Degree



This program prepares you for jobs in which you support technical and engineering activities in both business and industry settings by using engineering design methods and analysis techniques to improve products, processes, and systems. You also get credit that transfers to Engineering Technology Programs at four-year colleges and universities. The curriculum of this program is based on engineering theory but emphasis is placed on application, implementation skills and computer modeling.

Drafting and Design Department

Advisor: Frank Gerlitz

Articulation Agreements:

- University of Toledo, Engineering Technology program

Program Admission Requirements:

The following high school courses or equivalents must be completed with a grade of "C" or better:

- Two years of high school algebra and precalculus or MTH 176 or equivalent score on math placement test
- One semester of high school trigonometry or MTH 178 or equivalent score on math placement test
- High school chemistry or CEM 057

Engineering Technology

Course Number Course Title Credit Hours

General Education Requirements (21-22 Credits)

COM 101	Fundamentals of Speaking	3
GEM 111	General Chemistry I	4
MTH 191	Calculus I	5
Choose one:	ENG 111 Composition I (4) or	
	ENG 122 Composition II (3)	3-4
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Science ..	3
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3

Major/Area Requirements (33 Credits)

MET 100	Presentation & Computer Aided Drawing	4
MET 211	Statics and Introduction to Solid Mechanics	3
MET 241	Introduction to Dynamics	3
MET 260	Strength of Materials	3
MTT 103	Introduction to Materials	3
MTT 111	Machine Shop Theory and Practice	5
Elective*	Complete a minimum of 12 credits in the technical disciplines listed below with at least one sequence of 6 credits in one discipline	12

Course Number Course Title Credit Hours

Support Courses (18 Credits)

MTH 192	Calculus II	4
PHY 211	Analytical Physics I	5
PHY 222	Analytical Physics II	5
Choose one:	GPS 171 Intro to Programming with C++ or	
	GPS 185 Intro to Visual Basic	4

Credits Required for the Program:72-73

*Choose technical electives from the following disciplines:

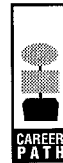
- Architectonics (ARC)
- Auto Body Repair (ABR)
- Automotive Service (ASV)
- Computer Aided Drafting (CAD)
- Construction Technology (CON)
- Electricity/Electronics (ELE)
- Fluid Power (FLP)
- Heating (HTG)
- Industrial Drafting & Design (IDD)
- Journeyman Upgrade (JUG)
- Machine Tool Technology (MTT)
- Mechanical Engineering (MET)
- Numerical Control (NCT)
- Photography (PHO)
- Refrigeration/Air Conditioning (RAC)
- Robotics (ROB)
- Trade-Related Instruction (TRI)
- Welding and Fabrication (WAF)

* See your program advisor to get approval for all technical electives.

Fluid Power

Fluid Power (CTFLPC)

Certificate



This program prepares you for jobs as an industrial hydraulic or pneumatic technician where you will interpret ANSI and ISO schematic circuits while building and troubleshooting basic industrial systems. The program gives you an understanding of both hydraulic and pneumatic systems and prepares you to take the "Industrial Hydraulic Technician" or "Pneumatic Technician" certification exams offered through the Fluid Power Society. These are internationally recognized certifications.

Industrial Technology Department

Advisors: Gary Schultz, Jim Popovich

Program Admission Requirements: None

Course Number Course Name Credits

Major/Area Requirements

ELE 111	Electrical Fundamentals	4
ELE 137	Switching Logic	4
FLP 111	Fluid Power Fundamentals	4
FLP 213	Hydraulic Controls	3
FLP 214	Basic Hydraulic Circuits	3
FLP 226	Pneumatics	3
PHY 110	Applied Physics	4

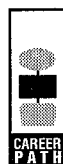
Credits Required for the Program:25

The following sequence of courses is recommended. See an advisor for assistance in determining a schedule for taking courses.

I	II
ELE 111	FLP 213
ELE 137	FLP 214
FLP 111	FLP 226
	PHY 110

Fluid Power (CVFLPA)

Advanced Certificate



This program is a continuation of the Fluid Power Certificate program and prepares you for higher level positions as a hydraulic specialist. The program gives you an understanding of system design including motion control, using electro-hydraulic proportional and servo valves. You will also be prepared to take the "Hydraulic Specialist" certification exam through the Fluid Power Society.

Industrial Technology Department

Advisors: Gary Schultz, Jim Popovich

Program Admission Requirements:

Successful completion of the Fluid Power Certificate (CTFLPC)

Course Number	Course Name	Credits
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Major/Area Requirements

ELE 224	Introduction to PLC's	4
ELE 254	PLC Applications	4
FLP 225	FLP Motion Control	4

Credits Required for the Program:12

The following sequence of courses is recommended. See an advisor for assistance in determining a schedule for taking courses.

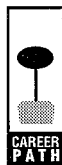
I	II
ELE 224	ELE 254
	FLP 225



General Studies

General Studies in Applied Science (APGSAS)

Associate in Applied Science Degree



This program allows you to design a program of study to meet your own individual needs. This may be a good option if you are undecided about your career goals and want to try courses from a variety of career disciplines, or if you want to combine coursework from several discipline areas to prepare for a job that requires multidisciplinary skills. The program also allows you to get an associate's degree by building on a certificate program. You should begin by meeting with a counselor who will assist you in developing a program of study that meets the College's graduation requirements. A counselor can also help you determine your interests and career and educational goals as well as provide transfer and career information.

Advisors: See a counselor in the Counseling, Career Planning and Placement Office or consult with a faculty advisor from the career area in which you are interested.

Program Requirements:

1. Complete the General Education Requirements for the Associate in Applied Science degree (18-21 credits).
2. Complete additional coursework as free electives to bring the total to 60 credits. If in completing this requirement, you complete a Certificate program of 20 credits or more, that does not already lead to an AAS degree program, you may request to have the title of your Certificate program substituted for "General Studies" as the title of your degree program.

Credits Required for the Program:60

Graphic Design

Graphic Design (CTGDTC)

Certificate



This program provides you with entry-level skills in graphic design or allows you to upgrade or expand your present skills. You will focus on typography and the foundations of visual communication design, for both print and on-screen media. You will also build skills in the most widely used graphic design software programs. The program also provides 24 credits towards the Associate in Applied Science Degree in Graphic Design Technology.

Visual Arts Department

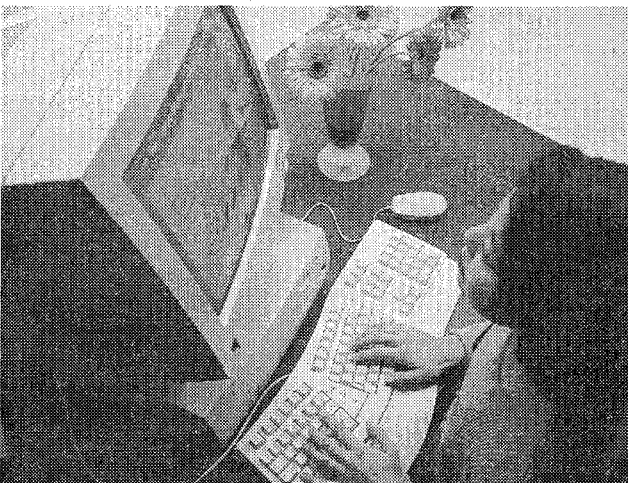
Advisors: Lind Babcock, Dennis Guastella, Kristine Willimann

Program Admission Requirements:

- A high school or college course on Macintosh computers, or GDT 105 with a grade of "C" or better, or permission of a program advisor

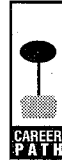
Course Number	Course Title	Credit Hours
GDT 100	Typography I	4
GDT 125	Introduction to QuarkXPress™	2
GDT 126	QuarkXPress™II	2
GDT 137	Introduction to Illustrator™	2
GDT 138	Illustrator™II	2
GDT 141	Introduction to Photoshop™	2
GDT 142	Intermediate Photoshop™	2
GDT 150	Design for the Internet.....	4
GDT 220	Publication Design	4

Credits Required for the Program:24



Graphic Design Technology-Design Option (APGDTD)

Associate in Applied Science Degree



This program prepares you for a career as a graphic artist with an emphasis in design. Graphic designers work with writers, photographers, printers, and other specialists in the field of graphic communication to communicate, inform, instruct, or sell. You may work on publications, advertising, the Internet, interactive media, exhibit graphics, signage, corporate identity, or packaging. Graphic artists who are skilled in graphics software applications may focus more on the technical aspects of assembling and preparing materials for print and/or electronic media distribution. The program focuses on developing your skills in basic design theory, typography, the major graphic design software applications, concept development, and knowledge of production techniques for print and electronic media as exhibited in a portfolio. Creative and artistic ability is required for careers in graphic design, as well as originality and capacity for experimentation in visual problem solving.

Visual Arts Department

Advisors: Lind Babcock, Dennis Guastella, Kristine Willimann

Program Admission Requirements:

- A high school or college course on Macintosh computers or GDT 105 with a grade of "C" or better

Course Number	Course Title	Credit Hours
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General Education Requirements (18-21 Credits)

COM 101	Fundamentals of Speaking	3
Choose one:	ENG 107 Technical Communications or ENG 111 Composition I	3-4
Choose one	MTH 151 Technical Algebra or MTH 163 Business Mathematics	3-4
Elective	Complete one course from General Education for the AAS, Area 4: Natural Sciences	3-4
Elective	Complete once course from General Education for the AAS, Area 5: Social and Behavioral Science	3
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3

Course Number	Course Title	Credit Hours
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Major/Area Requirements (51 Credits)

ART 112	Basic Design I	4
GDT 100	Typography I	4
GDT 101	History of Graphic Design	3
GDT 112	Graphic Communication	4
GDT 125	Introduction to QuarkXPress™	2

GDT 126	QuarkXPress™ II.....	2
GDT 137	Introduction to Illustrator™.....	2
GDT 138	Illustrator™ II.....	2
GDT 141	Introduction to Photoshop™.....	2
GDT 142	Intermediate Photoshop™.....	2
GDT 150	Design for the Internet.....	4
GDT 220	Publication Design.....	4
GDT 230	Professional Practices.....	4
GDT 239	Imaging and Illustration.....	4
GDT 252	Advanced Digital Studio.....	4
Elective	Complete four credits from the following: GDT 117, GDT118, GDT 174, GDT 201, GDT 236, GDT 243, GDT 245, GDT 246, GDT 274, PHO 111	4

Credits Required for the Program:69-72

Graphic Design Technology-Illustration (APGDTI)

Associate in Applied Science Degree



This program prepares you for a career as a commercial and technical illustrator, including staff positions and freelance opportunities.

Manufacturing and technology firms, as well as newspaper art departments, art studios, ad agencies, and magazines are among the employers

you could work for. In this program you will use a variety of media and methods, including computer-generated illustration, to produce a portfolio of finished art that can be presented to potential employers.

Illustration requires understanding and visualizing of technical information, attention to detail, and an interest in precision drawing.

Visual Arts Department

Advisor: Dennis Guastella

Program Admission Requirements:

- A high school or college course on Macintosh computers or GDT 105 with a grade of "C" or better

Course Number	Course Title	Credit Hours
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General Education Requirements (18-21 Credits)

COM 101	Fundamentals of Speaking.....	3
Choose one:	ENG 107 Technical Communications or ENG 111 Composition I.....	3-4
Choose one	MTH 151 Technical Algebra or MTH 163 Business Mathematics.....	3-4
Elective	Complete one course from General Education for the AAS, Area 4: Natural Sciences.....	3-4
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Science	3

Elective Complete one course from General Education for the AAS, Area 6: Arts and Humanities3

Course Number	Course Title	Credit Hours
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Major Requirements (43 Credits)

GDT 100	Typography I.....	4
GDT 101	History of Graphic Design.....	3
GDT 112	Graphic Communication.....	4
GDT 137	Introduction to Illustrator™.....	2
GDT 138	Illustrator™ II.....	2
GDT 141	Introduction to Photoshop™.....	2
GDT 142	Intermediate Photoshop™.....	2
GDT 201	Graphic Illustration.....	4
GDT 222	Commercial Illustration.....	4
GDT 230	Professional Practices.....	4
GDT 239	Imaging and Illustration.....	4
GDT 243	3D Computer Illustration/Rendering.....	4
GDT 245	Computer-Aided Painting.....	4

Support Courses (8 Credits)

ART 111	Basic Drawing I.....	4
PHO 111	Photography I.....	4

Credits Required for the Program:69-72

Health-Dental

Dental Assisting (CFDAC)

Certificate



This program prepares you for dental assisting positions in a variety of settings such as private dental offices, dental schools, the military, and dental insurance offices. The program prepares you for both the Dental Assistant National Board examination and the Michigan State Board of Dentistry examination. As a Certified Dental Assistant, you assist in the treatment of patients and participate in all functions of dentistry. As a Registered Dental Assistant in the State of Michigan, you can perform specified intra-oral functions normally performed by a dentist. Successful completion of the required dental radiography courses also gives you Michigan State Board of Dentistry authorization to expose dental radiographs.

You may enroll in this program in either a traditional (two-year) or an accelerated (one-year) mode. Both lead to certification, registration, and a certificate in dental assisting.

The Department of Dental Assisting offers advanced standing in this program for dental assistants trained on the job with two years full-time employment. The Alternative Dental Assistant Education Project

(ADAEP) requires validation of skills by successful completion of the Dental Assisting National Board examination (DANB) prior to admission. If you have two or more years of experience as an on-the-job trained dental assistant you may apply for advanced standing as part of the admissions process for the Alternative Dental Assistant Education Project (ADAEP). Successful completion of the Dental Assisting National Board Examination must be validated prior to ADAEP admission.

Dental Assisting Department

Advisor: Betty Finkbeiner

Applying for Admission to the program:

- Application packets may be picked up from the WCC Office of Admissions. Applicants will be screened based on the following criteria:
- Submission of a completed application for admission to the Dental Assisting program
- Date of application to the program
- Washtenaw County residency

Program Admission Requirements:

- Applicants must possess a valid high school diploma or GED to start the program. Applications will be accepted prior to high school graduation or GED completion.
- It is strongly recommended that applicants also complete the following high school courses or equivalent WCC courses with a grade of "C" or better:
 - One year of high school biology, or BIO 101 (Concepts of Biology)
 - One semester of high school keyboarding, or BOS 101A, or an equivalent course
- Admission to the Dental Assisting program is contingent upon students declaring that they have specific physical and cognitive abilities. These requirements are detailed in the Dental Assisting program admission packet, which can be obtained from the Office of Admissions. WCC reserves the right to request that students successfully demonstrate the specific cognitive and physical abilities related to the Dental Assisting program.
- Advanced-standing students must successfully pass the Dental Assisting National Board examination (DANB).

Continuing Eligibility Criteria:

- Program courses are sequential and complemented with appropriate support courses. All courses must be
- Completed with a grade of "C" or better in order to graduate from this program.
- Students must demonstrate proficiency in keyboarding or complete a computer course equivalent to BOS

101A(Keyboarding) prior to enrolling in DEN 212 (Dental Practice Management).

- A current CPR card is required prior to enrolling in DEN 130A.
- All students must demonstrate proficiency in the English language prior to placement in clinical courses.

Course Number Course Title Credit Hours

First Semester (15 Credits)

DEN 102	Infection Control	1
DEN 106	Biomedical Science for Dental Assistants	2
DEN 107	Oral Anatomy	2
DEN 108	Dental Radiography	1
DEN 109	Oral Hygiene	1
DEN 110	Basic Clinical Dental Assisting	4
DEN 112	Dental Materials	4

Second Semester (13-14 Credits)

DEN 119	Dental Nutrition	1
DEN 120	Oral Diagnosis Theory	1
DEN 128	Dental Radiography Practicum	1
DEN 129	Oral Pathology and Dental Therapeutics	2
DEN 130A	Oral Diagnosis/Clinical Practicum I.....	0.5
DEN 130B	Oral Diagnosis/Clinical Practicum II	0.5
DEN 131	Principles of Dental Specialties	4
Elective	COM 101, COM 102, ENG 100, ENG 107, ENG 111, or ENG 122.....	3-4

Third Semester (10 Credits)

DEN 202	Advanced Clinical Practice	3
DEN 204	Advanced Functions.....	3
DEN 212	Dental Practice Management	4

Credits Required for the Program:38-39

Health-Nursing

Nursing Assistant Skills Training (CCNAST)

Certificate of Completion



This program prepares you for employment in a variety of health care settings from nursing homes to hospitals where you will work as a competency-evaluated nurse aide (C.E.N.A.). C.E.N.A evaluation is mandated for employment in long-term care facilities. Training takes place in the classroom, lab, and clinical settings within the community. Upon completing the program you will be rewarded with multiple job opportunities with good starting salaries. Positions frequently offer flexibility and variety, as well as a sense of self-satisfaction for "making a difference" in a person's health. This four-credit course

is a State-approved Nurse Aide Training program that contains the core curriculum essential for State certification and was approved through site visits.

Nursing and Health Science Department

Advisor: Linda Lukiewski

Program Admission Requirements:

- Minimum age of 17 years
- Consent is required for enrollment in order to provide the student with the policy on mandatory attendance and other information.

Course Number	Course Title	Credit Hours
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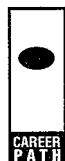
Major/Area Requirements

HSC 100	Basic Nursing Assistant Skills	4
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Credits Required for the Program:4

Nursing Transfer (NURT)

Associate in Applied Science Degree



This program prepares you for a smooth transition into the third and fourth years of the University of Michigan School of Nursing's Bachelor of Science in Nursing program. You will receive a solid science foundation and begin taking nursing courses, including one at UM during your third semester at WCC. You will not be eligible for registered nurse (RN) licensure until completion of the University of Michigan program.

Advisors: Peggy Eckhauser, Gloria Velarde

Articulation:

University of Michigan School of Nursing*

Program Admission Requirements:

- Students applying to the Nursing Transfer program must meet the admission requirements of both Washtenaw Community College and the University of Michigan School of Nursing.
- Students must have a minimum high school GPA of 3.4 and SAT scores above 1000 or an ACT composite score above 21. They must have earned a grade of at least "B" in all high school science courses.
- Required high school work:
 - Three units of English
 - Three units of math
 - Two units of laboratory science, including chemistry and biology
 - Four units of foreign language and/or social science and/or laboratory science
 - Four units of other academic courses

Continuing Eligibility Criteria:

This transfer program is designed for full-time students. WCC students must demonstrate the ability to carry a full-time course load by maintaining a minimum full-time enrollment of 12 credit hours with a 3.0 GPA in at least two terms in the 12 months prior to transfer to the U-M School of Nursing. Each of these two terms must include a transferable science course and one clinical course.

Course Number	Course Title	Credit Hours
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First Semester (17 Credits)

COM 200	Family Communication	3
ENG 111	Composition I	4
MTH 165	Health Science Mathematics	3
Choose one:	CEM 105 Fundamentals of Chemistry or	
	CEM 111 General Chemistry I	4
Choose one:	PSY 100 Principles of Psychology or	
	SOC 100 Principles of Sociology	3

Second Semester (15 Credits)

BIO 237	Microbiology	4
CEM 140	Organic Biochemistry	4
NUR 205	Nursing as a Societal and Interpersonal Profession	4
Choose one:	Complete a second course in Psychology or Sociology	3

Third Semester (18 Credits)

BIO 111	Anatomy and Physiology	5
HSC 147	Growth and Development	4
NUR 111 ²	Pharmacology I	1
NUR 222	Health Assessment	4
N215 ³	UM Nursing Research	4

Fourth Semester (14 Credits)

HSC 220	Pathophysiology	4
NUR 102	Fundamentals of Nursing	2
NUR 103	Fundamentals of Nursing - Clinical Practice	3
NUR 112	Pharmacology II	2
Elective	Complete one course from General Education for the AAS Area 6: Arts and Humanities	3

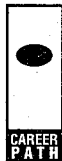
Minimum Credits Required for the Program:64

* See the health occupation advisor for more information on this agreement. Students who wish to transfer to nursing programs at other four-year colleges or universities should check with an advisor or counselor at that institution to insure the transferability of courses.
¹ Students must take two courses in Psychology or Sociology.
² May be taken in the first or second semester with advisor permission.
³ Students in this program are required to dual enroll in U-M's School of Nursing course NURS 215. Please speak with a program advisor for more information.

CAREER PROGRAMS

Registered Nursing (APNURS)

Associate in Applied Science Degree



This program prepares you for the National Council Licensure Examination for Registered Nurses and for challenging and exciting jobs in all settings of health care, from the hospital to home care. You will be proficient in technical aspects of nursing care, such as medication administration, treatments and procedures, and use of medical technology, and you will receive personal satisfaction from your ability to make a difference in someone's life and health. You will also get credits that transfer to area RN-BSN completion programs. If you are a licensed practical nurse (LPN) you may apply for entry to the Nursing program with advanced standing by having practical nursing or other college transcripts evaluated for credit.

Nursing and Health Science Department

Advisors: Barbara Goodkin, Sherry Lee, Theresa Nestorak, Maxine Moulton, Judith Pawloski, Judith VanderVeen, Gloria Velarde

Applying for Admission to the Program:

A limited number of students are admitted each year following an application period each fall and winter semester. Students not admitted during a specific year are encouraged to reapply during the next admission cycle.

Admission to the program is based on:

- Completion and submission of an application for admission to the nursing program during the specified time period
- Completion of program admission requirements (see below for specific courses)
- Cumulative GPA of required courses
- Overall cumulative high school GPA, or college GPA if the student has completed 12 or more college credits
- Related health care activities (optional)
- Residency status (Washtenaw County residents are given priority.)

Applying for Advanced Standing Admission (LPN to RN)

LPNs must follow the same admission procedures as other students applying to the Nursing program (see above), with the addition of the following:

- Submit transcripts for evaluation of transfer credits.
- Seek approval of an individualized course of study by a committee of Nursing faculty before admission is granted.

Program Admission Requirements

- Applicants must possess a valid high school diploma or GED. (doesn't apply to advanced standing admission)
- Applicants must complete the following high school courses or equivalent WCC courses with a grade of "C" or better:
 - One year of high school biology or BIO 101 (Concepts of Biology)
 - One year of high school algebra, or MTH 097
 - One year of high school chemistry, or CEM 057 and 058 (Introductory Chemistry/Laboratory)
- Applicants must successfully pass the pre-admission math test with a minimum score of 80 percent (to be scheduled after the completion of 1 and 2).
- Admission to the Nursing program is contingent upon students declaring that they have specific physical and cognitive abilities. These requirements are detailed in the Nursing program admission packet, which can be obtained from the Office of Admissions. WCC reserves the right to request that students successfully demonstrate the specific cognitive and physical abilities related to the Nursing program.

Additional Admission Requirements for Advanced Standing Applicants:

In addition to the admission requirements above, applicants for LPN advanced standing have the following requirements:

- Applicants must be a graduate of a practical nursing program
- Applicants must complete a pharmacology course equivalent to NUR 112, Pharmacology II, with a grade of "C" or higher or possess a current NAPNES pharmacology card.
- Applicants must hold a current LPN license.*
- Applicants must have completed a minimum of one year full-time employment as an LPN within the last three years or the equivalent in part-time experience.*

*NOTE: Applicants who have not had recent LPN work experience or who do not have a current license may be granted conditional advanced standing admission to the program, but additional coursework will be required.

Continuing Eligibility Criteria:

- Program courses are sequential and complemented with appropriate support courses. All courses must be completed with a grade of "C" or better in order to graduate from this program.
- Some support courses may be taken prior to admission to the nursing sequence, but not later than the scheduled semester. Enrollment in HSC 220 (Pathophysiology) or HSC 244 (Health Care Ethics) prior to admission to the program is open only to those students with prior nursing or health care experience.
- Students are required to adhere to rules of the Nursing Code of Ethics published in the Nursing

Program Student Handbook. Students should be aware that the Michigan Board of Nursing may deny a license to an applicant who has been convicted of a crime or is addicted to drugs or alcohol.

- Students in the Nursing program will be required to purchase special uniforms and supplies throughout the duration of the program.
- All students must demonstrate proficiency in the English language prior to placement in clinical courses.

Course Number	Course Title	Credit Hours
First Semester (16-17 Credits)		
BIO 111*	Anatomy and Physiology	5
HSC 147*	Growth and Development	4
NUR 101	Introduction to Nursing	1
NUR 104	Nursing of the Older Adult	1
NUR 105	Nursing of the Older Adult - Clinical Practice	1
NUR 111	Pharmacology I	1
Choose one:*	ENG 111 Composition I (4) or ENG 122 Composition II (3)	3-4

Course Number	Course Title	Credit Hours
Second Semester (12 Credits)		
HSC 118*	General Nutrition	2
NUR 102	Fundamentals of Nursing	2
NUR 103	Fundamentals of Nursing - Clinical Practice	3
NUR 112	Pharmacology II	2
MTH 165*	Health Science Mathematics	3
Third Semester (15 Credits)		
HSC 128	Therapeutic Nutrition	1
HSC 220	Pathophysiology	4
NUR 123	Acute Care Nursing I	3
NUR 124	Acute Care Nursing I - Clinical Practice	2
NUR 131	Nursing of the Childbearing Family	3
NUR 132	Nursing of the Childbearing Family - Clinical Practice	2

Fourth Semester (16 Credits)		
PHL 244	Ethical and Legal Issues in Health Care	3
NUR 223	Acute Care Nursing II	3
NUR 224	Acute Care Nursing II - Clinical Practice	2
NUR 255	Mental Health Nursing	3
NUR 256	Mental Health Nursing - Clinical Practice	2
PSY 100*	Introductory Psychology	3

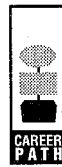
Fifth Semester (13 Credits)		
NUR 231	Nursing of Children	3
NUR 232	Nursing of Children - Clinical Practice	2
NUR 261	Transition to Graduate Nurse Role	1
NUR 262	Transition to Graduate Nurse Role - Clinical Practice	4
Choose one:*	COM 101 Fundamentals of Speaking or COM 102 Interpersonal Communication	3

Credits Required for the Program:72-73

* These courses may be taken prior to admission to the Nursing program.

Health-Pharmacy

Pharmacy Technology (CTPHT) Certificate



This program prepares you for jobs in hospitals, health care agencies, and retail outlets, where you'll work under the supervision of a registered pharmacist and be expected to blend a high attention to detail with customer service. The program also gives you the opportunity to explore health care as a place for future career opportunities.

Surgical and Pharmacy Technology Department

Advisor: Suzette Ripepe

Applying for Admission to the program:

A limited number of students is admitted to the Pharmacy Technology program each year. Application packets may be picked up from the WCC Office of Admissions. Applicants will be screened based on the following criteria:

- Completion and submission of an application for admission to the Pharmacy Technology program
- Completion of all prerequisite courses
- Date of application to the program
- Residency status (Washtenaw County residents are given priority.)

Program Admission Requirements:

- Applicants must complete the following high school courses or equivalent WCC courses with a grade of "C" or better
 - One year of high school algebra; or MTH 097 or 165
 - One year of high school chemistry, or CEM 057 and 058 (Introductory Chemistry/Laboratory), or one year of high school biology, or BIO 101 (Concepts of Biology)
- Admission to the Pharmacy Technology program is contingent upon students declaring that they have specific physical and cognitive abilities. These requirements are detailed in the Pharmacy Technology program admission packet, which can be obtained from the Office of Admissions. WCC reserves the right to request that students successfully demonstrate the specific cognitive and physical abilities related to the Pharmacy Technology program.
- State law prohibits individuals who have been convicted of a crime that involves controlled substances from working in a pharmacy where they have access to controlled substances (MCL SS338.3145(f)). A police record check will be done on each student prior to program admission. If a student has a record that

includes a conviction for a controlled substance crime, the student has a right to apply to the Drug Enforcement Agency (DEA) for an exemption to allow working in a pharmacy where they have access to controlled substances. The exemption must be obtained prior to admission to the program.

Continuing Eligibility Criteria:

Program courses are sequential and complemented with appropriate support courses.

- Student must complete all first-semester courses with a grade of “C” or better to progress to the second semester.
- Students must complete all courses with a grade of “C” or better in order to graduate from this program.
- Students must possess a valid high school diploma or GED by the end of the program and in order to sit for the National Pharmacy Technician Certification Exam.

Additional requirements to be completed prior to the clinical course PHT 198 include:

- Completion of a satisfactory physical exam documented on the WCC health form. This form contains verification of childhood immunizations, negative TB test, and evidence of Hepatitis B vaccination or a signed waiver. This physical exam must be completed within three months of the start of the clinical rotation and turned in to the program director four weeks before the start of the clinical rotation.
- Proof of health insurance
- Demonstration of proficiency in the English language prior to placement in clinical courses

Course Number Course Title Credit Hours

First Semester		(11 Credits)
HSC 101*	Healthcare Terminology	1
PHT 100	Introduction to Pharmacy and Health Care	4
PHT 101	Pharmacology for Pharmacy Technicians	4
PHT 103	Pharmaceutical Calculations	2

Second Semester		(12 Credits)
PHT 140	Pharmacy Prescription Processing	2
PHT 150	Pharmacy Operations and Compounding	3
PHT 198	Pharmacy Experience.....	4
Elective*	CIS 100 or CIS 110	3

Credits Required for the Program:23

*May be taken prior to admission to the Pharmacy Technology program

Health-Radiography

Radiography (APRAD)

Associate in Applied Science Degree



This program prepares you for an entry-level position as a radiographer who operates medical imaging equipment and plays a vital role in healthcare delivery. This full-time, two year program offers a diverse curriculum that includes comprehensive classroom instruction in conjunction with individualized laboratory work and extensive clinical experience in local hospitals. The program also prepares you to apply for examination by the American Registry of Radiologic Technology for certification.

Radiography Department

Advisors: Gerald Baker, Connie Foster

Articulation Agreements:

- Eastern Michigan University, College of Arts and Sciences, Health Administration program

Applying for Admission to the program:

A limited number of students are admitted to the Radiography program each year. All students enter the program during the summer term. Application packets may be picked up from the WCC Office of Admissions. Applicants will be screened based on the following criteria:

- Completion and submission of an application for admission to the Radiography program
- Completion of all prerequisite courses by January 1 (see below for specific courses)
- Residency status (Washtenaw County residents are given priority)
- Date of application to the program

Program Admission Requirements:

- Applicants must possess a valid high school diploma or GED
- Applicants must complete the following high school courses or equivalent WCC courses with a grade of “C” or better:
 - One year of high school biology, or BIO 101 (Concepts of Biology)
 - One year of high school algebra, or MTH 097 (Introductory Algebra)
 - One year of high school chemistry, or CEM 057 and 058 (Introductory Chemistry/Laboratory)
- Admission to the Radiography program is contingent upon students declaring that they have specific physi-

cal and cognitive abilities. These requirements are detailed in the Radiography program admission packet, which can be obtained from the Office of Admissions. WCC reserves the right to request that students successfully demonstrate the specific cognitive and physical abilities related to the Radiography program.

- It is strongly advised that students take BIO 111 (Anatomy & Physiology) before entering the Radiography program.

Continuing Eligibility Criteria:

- Students must pass a physical examination, taken at their own expense, not more than three months before enrolling in the first clinical education course.
- Students must maintain personal health coverage.
- Students must be certified in Basic Life Support to be eligible to enroll in clinical education courses. If they have not received certification through another agency, they can obtain it by completing HSC 131 (CPR/FPR and First Aid).
- Program courses are sequential and complemented with appropriate support courses. Students must complete all Radiography courses with a grade of "C" or above.
- All students must demonstrate proficiency in the English language prior to placement in clinical courses.

Course Number	Course Title	Credit Hours
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Summer Semester		(7 Credits)
MTH 165*	Health Science Mathematics	3
RAD 100	Introduction to Radiography	2
RAD 101	Methods in Patient Care.....	2

Fall Semester		(17 Credits)
BIO 111*	Anatomy and Physiology	5
HSC 101*	Healthcare Terminology	1
RAD 110	Clinical Education.....	2

RAD 111	Fundamentals of Radiography	2
RAD 112	Radiographic Positioning I.....	2
RAD 113	Radiographic Processing	2
RAD 124	Principles of Radiographic Exposure	3

Course Number	Course Title	Credit Hours
---------------	--------------	--------------

Winter Semester		(12 Credits)
ENG 111*	Composition I	4
RAD 120	Clinical Education.....	2
RAD 123	Radiographic Positioning II	2
RAD 125	Radiographic Procedures and Anatomy.....	3
RAD 127	Principles of Radiographic Exposure Lab	1

Spring/Summer Semester		(7 Credits)
COM 101*	Fundamentals of Speaking	3
RAD 150	Clinical Education.....	4

Fall Semester		(12 Credits)
SOC 100*	Principles of Sociology	3
RAD 215	Radiography of the Skull	2
RAD 217	Clinical Education.....	3
RAD 218	Radiation Biology and Protection.....	4

Winter Semester		(13 Credits)
PHL 244*	Ethics and Legal Issues in Health Care	3
RAD 135	Pathology for Radiographers	2
RAD 200	Physical Foundations of Radiography	3
RAD 225	Clinical Education.....	3
RAD 280	Radiographic Critique	2

Spring Semester		(2 Credits)
RAD 240	Clinical Education.....	2

Credits Required for the Program:70

*These courses may be taken before admission and/or entry into the Radiography program.

CAREER PROGRAMS



Health-Respiratory Therapy

Respiratory Therapy (APRTH)

Associate in Applied Science Degree



This program prepares you for jobs as a respiratory therapist where you will treat persons with respiratory problems ranging from giving temporary relief to patients with chronic asthma or emphysema, to giving emergency care to victims of heart failure, stroke, drowning, or shock.

Under a doctor's supervision you will use special equipment such as respirators and positive-pressure breathing machines to administer gas therapy, aerosol therapy, and other treatment involving respiration, mainly in hospital intensive-care units. The program also gives you credits that may be transferred to Eastern Michigan University's Health Administration program.

This program is conducted in cooperation with: St. Joseph Mercy Hospital; University Hospital; The University of Michigan Medical Center; Veterans Administration Hospital, Ann Arbor; Beyer Memorial Hospital, Ypsilanti; Annapolis Hospital, Wayne; Heritage Hospital, Taylor; and Children's Hospital of Michigan, Detroit.

Respiratory Therapy Department

Advisors: Mimi Norwood, Martin Redick

Articulation:

- Eastern Michigan University, College of Arts and Sciences, Health Administration program

Applying for Admission to the program:

The Respiratory Therapy program admits students once a year during the fall semester. Application packets may be picked up from the WCC Office of Admissions.

- Applicants will be screened based on the following criteria:
- Completion and submission of an application for admission to the Respiratory Therapy program
- Completion of all prerequisite courses
- Date of application to the program
- Residency status (Washtenaw County residents are given priority)

Program Admission Requirements:

- Applicants must possess a valid high school diploma or GED
- Applicants must complete the following high school courses or equivalent WCC courses with a grade of "C" or better:

- One year of high school biology, or BIO 101 (Concepts of Biology)
- One year of high school algebra, or MTH 097 (Introductory Algebra)
- One year of high school chemistry, or CEM 057 and 058 (Introductory Chemistry/Laboratory)
- Applicants must declare that they have specific physical and cognitive abilities. These requirements are detailed in the Respiratory Therapy program admission packet, which can be obtained from the Office of Admissions. WCC reserves the right to request that students successfully demonstrate the specific cognitive and physical abilities related to the Respiratory Therapy program.

Continuing Eligibility Criteria:

- Program courses are sequential and complemented with appropriate support courses. Students must complete all courses with a grade of "C" or better in order to graduate from this program.
- All students must demonstrate proficiency in the English language prior to placement in clinical courses.

Course Number	Course Title	Credit Hours
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Fall Semester (15.5 Credits)

BIO 111*	Anatomy and Physiology	5
HSC 101*	Healthcare Terminology	1
HSC 131A*	Community CPR	5
RTH 101	Electrocardiography	1
RTH 102	Human Patient Simulator	1
RTH 120	Introduction to Respiratory Therapy	3
RTH 121	Basic Equipment and Procedures	4

Winter Semester (14.5 Credits)

MTH 165*	Health Science Math	3
RTH 122	Respiratory Physiology	3
RTH 123	Respiratory Pathophysiology	3
RTH 148	Respiratory Pharmacology	2
RTH 149	Respiratory Pathology	2
RTH 198	General Clinical Practice I	1.5

Fall Semester (13 Credits)

CIS 100*	Introduction to Software Applications	3
RTH 199	Clinical Practice II	3
RTH 212	Ventilators	5
RTH 222	Pulmonary Function Testing & Rehabilitation	2

Course Number	Course Title	Credit Hours
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Winter Semester (14 Credits)

RTH 200	Advanced Clinical Practice II	4
RTH 214	Cardiodiagnostics	3
RTH 219	Pediatric Respiratory Care	3
Choose one:	ENG 100* Communication Skills or	
	ENG 111*1 English Composition I	4

Spring Semester (16 Credits)

RTH 097	Respiratory Therapy Review	1
RTH 217	Respiratory Seminar	2
RTH 201	Specialty Clinical	2
RTH 202	Pediatric Clinical	2
Choose one:	SOC 100* Introduction to Sociology or PSY 100*1 Introduction to Psychology	3
Choose one:	HUM 101*1 Humanities I or HUM 102* Humanities II	3
Choose one:	COM 101* Fundamentals of Speaking or COM 102* Interpersonal Communication	3

Credits Required for the Program:73

**Choose this course if you are transferring to EMU using the Health Administration Articulation Agreement.
These courses may be taken before admission and/or entry into the Respiratory Therapy program.

Health-Surgical Technology

Sterile Processing and Distribution (CCSPDC)

Certificate of Completion



This program prepares you for entry-level positions as a sterile processing technician. You'll work in hospitals, ambulatory surgery centers, or clinics, where you'll decontaminate, prepare, and sterilize specialized medical equipment, supplies, and surgical instrumentation. The program also prepares you for the national certification exam.

Surgical and Pharmacy Technology Department

Advisor: Vivian Murphy

Program Admission Requirements:

- Minimum age of 18 years
- Negative TB skin test or chest x-ray
- Hepatitis immunization or signed waiver
- Health insurance

Continuing Eligibility Criteria:

- Successful completion of the program requires a minimum grade of 78% in theory and a Pass in clinical practice.
- All students must demonstrate proficiency in the English language prior to placement in the clinical course (SUR 098).

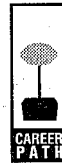
Course Number	Course Title	Credit Hours
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Major/Area Requirements

HSC 101	Healthcare Terminology	1
SUR 097	Sterile Processing and Distribution Theory	4
SUR 098	Sterile Processing and Distribution Clinical	2

Credits Required for the Program:7

Surgical Technology (CFSURC) Certificate



This program prepares you for jobs in the operating room, where you'll assist the surgeon by arranging instruments, maintaining surgical supplies, providing a sterile environment, and applying post-surgery dressings. You may work in a variety of settings including ambulatory surgery units, private surgical practices, and central sterile processing departments. You also could work as a surgical product salesperson or as a clinical instructor. The program also prepares you for the national certifying examination for surgical technologists.

Surgical and Pharmacy Technology Department

Advisor: Vivian Murphy

Applying for Admission to the program:

A limited number of applicants are admitted to the Surgical Technology program each year. Application packets may be picked up from the WCC Office of Admissions. Applicants will be screened based on the following criteria:

- Completion and submission of an application for admission to the Surgical Technology program
- Completion of all prerequisite courses
- Date of application to the program
- Residency status (Washtenaw County residents are given priority)

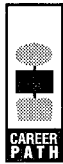
Program Admission Requirements:

- Applicants must possess a valid high school diploma or GED.
- Applicants must complete the following high school courses or equivalent WCC courses with a grade of "C" or better:
 - One year of high school algebra, or MTH 054, MTH 090, MTH 097, or MTH 165
 - One year of high school chemistry, or CEM 057 and 058 (Introductory Chemistry/Laboratory)
- Applicants must have a GPA of 2.0 or above.
- Applicants must declare that they have specific physical and cognitive abilities. These requirements are detailed in the Surgical Technology program admis-

CAREER PROGRAMS

Machine Tool Technology (CVMTTA)

Advanced Certificate



This program prepares you for manufacturing jobs where you will use advanced machine tool setups for the manufacture of non-production parts or prototype parts for industry. The program provides advanced skills in the use of tool room lathes, mills, precision grinders and sophisticated measuring instruments. You will learn machining operations through the production of parts, on modern conventional mills, lathes and grinding equipment in WCC's extensive machine tool laboratory. Opportunities for employment in the machine tool industry are great. This program can launch you into skilled occupations such as an apprentice tool and diemaker or machinist.

Industrial Technology Department

Advisor: Roger Dick

Program Admission Requirements:

Successful completion of the Machine Operator Certificate (CTMOC) or equivalent industry experience

Course Number	Course Title	Credit Hours
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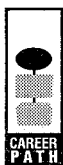
Major/ Area Requirements

MTT 202	Machine Tool Operations & Setup I	4
MTT 203	Machine Tool Operations and Set-Up II	4
MTT 210	Machine Tool Technology	4

Credits Required for the Program:12

Machine Tool Technology (APMTTM)

Associate in Applied Science Degree



Some employers require or prefer employees to have an associate degree as a condition for employment or for advancement. You can earn an AAS in Machine Tool Technology, by completing the requirements listed below.

Industrial Technology Department

Advisor: Roger Dick

Requirement	Credit Hours
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Complete the Machine Operator Certificate (MOC)	15
Complete the Machine Tool Technology Advanced Certificate (CVMTTA)	12

Elective*	Complete an additional 15 credit hours in the disciplines of NCT, MTT, IDD, QCT, ROB, and/or CAD .....15
Electives	Complete the General Education Requirements for the AAS.....18-21

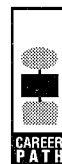
Credits Required for the Program:60-63

*See your advisor to select appropriate electives

Numerical Control

Numerical Control Programming (CVNCP)

Advanced Certificate



This program prepares you for jobs as a numerical control operator or programmer, jobs that are currently in high demand due to the widespread use of CNC machine tools in industry today. The program gives you skills in manual and computer assisted programming languages, using CAD/CAM software to program challenging and complex 2, 3, and 4-axis CNC machine tool operations. You also will become proficient in the interpretation of engineering drawings, visualization of machining operations, and the setup requirements of numerical controlled machine tools.

Industrial Technology Department

Advisor: Roger Dick

Program Admission Requirements:

Successful completion of the Machine Operator Certificate (MOC) or equivalent industry experience.

Course Number	Course Title	Credit Hours
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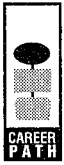
Major/Area Requirements

NCT 221	Advanced Manual Programming & NC Tool Operation	5
NCT 236	SURFCAM(2-Axis CNC Programming)	4
NCT 247	SURFCAM(3-Axis CNC Programming)	4
NCT 249	MASTERCAM(CNC Programming)	4

Credits Required for the Program:17

Numerical Control Programming (APNCPM)

Associate in Applied Science Degree



Some employers require or prefer employees to have an associate degree as a condition for employment or for advancement. You can earn an AAS in Numerical Control Programming, by completing the requirements listed below.

Industrial Technology Department

Advisor: Roger Dick

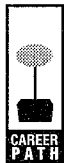
Requirement	Credit Hours
Complete the Machine Operator Certificate (CTMOC)	15
Complete the Numerical Control Advanced Certificate (CVNCP)	17
Elective* Complete an additional 10 credit hours in the disciplines of NCT, MTT, IDD, QCT, ROB, and/or CAD	10
Electives Complete the General Education Requirements for the AAS	18-21

Credits Required for the Program:60-63

**See your advisor to select appropriate electives*

Photography

Basic Photographic Imaging (CTBPHO) Certificate



This certificate covers fundamental skills in photography. Students learn 35mm and medium format camera skills, studio lighting and image production in the darkroom and using a computer. Upon completion students have the photographic skills to work at an entry-level position in the industry such as photographic sales or processing, or move into advanced photography coursework.

Visual Arts Department

Advisors: Terry Abrams, Jennifer Baker, Don Werthmann

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
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Major/Area Requirements

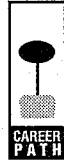
PHO 103	History of Photography	3
PHO 111	Photography I	4
PHO 117	Introduction to the Studio	3

PHO 122	Photography II	4
PHO 124	Color Photography	4
PHO 127	Digital Photo Imaging I	4

Credits Required for the Program:22

Photographic Technology (APPHOT)

Associate in Applied Science Degree



In addition to exploring photography as a means of personal expression, this program prepares you for work in a variety of photographic settings including working as a photographer's assistant, working in a photolab, and starting your own business. You can tailor the program to your own interests by choosing specialized electives.

Visual Arts Department

Advisors: Terry Abrams, Jennifer Baker

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
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General Education Requirements (20-21 Credits)

COM 102	Interpersonal Communication	3
Choose one:	ENG 100 Communication Skills or	
	ENG 111 Composition I	4
Elective	Complete one course from the following:	
	MTH 151, MTH 152, MTH 160, MTH 169	4
Elective	Complete one course from General Education for the AAS, Area 4: Natural Sciences	3-4
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Science	3
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3

Major/Area Requirements (41 Credits)

PHO 103	History of Photography	3
PHO 111	Photography I	4
PHO 117	Introduction to the Studio	3
PHO 122	Photography II	4
PHO 124	Color Photography	4
PHO 127	Digital Photo Imaging I	4
PHO 211	Large Format Photography	3
PHO 230	Specialized Studies in Photography	3
PHO 231	Portfolio Seminar	4
Elective	Complete 9 credits from:	
	PHO 101, PHO 116, PHO 174, PHO 210,	
	PHO 212, PHO 216, PHO 219, PHO 220,	
	PHO 227, PHO 228, or PHO 274	9

Credits Required for the Program:61-62

Robotics

Robotics (CTROBC)

Certificate



This program gives you basic entry-level skills for jobs in industries using robotics and automation. The program provides a basic understanding of robot programming including using electrical sensors, inputs, and outputs and a fundamental understanding of work cells and peripheral pneumatic and hydraulic equipment. You also get twenty credits that can be applied toward WCC's Robotic Technology Associate in Applied Science degree program.

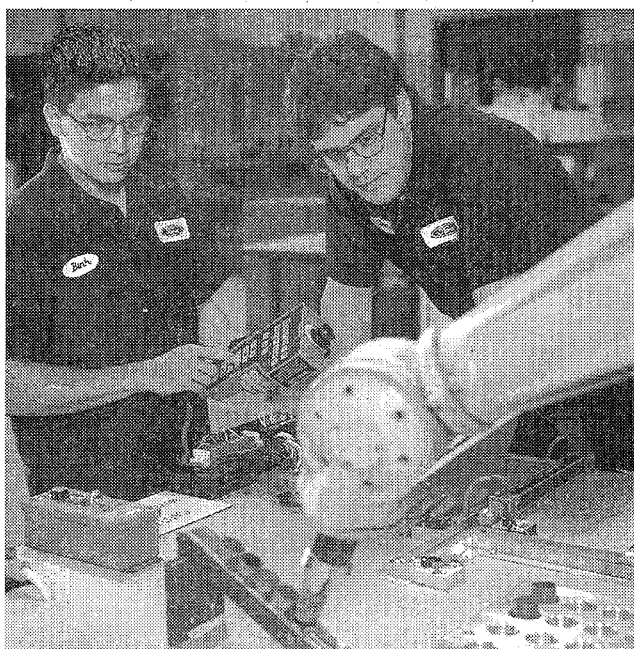
Industrial Technology Department

Advisor: Gary Schultz

Program Admission Requirements: None

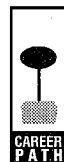
Course Number	Course Title	Credit Hours
Major/Area Requirements		
ELE 111	Electrical Fundamentals	4
ELE 137	Switching Logic	4
FLP 111	Fluid Power Fundamentals	4
ROB 121	Robotics I	4
ROB 212	Robotics II	4

Credits Required for the Program:20



Robotic Technology (APROB)

Associate in Applied Science Degree



This program prepares you for entry-level positions as an automated equipment technician who assembles, installs, programs, troubleshoots, and maintains robotic equipment. You'll use hand tools, testing instruments, and diagrams to work on electrical and electronic, electro-mechanical, pneumatic and hydraulic components in computer-assisted machinery.

Industrial Technology Department

Advisor: Gary Schultz

Program Admission Requirements:

The following high school course or equivalent must be completed with a grade of "C" or better:

- One year of high school algebra, or MTH 097, or MTH 151

Course Number	Course Title	Credit Hours
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General Education Requirements (20-21 Credits)

COM 101	Fundamentals of Speaking	3
MTH 152	Technical Geometry and Trigonometry	4
Choose one:	ENG 100 Communication Skills or ENG 107 Technical Communications or ENG 111 Composition I	3-4
Choose one:	PHY 110 Applied Physics or PHY 111 General Physics I	4
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Science ..	3
Elective	Complete one course from General Education for the AAS, Area 6: Arts and Humanities	3

Major/Area Requirements (44 Credits)

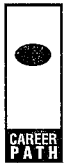
ELE 111	Electrical Fundamentals	4
ELE 137	Switching Logic	4
ELE 224	Introduction to PLC's	4
FLP 111	Fluid Power Fundamentals	4
FLP 213	Hydraulic Controls	3
FLP 214	Basic Hydraulic Circuits	3
FLP 226	Pneumatics	3
IDD 111	Drafting Standards & Conventions	3
ROB 121	Robotics I	4
ROB 212	Robotics II	4
ROB 223	Robotics III	4
ROB 224	Robotics IV	4

Credits Required for the Program:64-65

Scientific and Technical Comm.

Scientific and Technical Communication (APSTC)

Associate in Applied Science Degree



This program prepares you for staff positions and freelance writing opportunities where your ability to convey complex scientific and technical information precisely, accurately, and clearly determines your success. The program gives you the opportunity to customize your program with specialty courses from business, technical, or scientific disciplines.

English Department

Advisor: Lisa Veasey

Program Admission Requirements:

The following high school or college courses must be completed with a grade of "C" or better:

- One year of high school algebra, or MTH 097, or equivalent score on COMPASS Algebra test
- One year of high school computer instruction or GDT 105 or permission of the program advisor

Course Number Course Title Credit Hours

General Education Requirements (21 Credits)

ENG 100	Communication Skills	4
MTH 160	Basic Statistics.....	4
Choose one:	COM 101 Fundamentals of Speaking or COM 102 Interpersonal Communication	3
Elective	Complete one course from General Education for the AAS, Area 4: Natural Sciences	4
Elective	Complete one course from General Education for the AAS, Area 5: Social and Behavioral Science ...	3
Elective	Complete one course from General Education for the AAS, Area 6: Arts & Humanities	3

Major/Area Requirements (27 Credits)

Choose one:	CIS 100 Intro to Computer Applications or CIS 110 Intro to Computer Information Systems	3
BOS 157	Word Processing Applications I.....	2
BOS 257	Word Processing Applications II	2
ENG 107	Technical Communication	3
ENG 208	Advanced Technical Communication I	3
ENG 209	Advanced Technical Communication II	3
STS 240	Career Practices Seminar.....	2
GDT 100	Typography I	4
INP 165	Basic HTML	2
INP 200	Web Site Fundamentals	3

Course Number Course Title Credit Hours

Support Courses (15 Credits)

Elective Complete 15 credits of approved electives in one of the specialty areas listed below15

Credits Required for the Program:63

Specialty Areas

Students must meet with a program advisor to choose a specialty area and select appropriate courses:

Business electives may be chosen from the disciplines of:

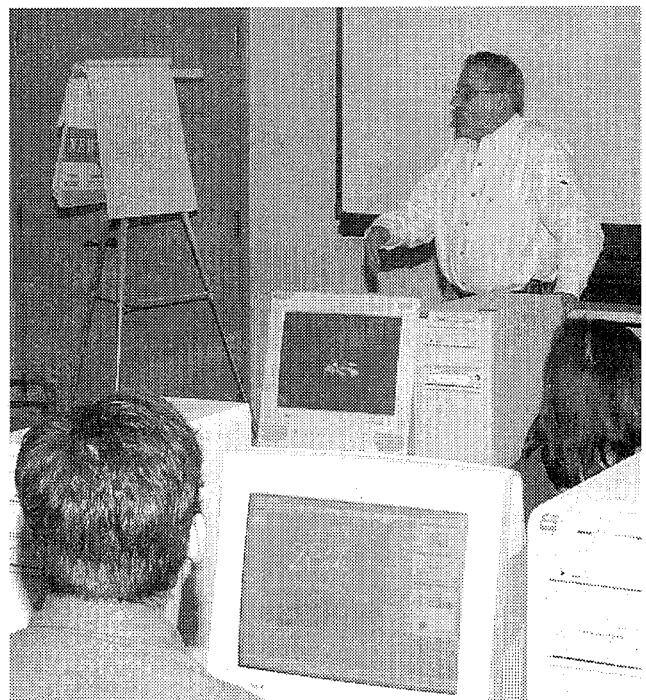
- Accounting - ACC
- Business - BMG
- Computer Instruction - CIS and/or CPS
- Business Office Systems - BOS

Technical electives may be chosen from the disciplines of:

- Automotive Service - ABR and/or ASV
- Computer Instruction - CIS, CNT, and/or CPS
- Drafting - ARC, CAD, and/or IDD
- Electricity/Electronics - ELE, EET
- Industrial Technology - FLP, ROB, MET, MTT and/or NCT
- Internet Professional - INP
- Visual Arts Technology - GDT and/or PHO
- Welding and Fabrication - WAF

Scientific electives may be chosen from the disciplines of:

- Life Sciences - BIO
- Mathematics - MTH
- Physical Sciences - AST, CEM, GLG and/or PHY



Trade Related Instruction

Trade Related Instruction and Apprenticeship Training

Trade Related Instruction

The purpose of the Trade Related Instruction Program is to provide employers with the opportunity to participate in training programs that assist their employees in becoming more skilled. The College provides related instruction for most apprenticeable trades. The Director of Technical Training will work directly with apprentices and sponsoring firms to meet their requirements. The Bureau of Apprenticeship and Training of the U.S. Department of Labor has approved the Trade Related Instruction program. Sponsoring firms are invited to contact the Director of Technical Training concerning employees who wish to participate.

Apprenticeship Training

Apprenticeship training combines on-the-job training with related classroom instruction to ensure that apprentices master skills with confidence and precision. More than 300 occupational areas use apprenticeships to train workers. Individuals entering an apprenticeship program are hired in jobs for which vacancies exist. They are paid a percentage of the journeyperson's (someone who has completed an apprenticeship) rate, usually starting at about 50% and increasing as skills are mastered. The apprentice is supervised on the job by an experienced worker and also attends related classroom instruction.

Pre-Apprenticeship Training

An individual pre-apprenticeship curriculum can be arranged to help prepare for most apprenticeship entrance examinations. If you would like to enter an apprenticeship program, but have not passed the required entrance examination, you may contact the Director of Technical Training for information. Placement in an apprenticeship program is at the mutual discretion of employers, employees, and organizations representing the involved skill trades and cannot be guaranteed.

Construction Supervision (APCNSP) Associate in Applied Science Degree



This program gives indentured apprentices and journeymen of the United Association of Plumbers and Pipefitters, the opportunity to apply their work in a trade specialty toward an associate's degree in Construction Supervision. In addition to the four courses in Construction Supervision, students will complete general education courses and receive credit for life experience in an area of specialization such as plumbing, pipefitting, HVAC or Sprinklerfitting.

Technical Education Department

Advisors: Roger Bertoia, Patricia Crider-Pierce

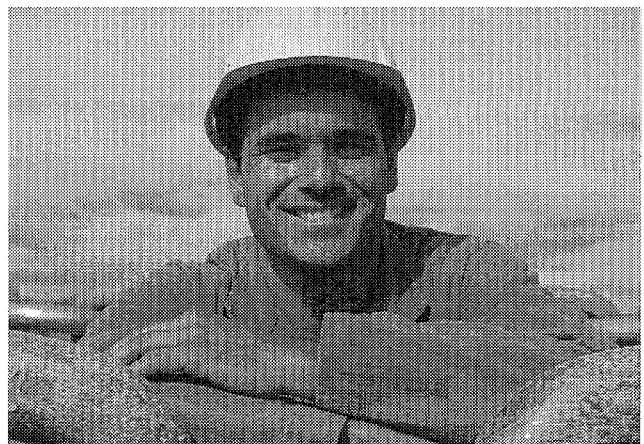
Program Admission Requirements:

Open only to United Association of Plumbers Apprentices

Course Number	Course Title	Credit Hours
General Education Requirements (18-20 Credits)		
Electives*	Complete one course from each of the six General Education Areas for the AAS degree. ..	18-20
Major/Area Requirements (42 Credits)		
AAP	Complete a specialization in plumbing, pipefitting, HVAC, or sprinklerfitting	30
UAS 111	Introduction to Construction Supervision	3
UAS 122	Construction Supervision I	3
UAS 211	Construction Supervision II	3
UAS 222	Project Management in the Construction Industry	3

Credits Required for the Program:60-62

*Credit for general education courses may be transferred from accredited colleges or universities in the United States.



Industrial Training (APITRN)

Associate in Applied Science Degree



This program gives indentured apprentices and journeypersons of the United Association of Plumbers and Pipefitters, the opportunity to apply their work as certified apprentice instructors toward an associate's degree in Industrial Training. In addition to the fifteen credits awarded for completion of five summer apprentice training sessions, students will complete a minimum of 18 credits in general education courses and receive 30 credits for life experience in an area of specialization such as plumbing, pipefitting, HVAC or Sprinklerfitting.

Technical Education Department

Advisors: Roger Bertoia, Patricia Crider-Pierce

Program Admission Requirements:

Open only to United Association of Plumbers apprentices

Course Number	Course Title	Credit Hours
---------------	--------------	--------------

General Education Requirements (18-20 Credits)

Electives* Complete one course from each of the six General Education Areas for the AAS degree 18-20

Major/Area Requirements (45 Credits)

Complete a specialization in plumbing, pipefitting, HVAC, or sprinklerfitting30

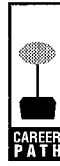
UAT 111	Intro to Apprentice Training I.....	3
UAT 121	Apprentice Training II.....	3
UAT 131	Apprentice Training III.....	3
UAT 141	Apprentice Training IV.....	3
UAT 151	Apprentice Training V.....	3

Credits Required for the Program:63-65

* Credit for general education courses may be transferred from accredited colleges or universities in the United States.

Journeyman Industrial (CFJPIC)

Certificate



This program gives skilled tradespersons who are sponsored by qualified firms the opportunity to apply trade-related instruction credits from their apprenticeship programs toward a WCC Certificate.

Technical Training Department

Advisors: Les Pierce

Program admissions requirements:

Passing score on the apprenticeship entrance exam and sponsorship of a qualified firm.

Requirement	Credit Hours
-------------	--------------

Major/Area Requirements

Complete 30 credits of Trade-Related Instruction (TRI)*30

Credits Required for the Program:30

*See a program advisor to determine the courses for this certificate.

Journeyman Industrial (APJPIM)

Associate in Applied Science Degree



Some employers require or prefer employees to have an associate degree as a condition for employment or for advancement. You can earn an AAS in Journeyman Industrial, by completing the requirements listed below.

Technical Education Department

Advisors: Les Pierce

Requirement	Credit Hours
-------------	--------------

Complete the Journeyman Industrial Certificate (CFJPIC)30

Electives Complete 12 credit hours as free electives12

Electives Complete the General Education Requirements for the AAS.....18-21

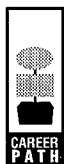
Credits Required for the Program:60-63

*See your advisor to select appropriate electives

Welding

Welding (CTWLDC)

Certificate



This program prepares you for entry-level jobs involving gas welding, brazing, and various combinations of arc welding processes, where you'll work under the supervision of an experienced welding technician. The program also gives you a foundation for WCC's Advanced Certificate in Welding Mechanics.

Welding and Fabrication Department

Advisors: William Figg, Clyde Hall

Program Admission Requirements: None

Course Number	Course Title	Credit Hours
---------------	--------------	--------------

Major/Area Requirements

WAF 105	Welding for Art & Engineering	2
WAF 106	Blueprint Reading for Welders	3
WAF 111	Welding I Oxy-Acetylene	4
WAF 112	Welding II Basic ARC	4
WAF 123	Welding III Advanced Oxy-Acetylene OAW	4
WAF 124	Welding IV Advanced ARC SMAW	4

Credits Required for the Program:21

Welding Mechanics (CVWLDA)

Advanced Certificate



This program prepares you for jobs as a welding maintenance mechanic where you weld metal parts together according to layouts, blueprints, or work orders using gas welding or brazing and any combination of arc-welding processes. The credits in this program also may be applied toward an Associate in Applied Science Degree in Welding.

Welding and Fabrication Department

Advisors: William Figg, Clyde Hall

Program Admission Requirements:

- Successful completion of the Welding Certificate (CTWLDC)

Course Number	Course Title	Credits
---------------	--------------	---------

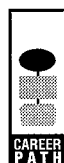
Major/Area Requirements

WAF 200	Layout Theory Welding	3
WAF 210	Welding Metallurgy	3
WAF 215	Welding V Advanced GTAW & GMAW	4
WAF 227	Basic Fabrication	3
WAF 229	Shape Cutting Operations	3
WAF 289	MIG Welding	4

Credits Required for the Program:20

Welding (APWLDM)

Associate in Applied Science Degree



Some employers require or prefer employees to have an associate degree as a condition for employment or for advancement. You can earn an AAS in Welding, by completing the requirements listed below.

Welding Department

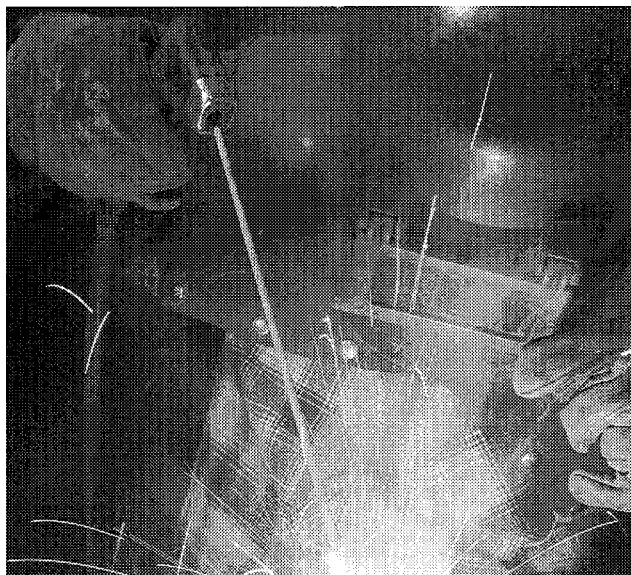
Advisors: Bill Figg, Clyde Hall

Requirement	Credit Hours
-------------	--------------

Complete the Welding Technology Certificate	21
Complete the Welding Technology Advanced Certificate	20
Elective Complete 2 additional credits in welding	2
Electives* Complete the General Education Requirements for the AAS.....	18-21

Credits Required for the Program:61-64

* Recommended General Education Courses: Area 3: MTH 107







Special Programs



Special Programs

The programs in this section have special provisions beyond the usual program of study. Some are offered jointly with other educational institutions or include more than one WCC program of study. The articulated programs allow for earning an associate degree from WCC and a degree or other award from another institution, by transferring credit from one institution to the other. To find the WCC associate's degree and certificate programs referred to in these special programs look in the program index on page 72-73.

CPA Exam Preparation with Cleary College Articulated Short-term Weekend Program

Washtenaw Community College and Cleary College are jointly offering a program for students who have previously earned a baccalaureate degree and want to pursue a second or alternative career as a certified public accountant. This is an intense, short-term, weekend program that will prepare students to pass the Uniform Certified Public Accounting Examination. Both WCC and Cleary College courses in accounting and business will be offered on the WCC campus. Students will have the option of completing the associate degree program in Accounting at WCC and/or a Bachelor of Business Administration Degree in Accounting from Cleary College.

Accounting Department

Advisors: Cliff Bellers (973-3440), Mark Johnston (973-3708), and Laura Gerhardt (677-5094)

Continuing Eligibility Criteria:

To continue to the Cleary College portion of the program students must earn a grade of "C" or higher in each WCC course.

Admission Requirements:

- An earned Bachelor's Degree with an undergraduate GPA of 3.0 or higher
- WCC's CPA Prep Entrance Examination scores* of:
 - 82 or higher in Reading
 - 46 or higher in Algebra, or MTH 169 or equivalent with a grade of "C" or better

** Students who are close to meeting these scores may be considered for admission if they are strong in the other admission criteria.*

Course Number	Course Title	Credits
Semester 1: Fall 2000		(21 Credits)
ACC 111	Principles of Accounting I	3
ACC 122	Principles of Accounting II.....	3
BMG 111	Business Law I (distance)	3
BMG 140	Introduction to Business (distance).....	3
BMG 200	Human Relations in Business	3
BMG 207	Business Communications.....	3
CIS 100	Introduction to Computer Applications	3
Semester 2: Winter 2001		(18 Credits)
ACC 221	Intermediate Accounting I	2
ACC 234	Income Tax I	2
ACC 235	Income Tax II (Cleary)	2
BMG 122	Business Law II	3
BMG 208	Principles of Management	3
BMG 220	Principles of Finance (distance).....	3
BMG 250	Principles of Marketing (distance)	3
Semester 3: Summer 2001		(17 Credits)
ACC 222	Intermediate Accounting II (Cleary).....	2
ACC 223	Intermediate Accounting III (Cleary)	2
ACC 225	Managerial Cost Accounting	3
ACC 330	Accounting Info. Systems (Cleary-distance)	2
ACC 331	Income Tax III (Cleary)	2
ECO 211	Principles of Economics I (distance)	3
ECO 222	Principles of Economics II (distance)	3

Semester 4: Fall 2001 (16 Credits)

ACC 305	Government Accounting (Cleary-distance)	3
ACC 420	Elementary Auditing (Cleary)	2
ACC 421	Advanced Auditing (Cleary)	2
ACC 441	Advanced Accounting (Cleary).....	2
ACC 442	CPA Seminar (Cleary)	1
BMG 160	Principles of Sales	3
BMG 230	Introduction to Supervision (distance)	3

Credits Required for the Program:72

Michigan Institute of Aeronautics Reverse Articulated Program

Washtenaw Community College and the Michigan Institute of Aeronautics have agreed that students, who complete a program in Airframe Technician or Powerplant Technician at the Michigan Institute of Aeronautics and earn a Federal Aviation Administration (FAA) license, may transfer forty-five credits to Washtenaw Community College. The 45 credit hours transferred from the Michigan Institute of Aeronautics will apply as Trade Related Instruction (TRI) electives toward the minimum of 60 credit hours required for an Associate in Applied Science degree in General Studies. Students also have to complete all the requirements for the program in General Studies including meeting the general education requirements. Each transfer student from the Michigan Institute of Aeronautics will receive personalized advising at Washtenaw Community College in order to develop an educational plan that will the student's educational goals.

Advisor: Les Pierce

Requirements

1. Complete a program in Airframe Technician or Powerplant Technician at the Michigan Institute of Aeronautics.
2. Pass the examination for a Federal Aviation Administration (FAA) license.
3. File a request with WCC's Office of Student Records to transfer 45 credits from the Michigan Institute of Aeronautics toward an AAS in General Studies.
4. Complete one course from each of the six General Education Areas for the AAS degree.
5. Fulfill all other graduation requirements for the Associate in Applied Science degree at WCC.

Specs Howard School of Broadcast Arts Reverse Articulated Program

Washtenaw Community College and Specs Howard School of Broadcast Arts have agreed that a student, who has earned a Diploma of Completion from Specs Howard School of Broadcast Arts, may transfer fifteen credits to Washtenaw Community College toward an Associate in Arts degree in General Studies. The fifteen credits that transfer from Specs Howard will apply as elective credits. In addition the student also will have to complete all the requirements for the program in General Studies including meeting the general education requirements and fifteen credits in a humanities and social science concentration. Each transfer student from Specs Howard will receive personalized advising at WCC in order to develop an educational plan that will meet that student's individual needs.

Advisor: Robert Kirkland,

Requirements:

1. Complete all requirements for the Diploma of Completion from Specs Howard School of Broadcast Arts, Inc.
2. File a request with WCC's Office of Student Records to transfer fifteen credit hours to WCC from Specs Howard School of Broadcast Arts (15 credits).
3. Complete the General Education requirements for the Associate in Arts degree at WCC (29-30 credits).
4. Complete fifteen credit hours in a concentration (courses from the disciplines of the Humanities and Social Science Division). Complete any additional credits needed to bring the minimum to 60 credit hours.
5. Fulfill all other graduation requirements for the Associate in Arts degree at WCC.



Adult Transitions Community Outreach Program

Adult Transitions is a community outreach program that assists students who need new skills for today's workforce. It includes counseling, skill building, and job education services. The program uses a step-by-step approach to help students move from their neighborhoods to WCC and on to the career paths of their choice. Scholarships and other forms of support, based on financial need, are available for students to enroll in WCC's short-term Certificate programs in Machine Operator, Professional Office Systems, Nursing Assistant Skills, Child Development, and Sterile Processing and Distribution. These programs are described in more detail in the Program Listings Section of the catalog. A description of the non-credit Skill Building Program follows.

Skill Building Program (CCSKBC) Certificate of Completion

This is a short pre-college program that includes refreshers in reading, writing, mathematics and thinking skills, as well as preparation for the General Education Development (GED) test and/or the COMPASS test. The program uses an open-entry/open-exit model, with instruction tailored to the needs of individual students. Students may prepare to pass the GED test and obtain a high school equivalency certification, or to enter short credit certificate programs that will give them job skills for entering the workforce. The Skill Building program and GED testing are free of charge. Orientation for enrollment is available each week.







Career Paths



Career Paths

Your at-a-glance guide to career programs at Washtenaw Community College

Taking your career one success at a time

Washtenaw Community College's curriculum offers a step-by-step guide to your future. The college offers five different academic credentials:

- Certificate of Completion
- Certificate
- Advanced Certificate
- Associate's Degree
- Post-Associate Certificate

Each credential requires only the coursework you need when you need it. Yet, they build one upon the other in a progression of study that can lead from entry-level employment to career advancements and transfer to a four-year college.

Taking the next step

Use the visuals on the following pages to locate career fields that interest you and to identify the academic programs related to those fields. Then, refer to the more detailed program descriptions printed elsewhere in this publication. When you are ready to learn more, call the Office of Admissions at 734-973-3543 and schedule your appointment with a Washtenaw Community College adviser.



The Pathway to Success

Post-Associate Certificate

You need at least an associate's degree or the equivalent career training/work experience in order to enroll in these programs, which offer a job-specific credential.

Associate's Degree

Associate in Arts (AA) and Associate in Science (AS) Degrees are for transfer to four-year colleges. Associate in Applied Science Degrees (AAS) give you the credential required or preferred by some employers for employment or promotion.

Advanced Certificate

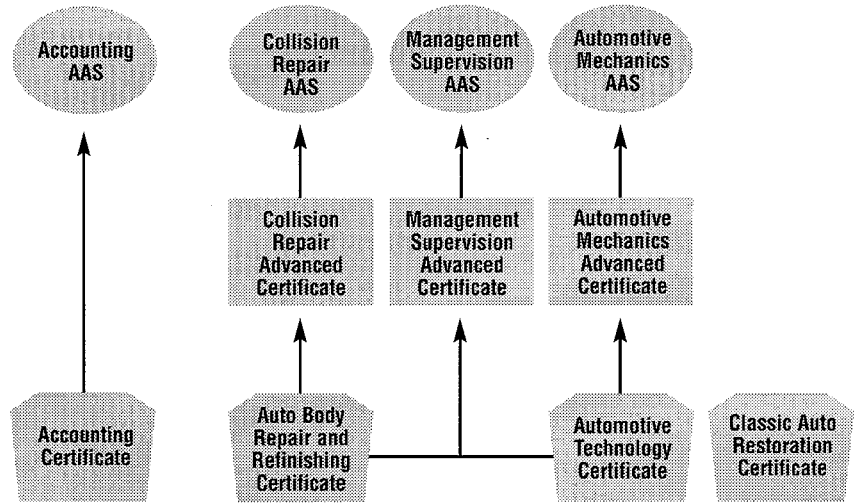
Gives you additional skills to help you move up in your career and coursework that can be applied toward an Associate's Degree.

Certificate and Certificate of Completion

Gives you the skills you need to move into an entry-level job as well as coursework that can be applied toward an Advanced Certificate or an Associate's Degree. You might be required to complete introductory coursework before enrolling in the certificate program.

Accounting Programs

Auto Body and Automotive Mechanics



The Pathway to Success

Post-Associate Certificate

You need at least an associate's degree or the equivalent career training/work experience in order to enroll in these programs, which offer a job-specific credential.

Associate's Degree

Associate in Arts (AA) and Associate in Science (AS) Degrees are for transfer to four-year colleges. Associate in Applied Science Degrees (AAS) give you the credential required or preferred by some employers for employment or promotion.

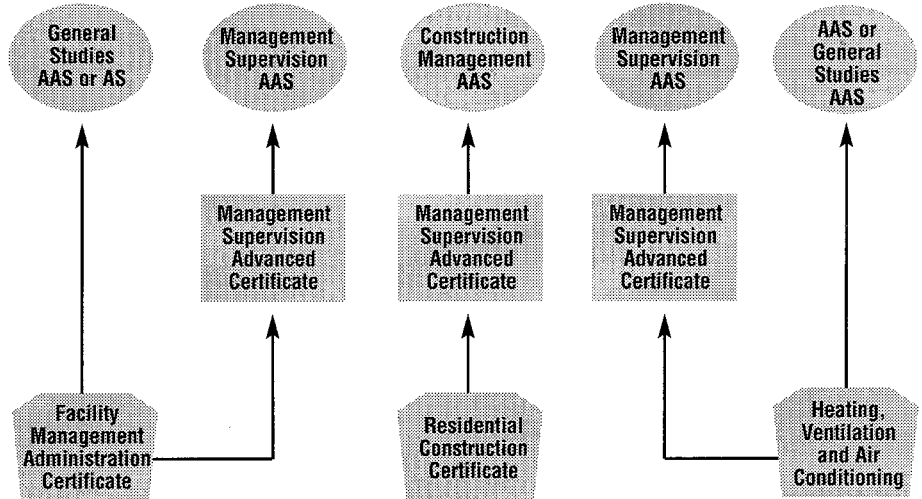
Advanced Certificate

Gives you additional skills to help you move up in your career and coursework that can be applied toward an Associate's Degree.

Certificate and Certificate of Completion

Gives you the skills you need to move into an entry-level job as well as coursework that can be applied toward an Advanced Certificate or an Associate's Degree. You might be required to complete introductory coursework before enrolling in the certificate program.

Building Related Programs



The Pathway to Success

Post-Associate Certificate

You need at least an associate's degree or the equivalent career training/work experience in order to enroll in these programs, which offer a job-specific credential.

Associate's Degree

Associate in Arts (AA) and Associate in Science (AS) Degrees are for transfer to four-year colleges. Associate in Applied Science Degrees (AAS) give you the credential required or preferred by some employers for employment or promotion.

Advanced Certificate

Gives you additional skills to help you move up in your career and coursework that can be applied toward an Associate's Degree.

Certificate and Certificate of Completion

Gives you the skills you need to move into an entry-level job as well as coursework that can be applied toward an Advanced Certificate or an Associate's Degree. You might be required to complete introductory coursework before enrolling in the certificate program.

The Pathway to Success

Post-Associate Certificate

You need at least an associate's degree or the equivalent career training/work experience in order to enroll in these programs, which offer a job-specific credential.

Associate's Degree

Associate in Arts (AA) and Associate in Science (AS) Degrees are for transfer to four-year colleges. Associate in Applied Science Degrees (AAS) give you the credential required or preferred by some employers for employment or promotion.

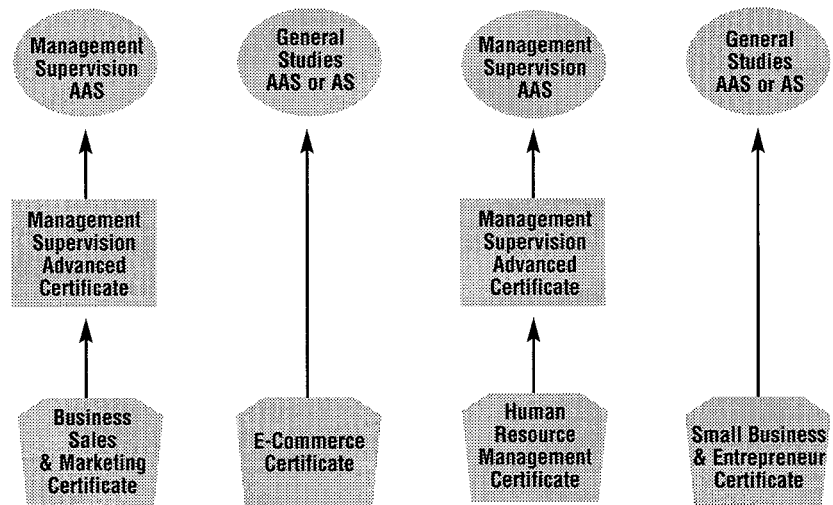
Advanced Certificate

Gives you additional skills to help you move up in your career and coursework that can be applied toward an Associate's Degree.

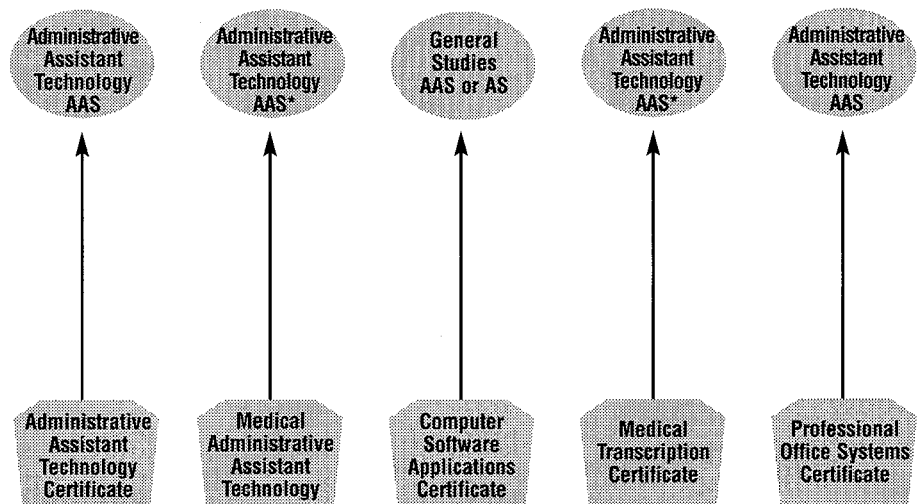
Certificate and Certificate of Completion

Gives you the skills you need to move into an entry-level job as well as coursework that can be applied toward an Advanced Certificate or an Associate's Degree. You might be required to complete introductory coursework before enrolling in the certificate program.

Business Programs

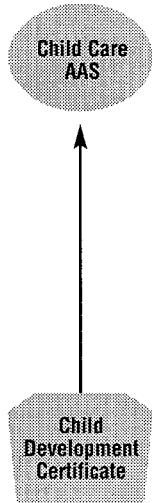


Business Office Programs

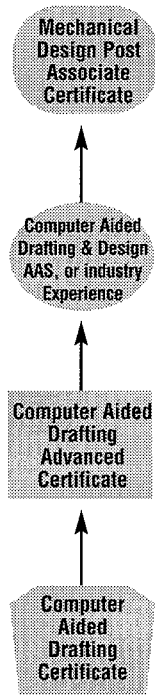


*Medical Administrative Assistant Option

Child Care Programs



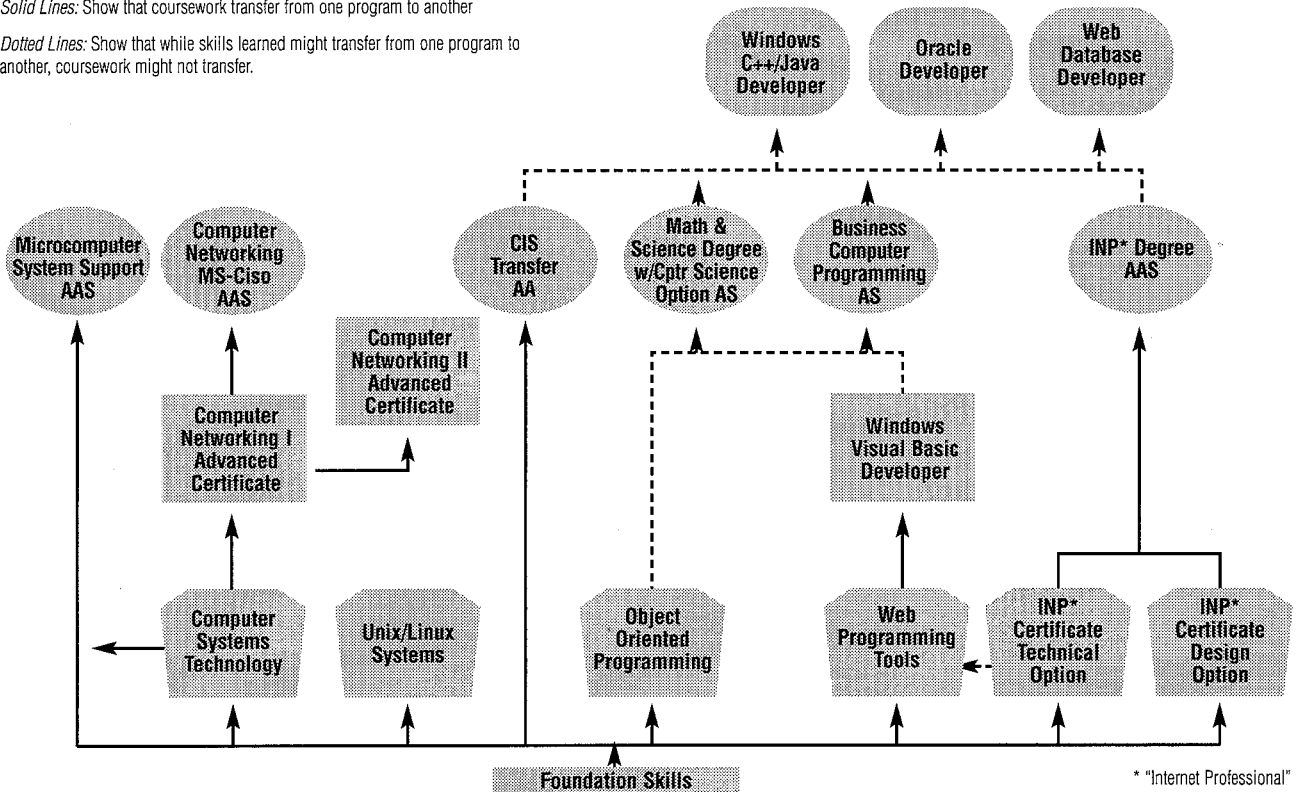
Computer Aided Drafting Programs



Computer Programs, Internet Skills and Systems

Solid Lines: Show that coursework transfer from one program to another

Dotted Lines: Show that white skills learned might transfer from one program to another, coursework might not transfer.



The Pathway to Success

Post-Associate Certificate

You need at least an associate's degree or the equivalent career training/work experience in order to enroll in these programs, which offer a job-specific credential.

Associate's Degree

Associate in Arts (AA) and Associate in Science (AS) Degrees are for transfer to four-year colleges. Associate in Applied Science Degrees (AAS) give you the credential required or preferred by some employers for employment or promotion.

Advanced Certificate

Gives you additional skills to help you move up in your career and coursework that can be applied toward an Associate's Degree.

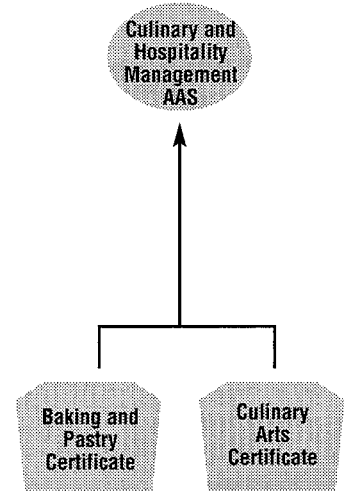
Certificate and Certificate of Completion

Gives you the skills you need to move into an entry-level job as well as coursework that can be applied toward an Advanced Certificate or an Associate's Degree. You might be required to complete introductory coursework before enrolling in the certificate program.

Corrections/Criminal Justice



Culinary and Hospitality



The Pathway to Success

Post-Associate Certificate

You need at least an associate's degree or the equivalent career training/work experience in order to enroll in these programs, which offer a job-specific credential.

Associate's Degree

Associate in Arts (AA) and Associate in Science (AS) Degrees are for transfer to four-year colleges. Associate in Applied Science Degrees (AAS) give you the credential required or preferred by some employers for employment or promotion.

Advanced Certificate

Gives you additional skills to help you move up in your career and coursework that can be applied toward an Associate's Degree.

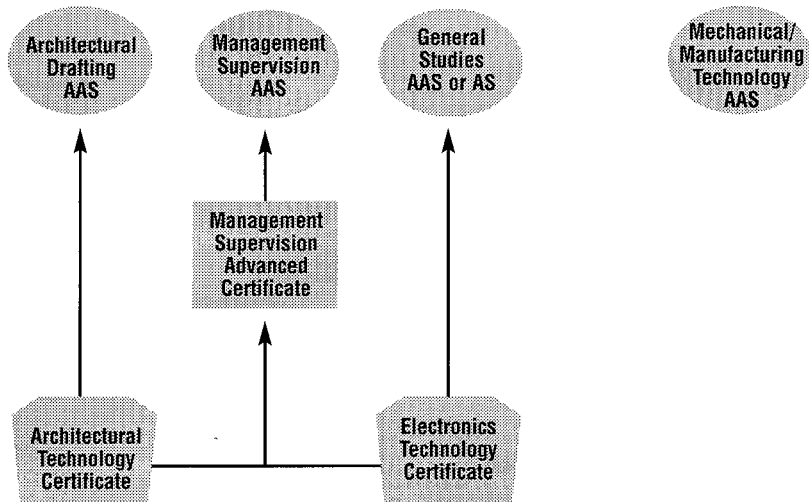
Certificate and Certificate of Completion

Gives you the skills you need to move into an entry-level job as well as coursework that can be applied toward an Advanced Certificate or an Associate's Degree. You might be required to complete introductory coursework before enrolling in the certificate program.

Drafting Programs

Electronics Programs

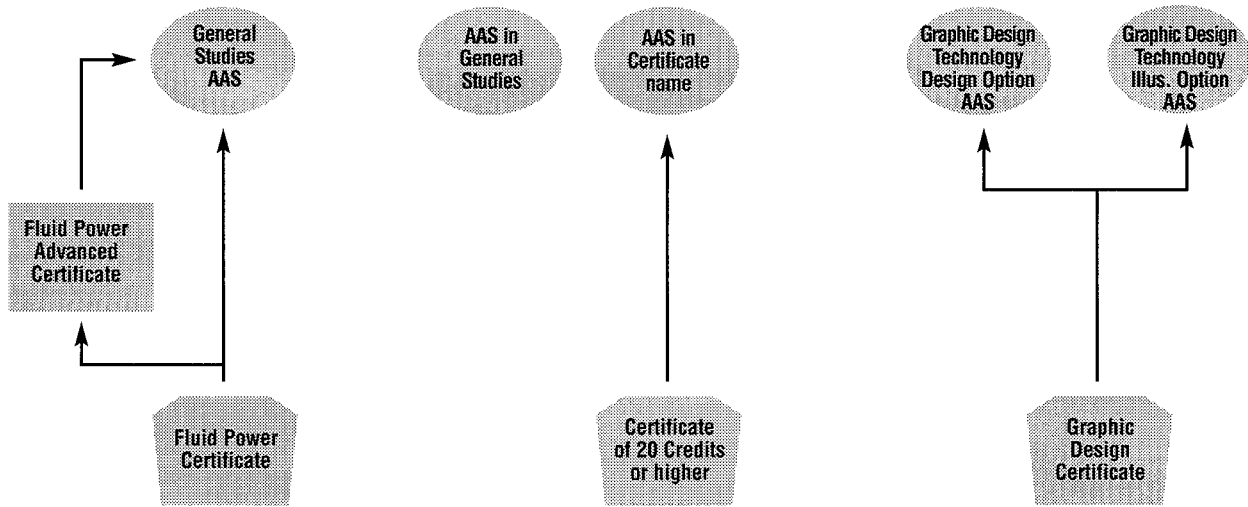
Engineering Technology



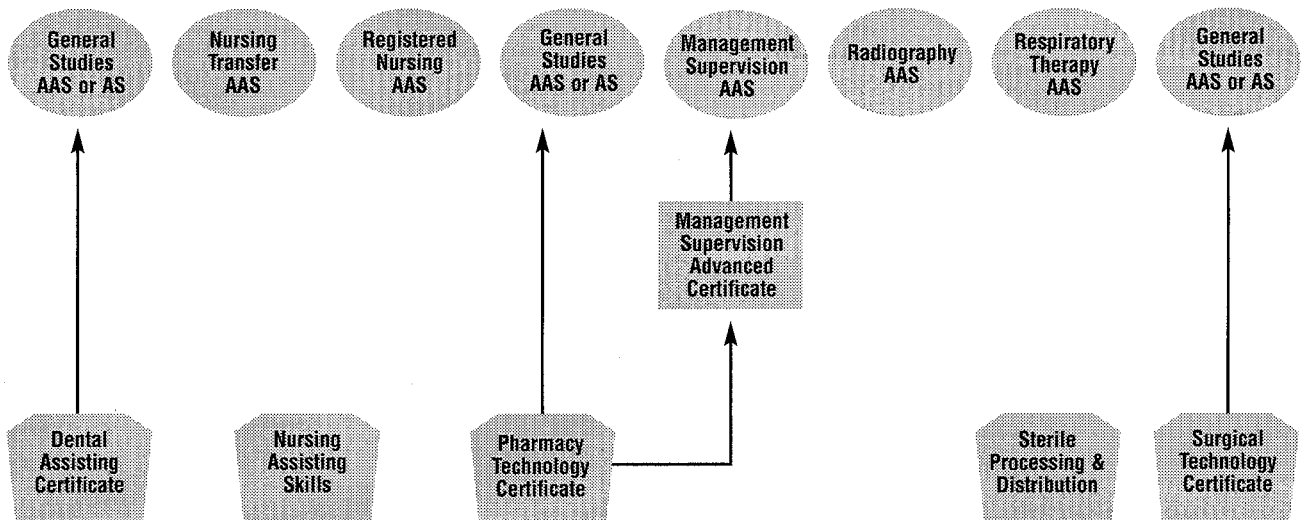
Fluid Power Programs

General Studies in Applied Science AAS

Graphic Design Programs



Health Programs



The Pathway to Success

Post-Associate Certificate

You need at least an associate's degree or the equivalent career training/work experience in order to enroll in these programs, which offer a job-specific credential.

Associate's Degree

Associate in Arts (AA) and Associate in Science (AS) Degrees are for transfer to four-year colleges. Associate in Applied Science Degrees (AAS) give you the credential required or preferred by some employers for employment or promotion.

Advanced Certificate

Gives you additional skills to help you move up in your career and coursework that can be applied toward an Associate's Degree.

Certificate and Certificate of Completion

Gives you the skills you need to move into an entry-level job as well as coursework that can be applied toward an Advanced Certificate or an Associate's Degree. You might be required to complete introductory coursework before enrolling in the certificate program.

The Pathway to Success

Post-Associate Certificate

You need at least an associate's degree or the equivalent career training/work experience in order to enroll in these programs, which offer a job-specific credential.

Associate's Degree

Associate in Arts (AA) and Associate in Science (AS) Degrees are for transfer to four-year colleges. Associate in Applied Science Degrees (AAS) give you the credential required or preferred by some employers for employment or promotion.

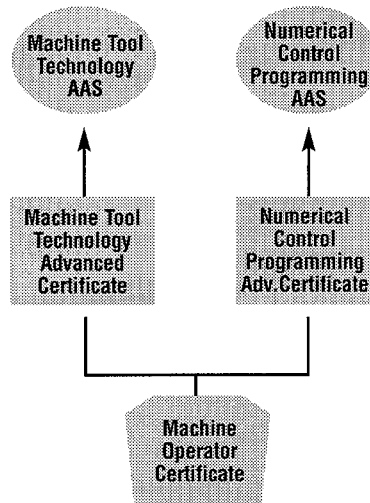
Advanced Certificate

Gives you additional skills to help you move up in your career and coursework that can be applied toward an Associate's Degree.

Certificate and Certificate of Completion

Gives you the skills you need to move into an entry-level job as well as coursework that can be applied toward an Advanced Certificate or an Associate's Degree. You might be required to complete introductory coursework before enrolling in the certificate program.

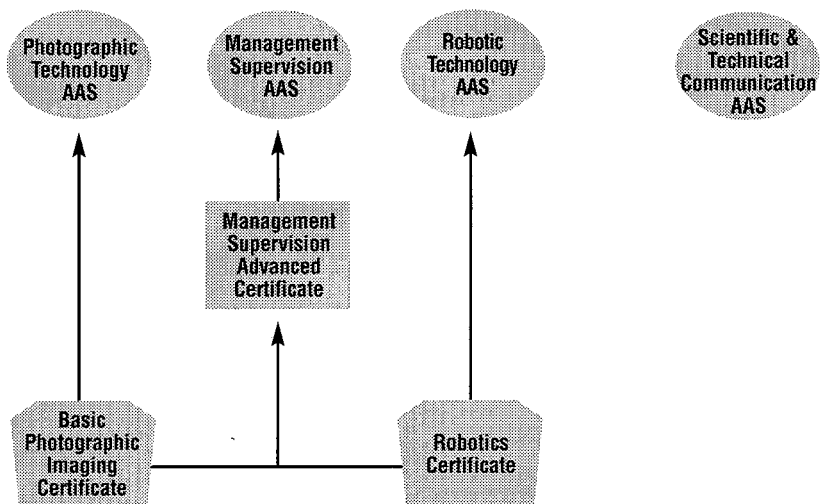
Machine Tool/Numerical Control



Photography

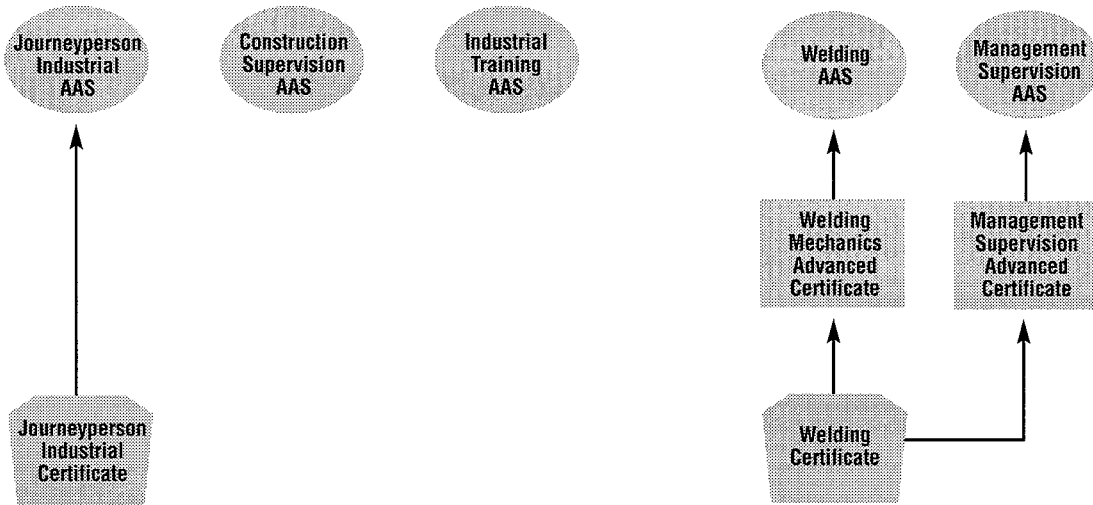
Robotics

Scientific and Tech. Com.



Trade Related Instruction/Apprenticeship Training

Welding Programs







Course Descriptions



Course Descriptions

Core Curriculum Elements

If you began an associate's degree program in any semester from Fall 1993 through Spring/Summer 2000, you have through Spring/Summer 2003 to complete your program using the 24 Core Curriculum Elements. Beginning in Fall 2003 you will be required to meet the new General Education Requirements as a condition for graduation. The following course descriptions list by number the Core Elements that are fulfilled by each course. For a list of courses that meet Elements 13 and 14, see Appendix B.

Academic Skills

ACS

ACS 000: ACS Learning Lab0 credit hours

Prerequisites: none

Corequisites: none

15 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

The Academic Skills Learning Lab (LA 111) is available to all students enrolled in ACS courses. It is required for students enrolled in ACS 040, 045, 070, 108, and 109. Students not enrolled in these courses may be referred for individual consultation or practice. The Lab provides interactive practice in vocabulary and comprehensive skills and an introduction to information retrieval using CD ROM software and the Internet. Students receive immediate feedback and learn to monitor their progress.

ACS 040: Vocabulary and Comprehension

Skills Ivariable credit

Prerequisites: COMPASS score of 0-35 or

GATES score of 1-12

Corequisites: ACS 040L

15 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is designed to increase the student's primary vocabulary and comprehension skills. Dictionary skills and active reading strategies are introduced: recalling facts, main ideas, supporting details. Students must enroll for a minimum of 4 credit hours or up to 8 credit hours. The course may be completed in three semesters if needed as ACS 040A, ACS 040B, and ACS 040C. Satisfactory/Unsatisfactory grading scale.

ACS 045: Vocabulary and Comprehension

Skills II4 credit hours

Prerequisites: COMPASS score of 36-50 or

GATES score of 13-18

Corequisites: ACS 000

45 lecture, 15 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is designed to develop reading comprehension through concentrated skill work. In addition, emphasis is placed on increasing the student's vocabulary and active reading skills. Students are introduced to test-taking and study skills. Students must enroll for a co-required hour in the ACS Learning Lab. This course may be completed in two semesters if needed as ACS 045A and ACS 045B. (Students enrolled in ENG 050 are encouraged to take ACS 045 at the same time.) Satisfactory/Unsatisfactory grading scale.

ACS 070: Vocabulary and Comprehension

Skills III4 credit hours

Prerequisites: COMPASS score of 51-69 or

GATES score of 19-24.

Corequisites: ACS 000

45 lecture, 15 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is designed to strengthen student's active reading skills and includes a college-level vocabulary program. In addition, the student develops abstract reasoning skills, e.g., inferencing in relation to textbook content. Emphasis is placed on test taking, study skills, and an introduction to the Internet. Upon testing-out, a student is prepared for enrollment in WCC's occupational training programs and academic courses. Students must enroll for a co-required hour in the ACS Learning Lab. The standard grading scale is used.

ACS 101: Student Success Seminar1 credit hour**Prerequisites:** none**Corequisites:** none**15 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7

This is a college survival, college success course. It is recommended for all WCC students, particularly those entering college for the first time, returning after an absence, or interested in improving class performance. Topics include an introduction to the library (LRC), student support services, and good study habits (reading, writing, outlining, note taking, test taking, and time management). Career and academic goal setting also are addressed.

ACS 102: Spelling Power2 credit hours**Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7

This course will improve the student's spelling through programmed instruction in English phonics, modular textbook materials, and common prefixes, suffixes, and roots. Additional instruction is offered in dictionary skills. This is not a developmental course; students in need of basic spelling and vocabulary skills should elect ACS 040. Grading is based on the standard grading scale.

ACS 104: Study Skills Short Course2 credit hours**Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 9

This course is designed for students interested in improving study and note taking skills. Reading and note taking techniques appropriate to academic materials are stressed. It is essential that students electing this course be enrolled in an English, humanities, social or natural science course so they can apply their newly learned study skills.

ACS 106: Speed Reading2 credit hours**Prerequisites:** COMPASS score of 70-79 or
GATES score of 25-28.**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

Designed to improve reading rates, this course is guaranteed to double student's reading speeds (at a minimum) with no loss in comprehension. Students also learn a variety of techniques that enable them to vary their reading speed according to the material and their specific purpose.

ACS 107: College Study Skills & Speed Reading3 credit hours**Prerequisites:** COMPASS score of 70-79 or
GATES score of 25-28.**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 8, 9

This course is designed to assist students with improving their study skills and with developing rapid reading techniques. Instructional units include all the essentials for academic success: learning styles, time management, vocabulary development, textbook reading, note-taking skills, computer literacy, skimming and scanning skills, speed reading, and test-taking skills.

ACS 108: Problem Analysis and Critical Thinking Skills4 credit hours**Prerequisites:** COMPASS score of 80-81**Corequisites:** ACS 000**45 lecture, 15 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 9, 10

This course is designed for advanced learners who wish to improve their performance in all academically demanding courses (including math, science, and technology). Analytical, problem-solving and critical thinking skills are enhanced through a variety of instructional units (analogies, serial order, spatial diagrams, etc.), and 15th grade level textbook selections are used for analysis. A co-required lab hour provides logical reconstruction exercises in the ACS Lab.

ACS 109: ESL Advanced Vocabulary4 credit hours**Prerequisites:** ND(EXT)-G(56+) or ND(EXT)-H(58+),
or Asset (38+)**Corequisites:** ACS 000**45 lecture, 15 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This is not a developmental course. It is designed for advanced learners who wish to increase their knowledge and use of college-level vocabulary. Major areas of emphasis include the study of word derivations, context clues, dictionary skills, and vocabulary acquisition skills. Students must enroll for a co-required hour in the ACS Learning Lab.

Accounting

ACC

ACC 100: Fundamentals of Accounting I3 credit hours**Prerequisites:** MTH 090**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 5, 7, 9**

This course introduces students to the theory and practice of modern double-entry accounting systems and procedures. Emphasis is placed on journalizing and posting, adjusting and closing books and the preparation of financial statements for both service and merchandising businesses. The class is designed for the non-accounting major and does not transfer to four-year colleges.

ACC 101: Fundamentals of Accounting II3 credit hours**Prerequisites:** ACC 100**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 5, 7**

A continuation of ACC 100, which includes notes, inventories, depreciation, accruals, and end of the year procedures with financial statements. The course addresses partnerships, corporations, statement analysis and interpretation. The course is designed for non-accounting majors and does not give transfer college credit.

ACC 111: Principles of Accounting I3 credit hours**Prerequisites:** MTH 163, 169, or 181 or higher math elective**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 5, 7, 9**

This is an introductory course in accounting principles and theory with emphasis on the accounting cycle, receivables and payables, depreciation, inventories, payroll, deferrals and accruals, systems and controls. It is required of all Accounting majors and Business Administration transfer students.

ACC 122: Principles of Accounting II3 credit hours**Prerequisites:** ACC 111**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 5, 7**

A continuation of Principles of Accounting 111 covering partnerships, corporations, statement of cash flows, financial analysis and an introduction to managerial accounting. It is required of all Accounting majors and Business Administration transfer students.

ACC 131: Computer Applications in Accounting3 credit hours**Prerequisites:** ACC 100 or ACC 111 or take concurrently**Corequisites:** none**15 lecture, 30 lab, 0 clinical, 0 other****Fulfills Core Elements: 5, 7, 11**

Accounting applications (spreadsheet, general ledger, accounts receivable, accounts payable, depreciation and payroll) are presented and mastered on the microcomputer in such a manner that no prior knowledge of microcomputers is required. This course does not teach computer programming, but is intended to train students to become intelligent users of accounting software on the microcomputer.

ACC 174: ACC Co-op Education I1-3 credit hours**Prerequisites:** Accounting credits and department permission**Corequisites:** none**0 lecture, 0 lab, 0 clinical, 120 other****Fulfills Core Elements: none**

In this course, students gain skills from a new experience in an approved, compensated, business-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two Co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

ACC 213: Intermediate Accounting3 credit hours**Prerequisites:** ACC 122**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 5, 7, 8, 9**

This course is a continuation of the study of generally accepted accounting principles as they pertain to the valuation and classification of current assets, plant assets intangible assets, and current liabilities.

ACC 220: Financial Planning, Budget, and Control3 credit hours**Prerequisites:** MTH 163 or higher or consent**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 5, 6**

This course is intended for those students who are responsible for spending decisions and allocating company resources in pursuit of the organizational goals. The course explores the accounting and budgeting process and the use of reports generated from these processes to analyze, monitor, and control the monetary impact of business activity on the organization as a whole.

ACC 225: Managerial Cost Accounting3 credit hours

Prerequisites: ACC 122
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 9

Principles and procedures for measuring and controlling costs are discussed as well as cost-volume profit relationships, job order accounting, budgets, standard costs, relevant costs, and process accounting. This course is required of Accounting majors and is offered in the Winter Semester only.

ACC 230: Financial Statement Analysis for Non-Accountants.....1 credit hour

Prerequisites: MTH 163 or higher or Consent
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 6 none

This course examines financial statements commonly used in business. Students interpret information contained in these statements in terms of the business operations and activities that are reported. Concepts of ratio analysis and accrual accounting are covered. The course is designed for students with a business background but not necessarily in accounting.

ACC 274: ACC Co-op Education II1-3 credit hours

Prerequisites: ACC 174
Corequisites: none
 120 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is the second of two co-op courses in which students gain skills from a new experience in an approved, compensated, business-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Anthropology

ANT

ANT 201: Introduction to Cultural Anthropology3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 13, 14, 21, 24

This course explores the way our species lives and has lived. It begins with the hunting and gathering level of cultural development and ends with the origin of the state. Contemporary peasants are also studied. This course is also taught as a television course using the program series "Faces of Culture."

ANT 202: Introduction to Physical Anthropology3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16, 21

This course examines the emergence of the human species using materials from primate studies, archaeological findings and early humankind.

Architectonics

ARC

ARC 099: Basic Architectural CAD2 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is a course in which the student learns the basic techniques to use CAD in the construction planning disciplines. This course is designed for the person who has never used CAD, intends to update skills to upgraded release and eventually intends to use CAD as a tool to produce architectural documents. Featured is the AutoCAD software but additional CAD software as available may be used to complete the course assignments with instructor permission. Intended as a prerequisite for ARC drawing courses.

ARC 100: Specifications1 credit hour

Prerequisites: ARC 117
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 8, 18

An introduction is provided to building construction specifications, stressing the organization and preparation of specifications for construction contracts.

ARC 109: Site Layout3 credit hours

Prerequisites: ARC 213
Corequisites: ARC 224
 15 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 18

This lecture and field course deals with the principles of site layout of construction projects. Approved site plans, builders level transit, tape chain and preferred equipment are demonstrated and used.

ARC 111: Architectural Drawing I6 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 8, 9, 18, 19

An introduction is provided to light frame construction and requirements including the preparation of working drawings for the construction of structures classified as Light Frame Structures.

ARC 117: Construction Materials3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 9

A survey is provided of typical types of materials used in building construction. Emphasis is placed on the properties, selection and building techniques appropriate for a wide range of materials. Included are woods, metals, plastics, clay, gypsum, glass, and aggregate materials.

ARC 120: Mechanical & Electrical Systems for Buildings3 credit hours

Prerequisites: ARC 111
Corequisites: ARC 122
 30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 7, 9, 15, 18, 19

The drafting of mechanical and electrical systems in buildings from prepared design data is emphasized. This is a laboratory course with lectures related to the laboratory. Students must have drafting instruments.

ARC 122: Architectural Drawing II6 credit hours

Prerequisites: ARC 099 or Equivalent and ARC 111
Corequisites: ARC 120
 45 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 20

The preparation of architectural presentation drawings from diagrammatic sketches, pictures, surveys and conference notes is included in this course. The student is taught to develop preliminary studies, presentation drawings and working drawings for an architectural project utilizing masonry construction.

ARC 174: ARC Co-op Education I1-3 credit hours

Prerequisites: ARC 111, ARC 117
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, the student sets up work assignments and learning objectives to connect classroom learning with career-related work experience. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

ARC 210: Structure in Architecture2 credit hours

Prerequisites: ARC 122 and PHY 105
Corequisites: ARC 213
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 19

This class provides an introduction to the use of structural systems (steel, timber, and reinforced concrete, etc.). Design fundamentals of simple structural components are emphasized.

ARC 213: Architectural Drawing III6 credit hours

Prerequisites: ARC 122
Corequisites: ARC 227, ARC 210
 30 lecture, 105 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8

Major problems in architectural detailing are studied through the preparation of drawings and details for a moderate sized building such as a school or church. The option to use a computer for drafting tasks is provided, with instructor consent. Choice of software features AutoCAD AEC, Data CAD, and Micro Station PC.

ARC 218: 3D Presentation/CAD4 credit hours

Prerequisites: ARC 122
Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements:

The emphasis in this course includes computer skills to produce prospective drawings for pictorial presentation, 3D solid modeling, raster image insertion for site conditions and topography. Simple computer methods are used for rendering views, shades, and shadows on architectural drawings. This course features Visual Reality/Renderize Live or 3D Studio or equivalent.

ARC 224: Architectural Drawing IV6 credit hours

Prerequisites: ARC 213
Corequisites: ARC 109
 30 lecture, 105 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 5, 7, 8, 9, 11, 12, 18, 19

Major problems in architectural drawing are studied through the preparation of programs and drawings for a large size building project such as a shopping center or multi-story structure. Choice of software features AutoCAD AEC, DataCAD, and Micro Station PC.

ARC 227: Estimating Construction Costs.....3 credit hours**Prerequisites:** ARC 122**Corequisites:** ARC 213**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 5, 7, 9, 18**

This course provides an introduction to the field of estimating construction costs for building construction projects and includes advanced topics such as computer estimating software selection and researching methods and techniques employed by construction estimators. Analyses of quantitative survey methods for estimating materials, labor, equipment, overhead and profit are included and discussed.

ARC 274: ARC Co-op Education II1-3 credits**Prerequisites:** ARC 174 and Consent**Corequisites:** none**0 lecture, 0 lab, 0 clinical, 120 other****Fulfills Core Elements: none**

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and the employer, students determine work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Art**ART****ART 101: Drawing and Painting3 credit hours****Prerequisites:** none**Corequisites:** none**15 lecture, 30 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 13**

This class is a user-friendly introduction to art for students with no previous studio experience. Instruction is provided in the fundamentals of color and composition. This course is not intended to take the place of ART 111 or ART 114.

ART 102: Color4 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 13**

Color is not what it seems to be. Through a series of experiments using colored papers, students will investigate the elusive behavior of color. Students will develop sensitivity to color so that it can be used effectively in every area.

ART 111: Basic Drawing I4 credit hours**Prerequisites:** none**Corequisites:** none**15 lecture, 75 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 8, 9, 13**

This course is an introduction to the central problems and issues of freehand drawing. Accurate representational drawing is emphasized through a series of projects concentrating on simple objects. The course is recommended for students who plan to continue in art at WCC or to transfer to another college or university.

ART 112: Basic Design I4 credit hours**Prerequisites:** none**Corequisites:** none**60 lecture, 30 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 13**

This studio course uses a broad range of exercises and materials to involve the student in two and three-dimensional design experiences. Its objective is to develop careful seeing and analytical thinking that can be applied to all areas of the visual arts. This course is recommended for students who are planning to continue at WCC or to transfer into other art programs.

ART 114: Painting I.....4 credit hours**Prerequisites:** none**Corequisites:** none**0 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 13**

This course uses an analytical approach to the fundamental problems and issues of painting, with emphasis on composition and the articulation of volume in space.

ART 120: Portrait Painting and Life Drawing4 credit hours**Prerequisites:** none**Corequisites:** none**90 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7**

Working from live models, students study anatomy, techniques in drawing, pastel painting and visual expression; multi-media; philosophy and envisioning. It is preferred, although not required, that students have some art background. Interest is critical.

ART 122: Basic Drawing II4 credit hours**Prerequisites:** ART 111**Corequisites:** none**0 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 13**

Complex problems of drawing are explored with greater emphasis placed on individual solutions. Several new media are introduced.

ART 125: Painting II4 credit hours**Prerequisites:** ART 114**Corequisites:** none**0 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 13**

Further exploration of the fundamental problems and issues of painting, with greater emphasis on individual development.

ART 130: Art Appreciation3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 8, 13, 14**

An inquiry into the ways in which art reflects, extends and shapes experience. The course investigates art of the past and present, seeing in it a statement of our human condition. This is an academic course involving textbook, class discussions, short papers, and projects.

ART 140: Life Drawing4 credit hours**Prerequisites:** none**Corequisites:** none**30 lecture, 60 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 8, 13**

This class will provide instruction in basic approaches to drawing the nude. We will begin with quick gesture drawing, and move gradually toward longer poses. Emphasis is on analyzing the figure in terms of its simple, solid, underlying forms.

ART 143: Art and Culture of Afro-America3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 13, 14**

This course prepares students to participate in and appreciate the arts (visual, dance, music, film, poetry, literature) of African and Afro-American people. Perspectives and definitions that differ from Western values and standards are presented. The anthropological approach is used to recognize the importance of history in understanding the present. Multi-media methods, skill development and aesthetic competence are emphasized.

ART 150: Monuments from Around the World3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 2, 3, 7, 10, 13, 14, 24**

In this course various monuments around the world will be explored and analyzed for their significance as part of a particular civilization, religion, or culture. Specific rituals, traditions, myths and beliefs will be discussed as well as scientific, philosophical, and art historical implications for our contemporary world. A field trip will be included. Students will express themselves orally and in writing about different cultures and ideas. Emphasis is put on tolerance and the appreciation of difference and equality.

Astronomy**AST****AST 100: Introductory Astronomy1 credit hour****Prerequisites:** none**Corequisites:** none**15 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 15, 17**

An introduction to objects seen in the sky, with some opportunity for direct observation when weather permits. Astronomy is presented as a hobby as well as a basic science. No prior knowledge of astronomy is required.

AST 111: General Astronomy3 credit hours**Prerequisites:** none**Corequisites:** none**60 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 10, 15, 17**

This is a survey course of the solar system and the universe designed for both transfer and vocational students. No previous mathematics or science is required. Topics include the sun, moon and planets, Ptolemaic and Copernican systems, seasonal changes in the sky, and modern ideas growing from early beliefs in astrology.

Auto Body Repair**ABR****ABR 111: Auto Body Fundamentals I4 credit hours****Prerequisites:** none**Corequisites:** none**30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 18, 19**

This course involves repairing damaged body panels, studying the working properties of automobile sheet metal, analyzing typical damage conditions, and understanding accepted repair procedures. Included is an introduction to basic welding skills used in auto body repair.

ABR 112: Auto Body Fundamentals II4 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 18

Methods and procedures used with automobile refinishing materials are covered in this course. Also included is information on using conventional finishes such as acrylic lacquers and enamels as well as modern basecoat/clearcoat, urethane, and tri-coat finishes.

ABR 113: Applied Body Welding & Estimation4 credit hours

Prerequisites: ABR 111
Corequisites: none
30 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 18, 19

This course introduces the basics of welding skills used in auto body repair. It also reviews the use of flat-rate manuals to determine parts and labor costs in estimating damaged automobiles with an emphasis on procedures used to establish complete and accurate prices in the preparation of estimates.

ABR 115: Classic Auto Restoration I4 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements:

This course covers vehicle construction, as well as working properties of automotive sheet metal. Emphasis is on removal, replacement, and alignment procedures for bolted on trim, hardware, and body panels (exterior and interior). Types of welded joints used to repair or replace damaged panels are included with an emphasis on lead filling and metal finishing without the use of filler material. Reconditioning of metal parts through sand blasting and media blasting techniques will be studied.

ABR 117: Classic Auto Restoration II4 credit hours

Prerequisites: ABR 115
Corequisites: none
30 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements:

This is a continuation of ABR 116. Lab work on vehicles being completely restored takes place. Complete exploration of the restoration process is made, on individual, as well as group and class projects. The use of manuals, literature, and the Internet to locate replacement parts and panels as well as cost estimation is taught. Emphasis is on quality and workmanship.

ABR 123: Auto Body Repair Applications4 credit hours

Prerequisites: ABR 111
Corequisites: none
30 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 18, 19

This is a continuation of ABR 111. Lab work includes actual repairs to automobiles to develop basic bumping skills. Emphasis is placed on quality and excellent work habits. Included is the proper use of hydraulic equipment during the repair of collision damage.

ABR 124: Auto Refinishing Applications4 credit hours

Prerequisites: ABR 112
Corequisites: none
15 lecture, 105 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 18

This is a continuation of ABR 112. Lab assignments on actual automobiles provide an opportunity to improve skills in matching high metallic colors using modern spot repair and color blending techniques, as well as overall refinishing. Emphasis is placed on solving paint problems and the proper detailing necessary to achieve repairs that meet trade standards.

ABR 174: ABR Co-op Education I1-3 credit hours

Prerequisites: Consent, ABR 111, ABR 112, ABR 113
Corequisites: none
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated position in the field of auto body repair. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two possible co-op experiences. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

ABR 215: Classic Auto Restoration III4 credit hours

Prerequisites: ABR 115, ABR 117
Corequisites: none
30 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements:

This course focuses on restoration of interior and exterior trim and hardware including headliners, dash panels, sets, carpet, glass, hood ornaments, body side moldings, and bumpers. Students will gain the skills to assemble a classic car properly with emphasis on details and quality.

ABR 217: Classic Auto Restoration IV4 credit hours**Prerequisites:** ABR 215**Corequisites:** none**30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements:**

This course focuses on advanced skills in automotive welding techniques. Students will learn advanced skills in shaping metal to form parts to replace original damaged parts on classic cars. Advanced projects will be completed on students' own vehicle or one provided by the school.

ABR 219: Advanced Auto Body I:**Major Repair4 credit hours****Prerequisites:** ABR 123, ABR 124**Corequisites:** none**15 lecture, 105 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 18, 19**

This course covers the use of hydraulic jacking equipment to repair damaged sheet metal and body shells. Advanced welding techniques and fine tuning MIG/TIG welders for use on aluminum panels is included. Lab work includes set-up of typical push or pull operations and straightening procedures used on collision damage.

ABR 224: Advanced Auto Body II:**Auto Refinishing4 credit hours****Prerequisites:** ABR 123, ABR 124**Corequisites:** none**30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements:**

This course provides students with the skills to use paint repair applications on collision damaged vehicles. Included are the theory of paint blending, and planning and set-up of single and multi-stage blend repairs. Emphasis is on basecoat/clearcoat finishes and tri-coat finishes. Students will learn the characteristics of color and how to apply knowledge of color movement and tint to obtain blendable color matches. Lab assignments include set-up of paint mixing stations and plotting solid and metallic colors.

ABR 226: Advanced Auto Body III:**Frame/Unibody Alignment4 credit hours****Prerequisites:** none**Corequisites:** none**30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 8, 9, 18**

This course covers the repair of structurally damaged conventional framed, unitized automobiles and light trucks. Included is a detailed study of body and frame construction, diagnostic procedures, repair techniques and structural parts replacement using conventional and computerized laser measuring equipment.

ABR 229: Advanced Auto Body IV:**Major Repair Applications4 credit hours****Prerequisites:** ABR 219**Corequisites:** none**30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements:**

This course provides a detailed study of the automobile body that includes the use of hydraulic jacks, suspension and alignment tools, auto-electric equipment, and heating and air conditioning tools. Electrical theory, alignment and suspension theory, and application knowledge of air conditioning theory is covered. Lab assignments include full or partial panel replacement including the replacement of structural stationary glass. Work will be done on collision damaged vehicles provided by the school or students' own vehicles.

ABR 230: Advanced Auto Body V:**Advanced Auto Refinish4 credit hours****Prerequisites:** ABR 224**Corequisites:** none**30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 8, 9**

In this class, students utilize periods of concentrated effort on specific assignments in selected areas of the auto body repair field. Students work with instructor consultation to demonstrate development within the assigned area of general collision service, body shop organization and management, or estimating automobile physical damage.

ABR 274: ABR Co-op Education II1-3 credit hours**Prerequisites:** ABR 174, Consent**Corequisites:** ABR 174**0 lecture, 0 lab, 0 clinical, 120 other****Fulfills Core Elements: none**

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two Co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Automotive Service

ASV

ASV 097: Automotive Service**Fundamentals2 credit hours****Prerequisites: none****Corequisites: none****15 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This course is designed for the non-professional. The course explains the basic theory and inspection techniques that are helpful when buying or maintaining a car. Students are encouraged to inspect their vehicles, identify problems and make good decisions about what repairs they can perform. Consumer rights are discussed and good communication techniques with the repair facilities are presented. This course is designed and tailored to accommodate the needs of the beginning and experienced automobile owner. Some of the systems covered include lubrication, heating and cooling, suspension and steering, brake systems, fuel systems and drivetrains.

ASV 112: Vintage Automobile Engine**Rebuilding4 credit hours****Prerequisites: none****Corequisites: none****30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This course is for the automobile restoration enthusiast and prospective professional who wants to learn how to rebuild a vintage engine. The focus is on engines pre-dating emission control and electronic engine management technology. Engine tear down, cleaning, inspection, measuring, sourcing, specifying, and obtaining quality machining services, inspection of replacement parts, and reassembly will be emphasized. A variety of engine designs and materials will be compared and contrasted.

ASV 141: Automotive Mechanics I4 credit hours**Prerequisites: none****Corequisites: none****30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

In this course, students perform preventative maintenance procedures, basic engine systems repairs, basic electrical system testing, and chassis component inspections. Instruction stresses live work and preparation for the State of Michigan Mechanics exams.

ASV 142: Automotive Mechanics II4 credit hours**Prerequisites: none****Corequisites: none****30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

In this course, students perform suspension system service, drive line service, electrical troubleshooting techniques, and basic fuel systems testing. Instruction stresses live work and preparation for State of Michigan Mechanics Exams.

ASV 143: Automotive Mechanics III.....4 credit hours**Prerequisites: none****Corequisites: none****30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

In this course, students learn to perform brake system service and basic emission testing.

ASV 144: Automotive Mechanics IV.....4 credit hours**Prerequisites: none****Corequisites: none****30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This is a course in the diagnosis and repair of drive train systems. The course covers manual transmissions, axles and differentials, 4-wheel/all-wheel drive and automatic transmissions.

ASV 145: Automotive Mechanics V4 credit hours**Prerequisites: ASV 141, ASV 142****Corequisites: none****30 lecture, 90 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

In this course, students diagnose and repair onboard computer systems, ignition systems, fuel management systems, and advanced emission systems.

ASV 156: Electrical Systems**Recertification1 credit hour****Prerequisites: Michigan Certification in Electrical Systems****Corequisites: none****16 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This course is for automotive mechanics who wish to renew their Michigan State certification in electrical systems. Recertification is granted by the state for passing the course. Students must already be certified in this area to register for the course.

ASV 174: ASV Co-op Education I1-3 credit hours

Prerequisites: ASV 141
and Consent
Corequisites: none
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course students gain skills from a new experience in an approved, compensated position in the field of automotive service technology. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two possible co-op experiences. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

ASV 177: Recertification in Brakes1 credit hour

Prerequisites: none
Corequisites: none
15 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course prepares students for the State of Michigan mechanics recertification exam in brakes.

ASV 241: Engine Repair2 credit hours

Prerequisites: Certificate in Auto Mechanics or currently in mechanic field
Corequisites: none
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Students are presented with the skills and knowledge for understanding and repairing automobile engines. Using manuals, text, tools, and automobiles in a laboratory setting, students perform service procedures on automobile engines, with a concentration on the upper half. This course provides the student with the knowledge to help prepare for the state of Michigan and the National Engine Repair examinations.

ASV 242: Automatic Transmissions2 credit hours

Prerequisites: Certificate in Auto Mechanics or currently in mechanic field
Corequisites: none
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Complete automatic transmission overhaul and hydraulic system service along with fundamentals of operation and diagnosis of transmission problems are covered in this course. This course provides the student with the knowledge to help prepare for the state of Michigan and the national Automatic Transmission examinations.

ASV 243: Manual Drive Trains and Axles.....2 credit hours

Prerequisites: Certificate in Auto Mechanics or currently in mechanic field
Corequisites: none
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course covers the operating principles and repair procedures of manual drive train systems. Units of study include a wide range of concepts dealing with such areas as: clutches, manual transmissions, transaxles, differentials, constant velocity systems, universal joints, and driveshafts. Front, rear and four-wheel drive systems are covered. Diagnosis and repair procedures on actual vehicles are stressed. The course helps students to prepare for the State of Michigan and National Manual Drive Trains and Axles examinations.

ASV 244: Suspension and Steering2 credit hours

Prerequisites: Certificate in Auto Mechanics or currently in mechanic field
Corequisites: none
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course covers the diagnosis and repair procedures of front and rear wheel drive suspension and steering systems. Topics include wheel balance, wheel alignment, removal and replacement of suspension components, and diagnosis and repair of steering system components. Students are provided with the knowledge to help prepare for the State of Michigan and the National Suspension and Steering examinations.

ASV 245: Brakes2 credit hours

Prerequisites: Certificate in Auto Mechanics or currently in mechanic field
Corequisites: none
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course students develop skills in diagnosing and repairing brake systems on a variety of working vehicles. Concentration is on factory techniques and accepted field practice. Instruction includes machining of drums and rotors, hydraulic system service, mechanical system inspection and service, and diagnosis and repair of anti-lock brake systems. Students are provide with the knowledge to help them prepare for the state of Michigan and the National Brakes examination.

ASV 246: Electrical/Electronic Systems2 credit hours

Prerequisites: Certificate in Auto Mechanics or currently in mechanic field

Corequisites: none

30 lecture, 30 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course involves the theory and application of automotive electrical and electronic circuits and accessories. It includes diagnosis and repair techniques of lighting systems, instrument clusters, windshield wiper systems, power accessories, keyless entry systems, body computers, etc. This course provides the student with the knowledge to help prepare for the State of Michigan and the National Electrical/Electronic examinations.

ASV 247: Heating and Air Conditioning.....2 credit hours

Prerequisites: Certificate in Auto Mechanics or currently in mechanic field

Corequisites: none

30 lecture, 30 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course includes the theory of refrigeration, service procedures, and diagnosis techniques. Emphasis is placed on compressor service, distribution systems, controls, heating systems, automatic systems, component replacement, and retro-fitting R-12 systems. The course provides the knowledge to help prepare for the State of Michigan and National Heating and Air Conditioning examinations.

ASV 248: Engine Performance2 credit hours

Prerequisites: Certificate in Auto Mechanics or currently in mechanic field

Corequisites: none

30 lecture, 30 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is designed to provide the student with skills in troubleshooting and repairing driveability problems with automobile computerized ignition, fuel, and emission related systems. Actual vehicles are used to demonstrate the use of computerized and digital diagnostic equipment. This course provides the student with the knowledge to help prepare for the state of Michigan and the national Engine Performance examinations.

ASV 274: ASV Co-op Education II1-3 credit hours

Prerequisites: ASV 174, Consent

Corequisites: none

0 lecture, 0 lab, 0 clinical, 120 other

Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two Co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Biology**BIO 101: Concepts Of Biology4 credit hours**

Prerequisites: none

Corequisites: none

45 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 8, 10, 15, 16, 17

Basic principles and concepts of biology are surveyed in lecture and laboratory with emphasis on biological processes as well as practical applications. If followed by BIO 103, this course provides a comprehensive year sequence for biology majors. Taken alone, it serves as a good introduction to biology for non-science students.

BIO 102: Human Biology.....4 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 8, 10, 15, 16, 17

This course covers the basic structure and function of the human body, as well as human interactions with the larger biological community, including issues of health and disease, food use and labeling, and environmental pollution. Comparisons to other organisms highlight the ways in which we adapt to our world. Includes a laboratory portion involving the use of models, dissection, demonstrations, and actual medical equipment.

BIO 103: General Biology II4 credit hours

Prerequisites: BIO 101, CEM 111, Consent

Corequisites: none

45 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 6, 7, 8, 10, 15, 16, 17, 18, 19

The emphasis in this course is on analyzing the processes and mechanisms involved in biological systems including the cell, genetics, organisms and ecology/evolution. Topics are covered from an experimental point of view. This course, with BIO 101, provides a comprehensive survey of biological concepts and shows the interrelationship of topics covered from the molecular to the population level. This course is required for the Biology/Pre-medicine Program.

BIO 107: Introduction to Field Biology3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is an introduction to the biology of the outdoors for the beginning student. Subjects such as trees and shrubs, wild flowers, insects, various animals, pond and stream life, and different Michigan terrestrial and aquatic communities will be covered. An outdoor journal and other similar activities will be stressed.

BIO 111: Anatomy and Physiology5 credit hours

Prerequisites: CEM 057, or HS Chemistry
Corequisites: none
 60 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 10, 11, 12, 15, 16, 17, 18, 19, 20

This course provides students with an intensive, in-depth introduction to the structure and function of all human body systems, with examples of both normal and disease conditions relevant to health professionals. The emphasis on basic physiological principles also provides students with a good base for more advanced courses. Laboratory provides dissections and experiments.

BIO 137: Ornamental Indoor Plants2 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is designed for people who enjoy houseplants and want to learn more about them. Selection and growth of ornamental indoor plants from seeds and cuttings highlight the course. Students should be able to increase their collection of houseplants by at least fifteen varieties. Proper care of houseplants is stressed, relating to soil, potting, transplanting, watering, fertilizers, insects, control of growth and flowering.

BIO 147: Hospital Microbiology1 credit hour

Prerequisites: none
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 10, 16

This class provides a survey of the morphology, physiology and immunology of pathogenic organisms with emphasis on infection, aseptic, and sterilizing procedures.

BIO 174: Biology Co-op I1-3 credit hours

Prerequisites: none
Corequisites: none
 lecture, lab, clinical, other
Fulfills Core Elements:

Co-op courses provides students with worksite skills and experiences in an approved, compensated position related to their chosen field of study. Together, with an instructor, an employer, and the Workplace Learning Center, the student determines work assignments and learning objectives to connect learning with career-related work experience. Co-op experiences are coordinated by the Workplace Learning Center in conjunction with WCC faculty and cooperating employers. Registration for a cooperative education requires attendance at a Co-op Orientation and a faculty signature. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

BIO 200: Current Topics in Biology3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 15, 16, 17, 18

This class is an examination from a biological point of view of the state of current knowledge in various fields of biology. It includes the state of current studies and the extent of our knowledge in the controversial fields of human genetic engineering; the biology of human behavior, human cycles, learning, sleep and cancer. Relationship of such knowledge to future technology and possible social and political implications also are discussed.

BIO 208: Genetics4 credit hours

Prerequisites: BIO 101, CEM 111
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 8, 9, 10, 15

This is an introduction to the basic principles of genetics and their application to viruses, bacteria, plants and animals, including humans. Classical and molecular genetics are covered, with emphasis on experimental and statistical evidence from which genetic mechanisms are deduced. Laboratory experiments demonstrate genetic principles.

BIO 215: Introduction to Cell Physiology3 credit hours

Prerequisites: CEM 111, BIO 101, or Consent
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 10

This is an introduction to the chemistry and physiology of living cells including cell metabolism, membrane permeability and excitability, movement and contractile elements, gene expression and protein synthesis. Properties common to all living things will be emphasized, as well as the importance of those properties in the human organism.

BIO 216: Cell Physiology Lab1 credit hour

Prerequisites: none
Corequisites: BIO 215
 0 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 6, 7, 8, 9, 15, 18, 19

This lab course is designed to be taken concurrently with BIO 215, Introduction to Cell Physiology.

BIO 220: Human Genetics3 credit hours

Prerequisites: BIO 101, or Consent
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 7, 8, 9, 10, 15

This course covers basic principles of heredity and their relationship to humans. Included are the genetic basis of sexual dimorphism, classical pedigree studies, medical genetics, modern molecular genetics, genetic engineering, and human population dynamics.

BIO 227: Zoology4 credit hours

Prerequisites: BIO 101, or Consent
 Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 9, 15, 17

Lecture, field, and laboratory investigation provide an intensive study of the classification, evolutionary relationship, structure, and function of the major animal groups. Included are the sponges, jellyfish, worms, mollusks, insects, arthropods, starfish and other echinoderms, fish, amphibians, reptiles, birds and mammals.

BIO 228: Botany.....4 credit hours

Prerequisites: BIO 101, or Consent
 Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 8, 10, 15, 17

In this class, field and laboratory investigations provide detailed study of plant structure and function. It is for students with a general interest in plants and also provides a basis for further work in botany or other programs.

BIO 237: Microbiology4 credit hours

Prerequisites: BIO 101, or Consent
 Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18

Microorganisms and their activities are studied in lecture and laboratory.

BIO 249: Field Study of Birds1 credit hour

Prerequisites: none
 Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7

This class involves identification of birds, their songs and nesting habits.

BIO 258: Field Study of Trees and Shrubs1 credit hour

Prerequisites: none
 Corequisites: none
 0 lecture, 15 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 17

Trees, shrubs, and vines are studied and identified in this course. The natural history of these plants is also introduced, including reproduction strategies, environmental interactions, and relevance to humans.

BIO 259: Field Study of Common Plants1 credit hour

Prerequisites: none
 Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 17

Non-woody higher plants are studied with emphasis on identification.

BIO 267: Winter Field Study1 credit hour

Prerequisites: none
 Corequisites: none
 0 lecture, 15 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 17

This course is a study of life out of doors in winter. Topics such as plant and animal identification, observation, adaptations, and interrelationships are discussed. This class is especially for students with no previous background in biology and/or students who enjoy being outdoors and are curious about nature.

Business Management BMG

BMG 100: Investments1 credit hour

Prerequisites: none
 Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7

This course is designed to acquaint students with the basics of financial investments. Topics include: stocks, bonds, mutual funds, investment banking, financial statement analysis, the stock market, and other phases of financial investments and services.

BMG 106: Legal Basics in Business.....3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 8, 10, 22

This course is designed for those who are either employed in small to medium-sized companies or who own, or want to start, their own business. Students will learn to apply fundamental legal principles and rules to business law, "red flag" situations of potential legal liability, and make

suggestions for reducing legal risks in situations that can arise in business settings, particularly as they apply to legal issues of the student's chosen trade or profession. Students will learn to use legal resources readily available in the community and explore the nature of the relationship between business ethics and law. Students are expected to make use of computer technologies to learn in both an individual and collaborative environment.

BMG 109: Intro to Home-Based/Small Business Management.....3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

This course is designed for those persons thinking of starting, operating and managing a small business and for those currently in business who want to more deeply explore the theory and practice of entrepreneurship. Individuals working within a large corporation may also apply the skills learned to their intrapreneurial projects. Students use the Internet to communicate with each other and the instructor while doing research that includes experiential exercise and case studies covering such topics as entrepreneurial opportunities, business plan development, marketing, and finance.

BMG 110: Credit Management3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 9

This is an introductory course in consumer and commercial credit practices, techniques, and regulations for most manufacturing and service industries. Students are shown how to develop credit policies and analyze pertinent credit data, collections, controls, and effects of bankruptcy.

BMG 111: Business Law I3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 7, 8, 9, 10, 11, 22, 23

This course involves text and case study of the general laws applicable to business, covering the nature of law courts and court procedures, contracts, real and personal property, wills, trusts, and negotiable instruments. It is the first of two courses and is appropriate for students intending to transfer.

BMG 122: Business Law II3 credit hours

Prerequisites: BMG 111
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 10

This course involves text and case studies of agency relationships (including employment), formation and operation of partnerships, formation and operation of corporations, security laws, sales agreements, consumer rights, secured transactions, bankruptcy, computer law and international law. This course, when taken with BMG 111, Business Law I, provides an in-depth study of legal issues affecting business. Students are expected to make use of computer technologies to learn in both an individual and collaborative environment using the Internet.

BMG 130: Investment Strategies3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 6, 7, 8, 9, 10

This is a course designed to help existing or potential investors keep abreast of investment opportunities in today's changing financial world. This course presents current information on stock and bond markets, commodities, and real estate. Students are taught the mechanics of investing and how to analyze risk and return, financial statements, annual reports, financial services reports, mutual funds, and relates to the current tax structure. Students learn to read The Wall Street Journal and utilize the information to evaluate investments.

BMG 140: Introduction to Business3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 24

This course covers functions, objectives, problems, organization, and management of modern business. Also covered are the free-enterprise system of business-economic activity and the impact of the consumer and governmental forces upon the system. Students develop insight into the vital role of the administrative function in our economy as a whole and in the operation of a single business unit. A practical orientation is offered in the career opportunities available in business and industry. This course is also taught as a television course using the program series "It's Strictly Business."

BMG 150: Labor-Management Relations3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 8, 9, 10, 22**

This course acquaints students with factors affecting the labor-management relationships, develops insights into the growth, objectives and methods of organized labor and the significant managerial problems involved in dealing with labor. Analysis is done of the legal and institutional framework for collective bargaining; the nature, content and problem areas of the collective bargaining process and other labor relations problems.

BMG 155: Business on the Internet3 credit hours**Prerequisites:** Capacity to use Web browser, INP 159, or testing out**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 11, 20**

In this course, students explore e-commerce from the perspective of a business as well as a customer. Students examine why it is essential to have an online presence that attracts customers and how, as a customer, to make use of the many goods and services available online. Students will learn to use e-commerce effectively through hands-on experience and online study in order to confidently know what can be found online, how to find it and how it can be used once it is found. Students should be able to use a computer and a Web browser before taking this course.

BMG 160: Principles of Sales3 credit hours**Prerequisites:** BMG 140**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 1, 7, 9, 11**

Basic selling techniques are taught and practiced through textbook learning, video demonstrations and practical role-play activities. Emphasis is placed on "how to sell" in the business work environment. Skills learned are appropriate for a variety of sales positions and can be utilized in any industry. Students learn to be effective and sell by building telephone prospecting skills, preparing customer presentation calls, handling customer objectives, and closing a sale. Business etiquette and understanding the basics in commercial contracts are also addressed.

BMG 170: Introduction to International Business3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 24**

This course surveys the principles and practices important in doing business with foreign customers from a U.S. home base and in conducting business abroad on foreign soil. The course focuses on opportunities for global business, export-import trading, culturally different business practices, foreign exchange, theories of free trade and protectionism, government assistance to international commerce, and elements of world geography.

BMG 174: BMG Co-op Education I1-3 credit hours**Prerequisites:** Consent**Corequisites:** none**0 lecture, 0 lab, 0 clinical, 120 other****Fulfills Core Elements: none**

In this course students gain skills from a new experience in an approved, compensated, business-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

BMG 200: Human Relations in Business3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 8, 9, 21**

This course acquaints students with administrative principles and practices emphasizing the human relations aspect of management responsibility as it affects employee attitudes, morale and productivity. Major emphasis is on relationships among individuals and/or small groups, with problem-oriented sessions used to realistically relate the course materials to the human relations aspect of modern business-industrial enterprise.

BMG 207: Business Communication3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 1, 2, 3, 9, 11, 12**

Oral, written, and non-verbal skills are developed for effective internal and external communications in business. Emphasis is placed on organization, style, clarity, accuracy, and conciseness as students prepare reports, routine correspondence, resumes, and formal business presentations.

BMG 208: Principles of Management.....3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 9

This course is an introduction to the concepts and theories of management. Emphasis is on the functions of management — planning, organizing, staffing, directing, and controlling, including motivation, decision-making and communication. This course is also taught as a television course using the program series “The Business of Management.”

BMG 209: Writing the Business Plan3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 7, 8, 9

This course is designed to provide the learner with hands-on experience in preparing and presenting a written business plan. Students use the Internet to communicate with each other and the instructor while doing a review of actual business plans and business planning articles. Using business planning software, learners will prepare and present a business plan that includes a cover letter, non-disclosure agreement, executive summary, and a financial planning income, balance sheet and cash flow statement. Guidance in preparing a customized personal financial statement is also included.

BMG 210: Money, Banking and Financial Institutions3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 7

This is a course in the functions of finance. The course offers a definition of money including its characteristics and component parts. It identifies how the money supply expands and contracts based upon the inter-workings of the financial system. Also discussed is the effect of national and international financial practices on the consumer and business. Other topics include a comparison of the different types and purposes of various financial institutions, the Federal Reserve system, National Fiscal Policy, and how various monetary controls influence the supply of money, credit availability, forecasting interest rates, how to calculate investment yields and security prices, and stock market reactions based upon inflation and changes in the money supply. Banking and lending practices for business and consumers are emphasized and correlated to credit policies and examples of documentation forms. This course is recommended for business students.

BMG 215: Planning an E-Commerce Site for Business3 credit hours

Prerequisites: BMG 155 or Consent, INP 160, or exam, or Consent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course examines the strategies used by management to develop and implement an e-commerce site. Students will prepare a competitive analysis of an e-commerce business plan suitable to decision-makers. This will include an examination of the process involved in planning and maintaining the web site, attracting and maintaining customers, and measuring success. This course is not intended to train students to create and program an e-commerce site.

BMG 220: Principles of Finance3 credit hours

Prerequisites: ACC 092, or ACC 122
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 7

This course surveys the basic concepts of finance that provide the foundation for successful real world financial management practices. Emphasis is on financial tools required to operate a business. Included are the role of the economy and its effect on interest rates, commercial banking practices, commercial credit, cash management, lending practices, financial statement analysis, time value of money, forecasting, budgeting, capital budgeting, sources of financing, lease vs. purchase, leverage, inventory controls, valuation of rates of return, investment banking, international finance, and bankruptcy. The course is intended to prepare students for advance studies in finance and practical application of financial principles.

BMG 230: Introduction to Supervision3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 7, 8, 9

This supervision course introduces the roles and functions of the first-line manager and develops practical, operational management skills in the functional areas of planning, organizing, leading, and controlling.

BMG 240: Human Resources Management ...3 credit hours**Prerequisites:** BMG 208**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 3, 7, 8, 9, 10**

This class covers basic human resources activities that must be managed in any organization. It covers employment techniques, wages and hours, job evaluation, training, employee performance reviews, collective bargaining, employment counseling and collateral benefits such as pensions and fringe benefits.

BMG 243: Negotiating in the Workplace....0.5 credit hours**Prerequisites:** none**Corequisites:** none**7.5 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This course focuses on the fundamentals of negotiating that are involved in many work-related activities.

BMG 250: Principles of Marketing3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9**

This course is a study of our market-directed system with emphasis on the managerial level. Primary emphasis is on marketing strategy, planning in relationship to product, place, promotion and price. The concepts of economic fundamentals, marketing arithmetic, service and international marketing are incorporated. This course also is taught as a telecourse using the series "Marketing."

BMG 265: Business Statistics3 credit hours**Prerequisites:** MTH 181 and CIS 110**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This course introduces basic concepts of statistics and their applications to business decisions. Topics include elements of probability, random samples, descriptive statistics, sampling distributions, point and interval estimation, hypothesis testing, chi-square analysis, and regression and correlation analysis.

BMG 272: Problem Solving2 credit hours**Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 9**

This course examines problem solving techniques and methods used in today's work place. Students gain experience in using both critical and creative thinking approaches to problem solving in both individual and team settings.

BMG 273: Managing Operations3 credit hours**Prerequisites:** BMG 230**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This course is designed to provide the student with an understanding of systems theory and concepts and how to apply the conceptual skills and technical tools used in the role of supervisor. Through the use of skills building practice exercises and case analysis, the learner is enabled to analyze and respond to the traditional organizational functions of planning and controlling and their relation to the organization as a whole.

BMG 274: BMG Co-op Education II1-3 credit hours**Prerequisites:** Consent**Corequisites:** none**0 lecture, 0 lab, 0 clinical, 120 other****Fulfills Core Elements: none**

In this course, students gain skills from a new experience in an approved, compensated, business-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

BMG 279: Performance Management.....3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 21**

This course is designed to provide the student with the human performance skills needed to develop people in an environment that recognizes that they are an organization's most valuable resource. Through the use of skill building exercises and case analysis, the learner will develop knowledge and skills to plan, monitor, measure, motivate, improve and reward performance.

BMG 281: Conflict Resolution in the Workplace0.5 credit hours

Prerequisites: none
Corequisites: none
 7.5 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course prepares students to handle conflict in the workplace. Emphasis is on the impact at work and how to choose and apply approaches for resolving conflict.

BMG 287: Managerial Leadership3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course develops a theoretical understanding of leadership and the practical application of the personal skills and behaviors to influence others toward goal attainment. Topics include the development of vision, acquisition and use of power, leadership styles, and behavioral change management.

BMG 291: First Line Leadership Capstone3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 24

This is the final course in the First Line Management program.

BMG 292: Operating a Small Business: An Experience3 credit hours

Prerequisites: BMG 109 and BMG 209
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 3, 9, 11

This course provides the student completing the Entrepreneur/Intrepreneurship Certificate program a hands-on experience in operating and managing a small business enterprise. Students use the Internet to communicate with each other and the instructor about their experiences while using a computer-based model that simulates the operation of a small business. Through the model the learner makes periodic mission, policy, strategy, marketing, finance, and operational business decisions in competition with other computer industry companies.

BOS 100: Information Processing I4 credit hours

Prerequisites: none
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 11, 12

Students develop skill in creating, storing, retrieving, and revising a variety of documents using Office 2000. Jobs, skills, and career opportunities in today's office are emphasized in an examination of all phases of information processing. This course was formerly BOS 151.

BOS 101A: Introduction to Keyboarding1 credit hour

Prerequisites: none
Corequisites: none
 7.5 lecture, 22.5 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is a short one-credit class taught on IBM compatible computers. Students learn to keyboard (type) by touch and develop speed, accuracy, and proper techniques on the alphabetic keys. This course is useful for beginning keyboarding students as well as those who want to review the basics of the alphabetic keyboard and service keys.

BOS 101B: Keyboarding.....1 credit hour

Prerequisites: BOS 101A or Consent
Corequisites: none
 7.5 lecture, 22.5 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is a short one-credit class taught on IBM compatible computers. It is designed for students who already know the alphabetic keyboard by touch and are keyboarding (typing) at a minimum of 20 words per minute. Students increase speed on the alphabetic keys and improve accuracy and techniques. They learn the number and symbol keys by touch. This course is useful for students who have had typewriting and want to transfer their skills to a computer keyboard.

BOS 107: Clerical Methods and Procedures.....4 credit hours

Prerequisites: BOS 111
Corequisites: none
 0 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 9

In this course, students perform a variety of general office duties including the processing of office mail, the handling of telephone and faxing service, and filing rules and procedures. Proofreading and editing skills are covered. In addition, students learn job-hunting procedures and prepare for employment in the clerical field through an understanding of the changing business world.

BOS 111: Document Preparation and Word Processing I5 credit hours**Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This class is designed for beginning students who want to learn the basics of keyboarding as well as those who want to review or renew their skills. In addition, students will learn the basics of Windows software and file management. Word for Office 2000 will be used in formatting business correspondence including but not limited to memorandums, simple reports, tables, and letters. This course is a combination of the previous BOS 101 and BOS 157 classes.

BOS 122: Document Preparation and Word Processing II5 credit hours**Prerequisites:** BOS 111 or BOS 101 and BOS 157**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course is designed for intermediate and advanced students who wish to improve their keyboarding and document preparation skills. Students will learn advanced formatting and keying of business correspondence and reports using Word 2000. The course will include the integration of desktop publishing, graphic, and drawing skills as well as the production of complex documents. Students will also create web pages and improve their keyboarding speed and accuracy. The course is a combination of the previous BOS 102 and BOS 257 classes.

BOS 130: Office Financial Applications3 credit hours**Prerequisites:** none**Corequisites:** none**15 lecture, 30 lab, 0 clinical, 0 other****Fulfills Core Elements:** 4, 5, 7

The ten-key computer pad as well as electronic business calculators are used to solve a variety of business problems which include payroll, with serious attention given to efficient operation, verifying techniques, and programming. Emphasis on business mathematics makes this course useful for both business and personal applications.

BOS 157: Word Processing Applications I2 credit hours**Prerequisites:** Keyboarding 25 wpm, familiarity with Windows**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 9, 11, 20

This course teaches word processing and document preparation concepts using Microsoft Word version 2000 in a Windows operating system. Skills include formatting and editing documents; using grammar and thesaurus func-

tions; preparing headers and footers; preparing footnotes and endnotes; using file management procedures; preparing labels and envelopes; and merging letters. Applying word processing concepts and functions to business environments is stressed. This course is also offered in a self-paced format. When combined with BOS 257, all MOUS core and expert competencies are covered.

BOS 158: WordPerfect for Windows I2 credit hours**Prerequisites:** BOS 111, or Keyboard 30 WPM**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 9, 11, 20

This course teaches students to use WordPerfect with the new, popular graphics windows interface on an IBM-compatible computer. Skills include creating, editing, and printing documents; using spelling and thesaurus functions; and merging letters. This course can be used to meet the word processing requirement in Business Office Systems and is also open to the general student.

BOS 174: BOS Co-op Education I1-3 credit hours**Prerequisites:** 8 BOS credits, 2.0 GPA BOS, & Consent**Corequisites:** none**0 lecture, 0 lab, 0 clinical, 120 other****Fulfills Core Elements:** none

In this course, students gain skills from a new experience in an approved, compensated, business-related position. Together with the instructor, the employer, and the Co-op Placement Office, students determine work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two-co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

BOS 182: Database Applications2 credit hours**Prerequisites:** Keyboarding 25 wpm and familiarity with Windows**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 11, 12

This course teaches database concepts and applications using Microsoft Access version 2000 in a Windows operating system. Skills and concepts include creating databases; creating and customizing tables and forms; creating, formatting, and enhancing reports; querying and maintaining databases; publishing reports to the Web; enhancing forms; and filtering data. Applying database concepts and functions to business environments is stressed. This course is also offered in a self-paced format. All MOUS core competencies are covered.

BOS 183: Spreadsheet Applications.....2 credit hours

Prerequisites: Keyboarding 25 wpm and familiarity with Windows

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 5, 7, 11

This course teaches spreadsheet concepts and applications using Microsoft Excel version 2000 in a Windows operating system. Skills and concepts include creating, formatting and editing a worksheet; entering formulas and using Excel functions; preparing charts; creating templates, workbooks, and Web pages; creating and using macros; sorting and filtering worksheet databases; and creating data maps and pivot tables. Applying spreadsheet concepts and functions to business environments is stressed. This course is also offered in a self-paced format. All MOUS core competencies are covered.

BOS 206: Scheduling and Internet Office Applications.....2 credit hours

Prerequisites: BOS 111, BOS 100

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 11

This course provides an introduction to the operational and technical aspects of microcomputer communications using Microsoft Outlook and Netscape Communicator. Topics covered include sending and receiving e-mail; electronic scheduling; organizing appointments, meetings, and events; maintaining an address book; and using the Internet for common business tasks.

BOS 207: Presentation Software Applications2 credit hours

Prerequisites: Keyboarding 25 wpm and familiarity with Windows

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 11

This course teaches presentation software concepts and applications using Microsoft PowerPoint version 2000 in a Windows operating system. Skills and concepts include creating, editing, formatting, and enhancing presentations; using outline view and clip art to create a slide show; using embedded visuals to enhance a slide show; enhancing a presentation with interactive OLE files; and creating Web pages. Applying presentation software concepts and functions to business environments is stressed. This course is also offered in a self-paced format. All MOUS core competencies are covered.

BOS 208: Desktop Publishing for the Office3 credit hours

Prerequisites: BOS 111, BOS 100, BOS 157 or BOS 158

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 9, 11, 12

This course provides a practical hands-on approach to developing skills in the use of desktop publishing software to create office flyers, newsletters, bulletins, in-house brochures, catalogs, transparency masters, and covers for reports. Students also become familiar with style sheets, templates, and importing material created in other software programs. Emphasis is placed on producing documents in the business office environment that communicate effectively through good design and application of basic concepts of desktop publishing.

BOS 210: Medical Transcription3 credit hours

Prerequisites: HSC 101, BOS 122, or Equivalent

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 3, 9, 11, 19

This beginning medical transcription class is for students who have some proficiency in keyboarding and medical terminology. Emphasis is placed on the correct use of medical terms; the correct application of writing rules including capitalization, word usage, and punctuation; the efficient use of hardware including a computer, printer, and transcription machine; the formatting of typical medical documents; the use of medical resources; and the knowledge of current employment opportunities in medical transcription.

BOS 223: Medical Office Procedures3 credit hours

Prerequisites: BOS 122 or Equivalent

Corequisites: none

45 lecture, 15 lab, 0 clinical, 0 other

Fulfills Core Elements: 7

This course covers administrative assistant responsibilities in a traditional and computerized medical office or hospital including appointments, patient records, telephone procedures, and credit and collection procedures. Medical insurance is studied as well as legal considerations in a medical office. Students complete forms for Blue Cross/Blue Shield, Medicare, Medicaid, Workers' Compensation, CHAMPUS, and private insurance using the proper coding system. Students must complete a minimum of 4 practice hours in addition to regular lecture and lab hours.

BOS 224: Medical Office Insurance and Billing4 credit hours

Prerequisites: BOS 111
Corequisites: HSC 101
60 lecture, lab, clinical, other
Fulfills Core Elements: 7, 9, 11, 12

This course is for those interested in a career in the medical office as a medical assistant, insurance, or biller/coder. The course will cover the fundamentals of health insurance and their requirements for claim form processing. Learners will use billing reference manuals and coding books to accurately abstract information necessary to produce acceptable forms in a timely manner for Blue Cross/Blue Shield, government-sponsored programs, and major commercial carriers. Case studies and exercises will be used to practice completing forms both manually and electronically for each program.

BOS 225: Advanced Document Preparation ..3 credit hours

Prerequisites: BOS 100, BOS 257 or BOS 258
Corequisites: none
15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 11

This course is designed to provide practical study and advanced training in using Office 2000. Emphasis is placed on developing insights into the responsibilities of the information processing center including staff, personnel qualifications, and human relations. The course also includes information processing alternatives, equipment and needs surveys, organization and implementation of information processing, and management and control of information processing functions.

BOS 250: Administrative Office Systems and Procedures4 credit hours

Prerequisites: BOS 122 or Equivalent
Corequisites: none
45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 2, 3, 9, 11, 18, 19, 20

This capstone course for the Administrative Assistant and Medical Administrative Assistant Technology programs covers many functions that have been changed by technology. Emphasis is placed on the expanding duties of an administrative assistant including time management, business composition, human relations skills, and information retrieval for the business office. Continued importance is placed on verbal, nonverbal, and written communications. Office planning, environment, etiquette, and protocol are other topics covered, and a variety of specialized office documents are prepared.

BOS 257: Word Processing Applications II....2 credit hours

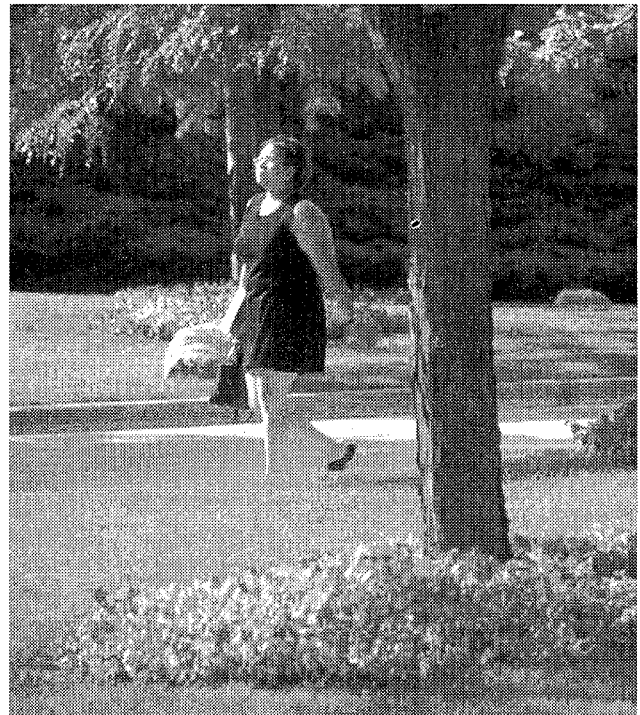
Prerequisites: BOS 157
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 11, 20

This course is a continuation of BOS 157. Advanced word processing and document preparation concepts and skills using Microsoft Word version 2000 in a Windows operating system are covered. Skills include formatting graphics; web publishing; preparing tables of content, indexes, outlines, and online forms; tracking changes; using templates, styles, and macros; creating WordArt objects; and applying desktop publishing concepts and functions to business documents. This course is also offered in a self-paced format. When combined with BOS 257, all MOUS core and expert competencies are covered.

BOS 274: BOS Co-op Education II1-3 credit hours

Prerequisites: BOS 174 and consent
Corequisites: none
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated position related to the chosen field of study. The instructor, employer and the student work together to determine work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two BOS Co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.



Chemistry

CEM

CEM 057: Introductory Chemistry3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course offers a basic exposure to chemistry. Students with no back-ground in high school science or algebra, or students wishing to improve their chemistry background should take this course before taking CEM 105 or CEM 111. Introductory Chemistry Laboratory (CEM 058) should be taken concurrently.

CEM 058: Introductory Chemistry Lab1 credit hour

Prerequisites: CEM 057
Corequisites: none
0 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Designed to accompany CEM 057, this course provides an experience with basic chemical laboratory practices and procedures.

CEM 105: Fundamentals of Chemistry4 credit hours

Prerequisites: CEM 057 or HS Chemistry
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 15

Students with an interest in nursing or other health related areas, or needing a general science elective find that this broad survey of the major topics in chemistry meets the requirements of their program.

CEM 111: General Chemistry I4 credit hours

Prerequisites: CEM 057 or HS Chemistry, HS Algebra
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 15

This course covers the major topics in chemistry. Laws of chemical combination, states of matter, atomic and molecular structure, bonding, and other basic principles are covered. It is for students in a professional or preprofessional curriculum.

CEM 122: General Chemistry II4 credit hours

Prerequisites: CEM 111, MTH 169
Corequisites: none
45 lecture, 75 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 11, 12, 15

This course covers four major topics in chemistry: kinetics, chemical thermodynamics, chemical equilibria, and electrochemistry. Laboratory work includes qualitative and quantitative analysis.

CEM 140: Organic Biochemistry4 credit hours

Prerequisites: CEM 105 or CEM 111
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 15

An introduction to both organic chemistry and biochemistry for nursing and other health services students. Major topics covered are the structure and functional groups of organic compounds, structures of biological molecules, mechanism of enzyme-catalyzed reactions, equilibria involved in the exchange and transport of oxygen and carbon dioxide, acid-base balance, and bioenergetics.

CEM 211: Organic Chemistry I4 credit hours

Prerequisites: CEM 111
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 15

This course provides students with the background in nomenclature of organic chemistry, stereochemistry, the preparation and reactions of aliphatic and aromatic compounds. Students also practice the preparation and handling of organic compounds in the laboratory. This is the first course in a two semester sequence.

CEM 218: Analytic Chemistry4 credit hours

Prerequisites: CEM 122
Corequisites: none
30 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 7, 9, 15

Techniques for the separation and quantitative determination of chemical substances by gravimetric, volumetric, and instrumental methods are learned and practiced in this course.

CEM 222: Organic Chemistry II4 credit hours

Prerequisites: CEM 122, CEM 211

Corequisites: none

45 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 4, 7, 9, 15

This course provides a continued exploration of nomenclature, stereochemistry, preparations and reactions of organic compounds including spectroscopic analysis in the laboratory. Students apply the techniques used in CEM 211 to the synthesis and analysis of complex organic compounds. Laboratory work includes hands-on spectroscopic analysis (IR, GC, and NMR) of products and unknowns. This is the second course in a two semester sequence of organic chemistry.

CCP 104: The Basics of Child Care1 credit hour

Prerequisites: none

Corequisites: none

15 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course introduces care givers to the childcare profession. The focus is on the knowledge and skills needed to care for children in group care settings. Topics covered include professionalism, the business of child care, health and safety, nutrition and food handling, child development, guidance and discipline, parent/provider relationships, and community resources. The course is equivalent to the 15 hour Child Care Futures Basic Training Course conducted by the Michigan 4-C Association and its local affiliates.

Child Care Professional**CCP****CCP 100: The Exceptional Child2 credit hours**

Prerequisites: CCP 101

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 9

For those with no background in special education, this course presents an overview of the various physical, sensory, intellectual, social and emotional differences found in children. Identifying and working with handicapped and gifted children within the regular child care setting is stressed. Various community, state and national resources to assist exceptional children are identified.

CCP 107: Math & Science Activities**for Children3 credit hours**

Prerequisites: CCP 101, 118, 119, or 174

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7

Integrated curriculum workshops introduce the theory of math and science experiences for children. Topics include: learning to observe and teach the science and math around us every day; making materials, collecting resource files and practical application of ideas to be used in the child care setting. Community resources are explored.

CCP 101: Child Development3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 16, 21

This course provides a general overview of the physical, social, emotional and intellectual development of the child from conception to maturity with emphasis on the preschool years. It examines the environmental, ethnic and familial factors that make for group differences and individuality of growth, and reviews current research in these areas.

CCP 108: Expressive Arts for**Children2 credit hours**

Prerequisites: CCP 101

Corequisites: CCP 101

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 13

This course covers a wide range of artistic experiences including music, creative movement, art and drama. Facilitation of creativity and self-expression is emphasized. Basic materials, techniques and activities are introduced and their application with young children in child care settings is addressed.

CCP 103: Establishing Programs for**Children2 credit hours**

Prerequisites: none

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7

The philosophy and theory of programs in child care are examined. Traditional, open, Montessori, High Scope, Piaget Based, Head Start, parent involvement and kindergarten programs are explored. Observations of area child care centers are frequently assigned.

CCP 109: Language and Communication**for Children2 credit hours**

Prerequisites: CCP 101

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7

Designed for child care professionals, this course examines the development of language in children. Consideration is given to non-verbal communication and cultural differences. Basic methods, activities and materials for language arts and language development are introduced and their application in the child care setting is addressed.

CCP 110: Social and Emotional Development.....2 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 21

This course provides a multi-cultural approach to the study of personality development during the first six years of life. The characteristics and needs that emerge with each developmental stage are explored. Methods, suggestions and practical guides for meeting these needs in the child care setting are emphasized.

CCP 111: Management of Child Care Programs2 credit hours

Prerequisites: CCP 101, Consent
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5

Practical aspects of starting and operating a child care center are presented: equipment selection, budgeting, administrative forms, taxes, insurance, operational management, interpersonal relations, and staff training and supervision, and professionalism. State and federal guidelines and current issues in legislation and policy are also examined.

CCP 113: Health, Safety and Nutrition for Child Care3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 3, 7, 9, 16

Best practices in health, safety and nutrition are presented. Students develop specific competencies in these areas including establishing and maintaining a healthy, safe child care program, planning nutritional meals and snacks, and teaching children and their parents about health, safety and nutrition. Communicable diseases, government funded child/family food and nutrition programs, playground and toy safety, and resources for the child care provider are included.

CCP 118: Beginning Child Care Seminar.....1 credit hour

Prerequisites: CCP 101
Corequisites: CCP 101 and CCP 119
15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

The role of the child care provider is examined in relationship to personal career goals. Curriculum planning, use of objectives or key experience, child observation and assessment, room arrangement and daily routine are introduced as ways to implement program philosophy. Developmentally appropriate practice is examined. Specific strategies and techniques for fostering early

childhood development are emphasized. Establishing a safe and healthy learning environment and child guidance are major components of the course.

CCP 119: Beginning Child Care Practicum ..2 credit hours

Prerequisites: CCP 101, Consent
Corequisites: CCP 118
0 lecture, 0 lab, 0 clinical, 240 other
Fulfills Core Elements: none

This course provides supervised teaching experience with young children in a licensed child care center. Students must take this course with CCP 118-Beginning Child Care Seminar. Students implement strategies and techniques learned in the Beginning Child Care Seminar and in Child Development. Students are expected to meet a level of competence in specific child care and teaching skills. Emphasis is placed on implementing developmentally appropriate practice. Students prepare activities for children and assume a role as a member of the teaching team. Students are required to meet with the CCP Program Advisor prior to registering for this course. Students are placed with a qualified supervising teacher in a licensed child care center either at WCC or off campus.

CCP 122: Child Development Credentialing I4 credit hours

Prerequisites: 18 years old, HS graduate
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

This course is designed to provide part of the formal training for students working toward their Child Development Associate Credential. During this course, students cover eight of the thirteen functional areas of the Child Development Associate (CDA) Competency Standards. Students participate in group seminar discussions and work on assigned observations and portfolio projects.

CCP 123: Child Development Credentialing II4 credit hours

Prerequisites: CCP 122
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

This course is a continuation of CCP 122 for students working toward their Child Development Associate Credential. Five of the thirteen functional areas of the Child Development Associate (CDA) Competency Standards are covered. Students participate in group seminar discussions and work on assigned observations and portfolio projects.

CCP 124: CDA Assessment

Preparation1 credit hour

Prerequisites: 480 hours work with children, Consent, 120 hours CDA-approved inst

Corequisites: none

15 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course helps CDA candidates prepare for credential renewal or initial direct assessment. Students seeking the Child Development Associate credential for the first time should have completed the required hours of instruction and experience. Students seeking CDA recredentialing receive assistance with their professional development plan and preparation for reassessment.

CCP 132: Child Development Practicum I ..1-2 credit hours

Prerequisites: none

Corequisites: CCP 122

0 lecture, 0 lab, 0 clinical, 120 other

Fulfills Core Elements: none

This course provides a supervised field experience for CDA candidates. Students are expected to demonstrate competence in the CDA functional areas: safe, healthy, learning environment, physical, cognitive, and communication. Students are required to work in a licensed child care center with infants and toddlers or preschoolers or licensed family child care home, or in a home visitor program during regular hours of operation. Observations will be completed at the work site using standards for the Child Development Associate national child care credential.

CCP 133: Child Development

Practicum II1-2 credit hours

Prerequisites: none

Corequisites: CCP 123

0 lecture, 0 lab, 0 clinical, 120 other

Fulfills Core Elements: none

This course provides a supervised field experience for CDA candidates. Students are expected to demonstrate competence in the CDA functional areas: creative, self, social, guidance, and families. Students are required to work in a licensed child care center with infants and toddlers or preschoolers or licensed family child care home, or in a home visitor program during regular hours of operation. Observations will be completed at the work site using standards for the Child Development Associate national child care credential.

CCP 134: Child Development Practicum III1 credit hour

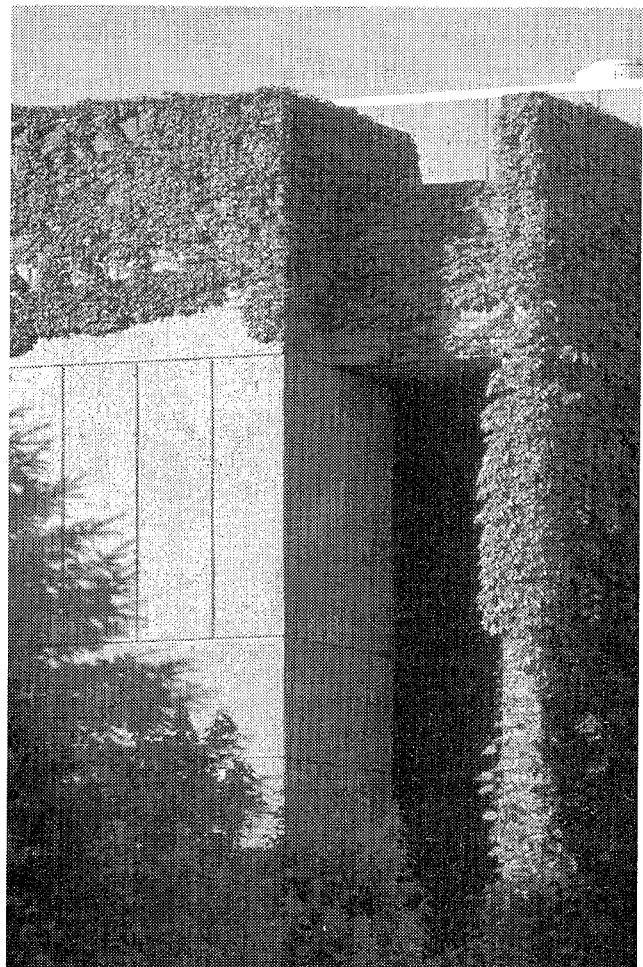
Prerequisites: CCP 122, 123, 132, 133, or completion of Child Care program

Corequisites: none

0 lecture, 0 lab, 0 clinical, 120 other

Fulfills Core Elements: none

This course provides a supervised field experience for CDA candidates. Students are expected to demonstrate competence in the CDA functional areas: safe, healthy, learning environment, physical, cognitive, communication, creative, guidance, self, social, and families. Students are required to work in a licensed child care center with infants and toddlers or preschoolers or licensed family child care home, or in a home visitor program during regular hours of operation. Observations will be completed at the work site using standards for the Child Development Associate national child care credential.



CCP 200: Working with Parents3 credit hours

Prerequisites: CCP 101, 118, 119, or 174, 50 credit hours

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course explores the many facets of parent and staff involvement in the child care setting. Topics include: various forms of parent participation, ways of increasing positive communication with parents, cultural differences and goals of parents, and planning parent involvement programs. Emphasis is given to the preparation, mechanics and techniques for the individual parent/teacher conference and parent meetings.

CCP 218: Advanced Child Care Seminar1 credit hour

Prerequisites: CCP 101, 118, 119, or 174, HSC 131 or Equivalent, Consent, 50 credit hours

Corequisites: CCP 219

15 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 1, 3, 7, 9

Students learn about the role of the head child care provider; plan and evaluate extended sequences of activities for young children, and analyze and evaluate practice for developmental appropriateness. Students must meet with the CCP program advisor the semester before enrolling to confirm eligibility and select the appropriate work.

CCP 219: Advanced Child Care Practicum2 credit hours

Prerequisites: CCP 101, 118, 119, or 174, HSC 131, or Equivalent, Consent, 50 credit hours

Corequisites: CCP 218

0 lecture, 0 lab, 0 clinical, 240 other

Fulfills Core Elements: 1, 3, 7, 9

Students take increasing responsibility in the child care setting and assume the role of head child care provider for a minimum of two weeks. Students develop activities and learning materials suitable for young children, implementing developmentally appropriate practice in the work place. Students are placed in licensed group child care settings; placements are arranged with the CCP Program Advisor prior to enrolling in the course.

CCP 220: Care and Development of Infants and Toddlers3 credit hours

Prerequisites: CCP 101

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 1, 3

The development of infants and toddlers is studied. Emphasis is placed on stages of development in physical cognitive and social/emotional areas and developmentally appropriate practice in child care. Developmental issues related to health and safety, nutrition, toilet training, and child guidance are considered. Parent issues discussed include pregnancy, adjustment to parenting and working

parents of infants and toddlers. Observation in infant./toddler group care settings is required.

Communications

COM

COM 101: Fundamentals of Speaking3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 1, 7, 8, 9, 10

Through the use of practical experience, students acquire the essential speaking and listening skills which are the most sought-after skills in the work world. Students work to relieve the stress which the average person encounters in public speaking. Students polish organization and delivery skills, as well as gaining a heightened awareness of the relationship between a speaker and an audience.

COM 102: Interpersonal Communication3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 1, 7, 9, 10

This interactive course offering will explore the principles of communication as it pertains to personal and work-place relationships. The communication process between two people is dynamic and often misunderstood. Handling criticism and defensiveness in others is an important skill in coping with today's sometimes hostile world. Conflict management will be explored.

COM 130: Introduction to Mass

Communication3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 13, 22

This survey course investigates the mass media from historical, economic, and social viewpoints. Major emphasis is placed on the history, theory, and criticism of the broadcast media. The course attempts to create a more "critical consumer" of mass media.

COM 142: Oral Interpretation of Literature.....3 credit hours
 Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 1, 13, 14

Students practice performance techniques necessary to effectively communicate by delivering interpretations of prose, poetry and oral histories in class and in public. Performance theory is directly applied to assignments. Special emphasis is placed on how to approach the interpretation of literature vocally and nonverbally in an effort to bring the literature to life for an audience. Highly recommended for any student wishing to enhance public communication skills, poise and understanding of literature.

COM 183: Advanced Public Speaking3 credit hours
 Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 8, 10

Students will strengthen their ability to prepare and deliver dynamic speeches using today's computer generated graphics and other presentation skill techniques. Being organized to prevent information overload and displaying your enthusiasm for your presentations are keys to your success in public speaking.

COM 200: Family Communication3 credit hours
 Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 8, 14

Students learn to promote healthy communication skills with the family in everyday life. This course examines the ways in which members of family systems interact in order to develop, sustain and manage their relationships. Today, family issues are at the forefront of national concerns, particularly in governmental, educational, and religious arenas. This communications course may also transfer as a psychology or sociology credit.

Computer Aided Drafting CAD

CAD 101: Introduction to AutoCAD2 credit hours
 Prerequisites: none
 Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 11, 12

This course provides an introduction to the use of AutoCAD software (CAD program candidates should choose CAD 111). This course was previously IND 216.

CAD 103: CADKEY—Solid Based.....2 credit hours
 Prerequisites: none
 Corequisites: none
 30 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course is a software based course designed to teach the student 3D Solid Based CADKEY. The user will learn how to create solid model parts using various modeling techniques. From the solid model, the student will learn how to create solid assemblies, assembly drawings and detail drawings. This course is not part of the CAD Certificate or the CAD A.A.S. This course was previously IND 217.

CAD 111: CAD I—Detailing6 credit hours
 Prerequisites: none
 Corequisites: none
 60 lecture, 60 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course is an introduction to the graphical language of industry using drafting materials and CAD. This course examines standard drafting practices in the application of material specifications, drawing numbering systems, tabulated drawings, auxiliary views, sectioning, screw threads and fasteners. Emphasis is placed on dimensioning, tolerancing, and the use of CAD for the preparation of assembly and detail drawings, and parts lists for various manufacturing disciplines. AutoCAD software will be featured.

CAD 113: CAD II—Drafting and Layout6 credit hours
 Prerequisites: CAD 111
 Corequisites: none
 60 lecture, 60 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course covers practices and procedures for creating assembly and detail drawings from given layouts using CAD. An introduction to the principles of design is included with emphasis on the use of standard parts catalogs and 3-D CAD models.

CAD 115: Descriptive Geometry4 credit hours
 Prerequisites: none
 Corequisites: none
 30 lecture, 60 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 7, 9

Points, lines and planes and their relationships in space are studied, with emphasis on practical application of principles to actual problems in industry. This course was previously IND 112.

CAD 174: Co-op CAD Drafting I1-3 credit hours

Prerequisites: CAD 111, CAD 113
Corequisites: CAD 115
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This course was previously IND 174. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

CAD 211: Parametric Modeling4 credit hours

Prerequisites: CAD 111, CAD 113
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 9, 11

This course introduces the student to the basics of parametrics-based solid modeling using SolidWorks. The student will learn how to develop a constraint network by using geometric constraints and equations to control wireframe. From the wireframe students will create solid models and surfaces using various techniques such as extrude, revolve, loft and sweeps. The student will learn how to apply various local operations to solid models such as draft, shell, chamfers and fillets. The student will learn how to modify and manipulate the part history and output the solid models as drawings and rendered images. This course was previously IND 221.

CAD 213: Mechanisms.....4 credit hours

Prerequisites: CAD 111, CAD 113, or Equivalent
Corequisites: none
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

The principles of gears, cams, flexible drive systems, linkages, and other mechanical means to transmit motion and energy are studied. Included in this course are graphical and mathematical techniques used to solve for force, displacement and motion application problems. The student will also be required to use computer related programs such as Excel and CAD to complete the application problems. This course was previously IND 107.

CAD 215: Geometric Dimensioning and Tolerancing3 credit hours

Prerequisites: CAD 111, CAD 113, and CAD 115
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9

This course covers the language of geometric dimensioning and tolerancing as governed by the ASME Y14.5M, 1994 Dimensioning and Tolerancing Standard. This appli-

cation based course covers the rules, practices and symbology that is outlined in the national standard. Specifically, the student will learn how to set up a datum reference framework, apply the 14 geometric controls and then analyze the obtained tolerances. This course was previously IND 123.

CAD 217: Mechanical Design6 credit hours

Prerequisites: CAD 211, CAD 213
Corequisites: CAD 215, MTT 111
60 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Students study the development of a product from concept design and layout stages to the preparation of working drawings. Emphasis is on the preparation of a good solid model construction and layout drawings incorporating a maximum of commercially available components, fastening techniques. The final output of the design will be presented as finished assembly and detail drawings in accordance with latest ANSI/ASME standards. Manufacturability and economy of the product will be a criteria for final assessment.

CAD 274: Co-op Education II.....1-3 credit hours

Prerequisites: CAD 174
Corequisites: none
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

CAD 280: Part Modeling I3 credit hours

Prerequisites: Completion of CADM or CADE programs, or Equivalent industry experience
Corequisites: none
40 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course students learn fundamental concepts and applications of the I-DEAS Master Series (SDRC) tool set. The course specifically focuses on the creation and modification of a 3-D part or model. Students learn to navigate through the extension user interface, work with various sketch planes and reference geometry, create wireframe sketches, constrain those sketches through the use of geometric constraints and model dimensions, and extrude or revolve those wireframe sketches into 3-D solid parts. Also covered is the I-DEAS data management system.

CAD 282: Constructing Assemblies2 credit hours

Prerequisites: Completion of CADM or CADE programs, or Equivalent industry experience
Corequisites: none
32 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course students learn to build and manage solid model assemblies, using the I-DEAS Master Series (SDRC) tool set. Students learn to create and modify an assembly hierarchy, set and modify assembly constraints, analyze assembly properties, manipulate assembly display options, generate a bill of materials, and perform an interference check on assembled parts. Also included is troubleshooting, diagnosing, and repairing of problem assemblies.

CAD 284: Part Modeling II3 credit hours

Prerequisites: CAD 280
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course you build upon the fundamental skills you obtained in Part Modeling I. You will learn how to create and modify solid parts using I-DEAS' sweep, loft, and variational sweep tools. You will learn how to use the various sketchpads and planes to build associativity into a part. You will also learn how to troubleshoot, diagnose, and repair poorly constructed parts. You will learn how to build a part using the general construct operator and shell tools. You will learn how to access and research I-DEAS' extensive database.

CAD 286: Part Modeling III2 credit hours

Prerequisites: CAD 280, 282, 284
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is a continuation of Part Modeling II and Constructing Assemblies. Students learn how to design for ease of assembly employing the top down and bottom up approaches, to create a solid part using open part modeling techniques and to create and modify surfaces using specific surface operations. Students will learn how to import and export I-DEAS' data, remaster parts, compare parts, and use design groups in the process of creating creditable designs.

CAD 290: Working Details.....2 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course you learn how to create detail and layout drawings from solid parts and assemblies. You will be introduced into a new I-DEAS' interface and functionality. You will be able to create standard views, section

views, and auxiliary views as defined by ASME/ANSI standards. You will be able to create and edit dimension, geometric tolerances, and notes. You will learn to create and edit a bill of materials, layer, and other ASME/ANSI related symbols. You will also learn how to use the Command Option Area and plot drawings.

CAD 292: Free Form Surfacing2 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course you learn how to create free form surfaces using the ICEM surfacing package. You will create three-dimensional simple and complex surfaces that are typically used in the construction of the outer surfaces (class 1) of a car or airplane.

Computer Information Systems CIS

CIS 090: Computers for Novices2 credit hours

Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12

This course is designed for the non-computer major to learn basic computer terminology, develop skills to operate a variety of micro computers, learn how to use the computer as a problem solving tool, and to evaluate hardware and software.

CIS 100: Introduction to Software Applications3 credit hours

Prerequisites: none
Corequisites: none
22.5 lecture, 22.5 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 11, 12, 18, 19, 20

This class covers basic computer literacy, an introduction to Windows desktop, the fundamentals of productivity software (currently using Office 2000) and experience using the Internet. No previous computer training is required. Class format includes hands-on work on the computer.

CIS 100A: Basic Introduction to Computers....1 credit hour

Prerequisites: none
Corequisites: none
15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12, 18, 19, 20

This course teaches computer novices how to use computers, together with the terms and concepts needed. It emphasizes how to use a microcomputer and how to use software packages, with an emphasis on word processing. The course teaches the basic vocabulary of computers, how computers follow directions and store information. This course, along with CIS 100B and CIS 100 C meets the same objectives as CIS 100. It is recommended that students who do not know how to type take BOS 101A as a pre- or co-requisite.

CIS 100B: Introduction to Computers - Part 2.....1 credit hour

Prerequisites: CIS 100A
Corequisites: none
15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12, 18, 19, 20

This course teaches computer novices how to use computers, together with the terms and concepts needed. It emphasizes how to use a microcomputer and how to use software packages, with an emphasis on spread sheets. The course teaches the basic vocabulary of computers, how computers follow directions and store information. CIS 100A, B, and C together are equivalent to CIS 100. It is recommended that students who do not know how to type take BOS 101A as a pre- or co-requisite.

CIS 100C: Introduction to Computers - Part 3.....1 credit hour

Prerequisites: CIS 100B
Corequisites: none
15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12, 18, 19, 20

This course teaches computer novices how to use computers, together with the terms and concepts needed. It emphasized how to use a microcomputer and how to use software packages, with an emphasis on data management system. The course teaches the basic vocabulary of computers, how computers follow directions and store information. CIS 100A, B, and C together are equivalent to CIS 100. It is recommended that students who do not know how to type take BOS 101A as a pre- or co-requisite.

CIS 101: Basic Computer Skills for Hospital Professionals.....2 credit hours

Prerequisites: none
Corequisites: none
15 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12, 18, 19, 20

This course introduces health care professionals to computers: the principles of how they work and essential vocabulary, with hands-on practice in the software most useful in health care work in hospitals.

CIS 103: MS DOS Commands.....1 credit hour

Prerequisites: none
Corequisites: none
0 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 11, 12

This course covers the syntax, editing and use of elementary DOS commands and help facility. The operations and use of the hardware components of a personal computer system and function of the DOS software is discussed. Students prepare different types of disks, use subdirectories and manipulate files in sub-directories through DOS commands.

CIS 104: Advanced MS DOS1 credit hour

Prerequisites: CIS 103 or Equivalent
Corequisites: none
0 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 11, 12

This course covers all commands for enhancing the micro-computer system operating environment by using DosKey and by building macros, batch and configuration files. The students learn disk informational and organizational commands. Redirection and customization of input/output devices and filter commands are also covered.

CIS 110: Introduction to Computer Information Systems.....3 credit hours

Prerequisites: CIS 100 or Equivalent knowledge
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12, 18, 19, 20

This course offers an overview of information systems including a review of computer concepts, how technology is used in business, the information systems discipline, and the systems development life cycle. The course covers the principles of information systems for all business majors. A working knowledge of applications software and keyboarding is required. Software experience can be acquired through self-paced or directed courses which can be taken concurrently.

CIS 117: Windows® Operating System (Windows® 95)2 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 11, 12

This course teaches the use of the Windows operating system with a graphical user interface to maintain, troubleshoot, repair, and customize a microcomputer system. The use of the older MSDOS operating system will be covered. Respect for the rights of others and proper security measures will be discussed. Windows 95 is currently used in the course. This course includes content from CIS 116 which has been discontinued.

CIS 121: Linux/UNIX Fundamentals3 credit hours

Prerequisites: CIS 110 or Consent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 11, 19

This course introduces UNIX and Linux tools to the experienced computer user and to those with only a basic knowledge of computers. The course covers a basic introduction, the UNIX/Linux file system, communication with other users, editors, file manipulation and processing, basics of pipes and redirection, simple shell programming, introduction to the x windows system, and a basic Linux introduction.

CIS 122: The Linux Operating System3 credit hours

Prerequisites: CIS 121 or Consent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course introduces the student who has basic UNIX knowledge to Linux. The course covers an introduction to Linux, main distributions, installation, and the basics of configuring and running a Linux system. The student will install several distributions of Linux and manage their own system. Elementary network configuration and kernel configuration will also be covered.

CIS 174: CIS Co-op Education I1-3 credit hours

Prerequisites: 6 CIS credit hours, Consent
Corequisites: none
0 lecture, 0 lab, 0 clinical, 124 other
Fulfills Core Elements: none

This course recognizes the value of learning which takes place on the job by offering college credit for development and achievement of learning objectives which are accomplished through current work experiences. Students also participate in monthly work related activities, such as meetings or seminars. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

CIS 221: UNIX Tools and Scripts2 credit hours

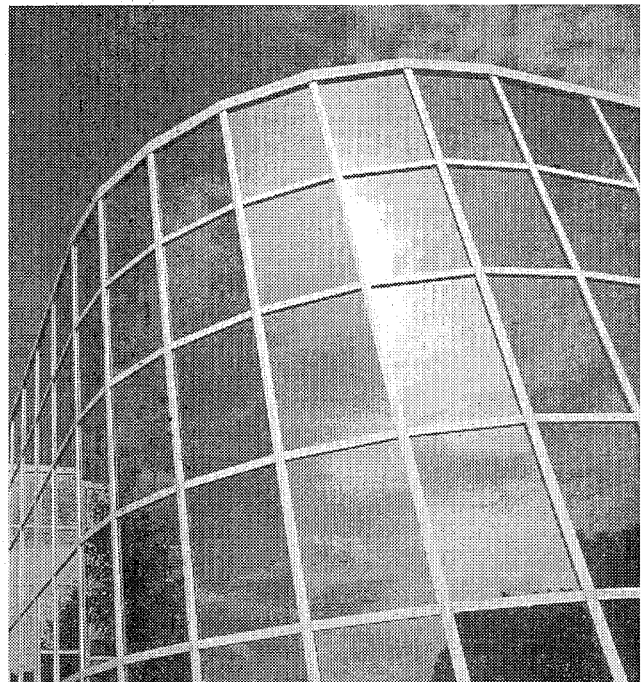
Prerequisites: CIS 121, or Permission
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 11, 12, 19

This course enables students to use UNIX more efficiently by learning advanced forms of commands and utilities covered in CIS 121, as well as new commands and constructs. Advanced forms of topics begun in CIS 121 include sed, grep and awk and how to effectively use regular expressions, as well as constructs and special commands used in writing shell scripts. Topics covered include functions, traps, arithmetic on variables, and input/output techniques. In addition, emphasis is placed on understanding how the UNIX shell operates. If time permits, the Korn shell will also be studied.

CIS 238: PC Assembly Language3 credit hours

Prerequisites: 1 semester computer program language
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 11, 18

This is a first course in the PC assembly language. The organization of the 80x86 microprocessor is examined to aid in the study of the instruction set. Topics include various character/numeric conversions, twos and tens complement arithmetic, string and bit manipulation, the calling of assembly language routines from other assembly programs as well as from high level language programs, and the use and modification of DOS and BIOS interrupt routines.



CIS 265: Programming the Web3 credit hours

Prerequisites: CIS 165 or INP 165
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 9, 11, 12

This course is intended for students who are interested in programming the Web and who have a knowledge of a programming language and also some experience on the World Wide Web. Topics covered include creating HTML forms, Common Gateway Interface (CGI) programming using Perl®, an introduction to JavaScript®, and the basic setup of one or more http servers. As new technologies emerge, these will be addressed and discussed.

CIS 266: Web Programming Using Active

Server Pages4 credit hours
Prerequisites: CIS 265, CPS 185, Consent
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is intended for students who understand the CGI interface and have a working knowledge of Visual Basic Programming. The course uses VBScript to do server side scripting to process form data from the browser. The Application,ObjectContext, Request, Response, Server and Session objects along with their Properties, Collections, Methods, and Events will be discussed. Other related topics including ADO database access will also be used in this course.

CIS 274: CIS Co-op Education II1-3 credit hours

Prerequisites: CIS 174, Consent
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course students gain skills from a new experience in an approved, compensated, computer-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

CIS 275: C Programming Language4 credit hours

Prerequisites: CPS 171, or CPS 185, or Consent
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is an introductory course in the C programming language. The intended audience is experienced programmers. Most features of the C language are discussed so that students who successfully complete the course are capable of versatility in using C. Emphasis is placed on structured programming techniques and sound documentation.

CIS 277: Java for Programmers3 credit hours

Prerequisites: CPS 171 or CPS 185
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course covers the basics of Java, including creating a simple applet and application, object oriented programming concepts, objects and classes in Java, managing inheritance, and simple Java I/O. Students consider practical issues, common problems and solutions in applet development, string handling, program attributes, accessing system resources, error handling, threads, and creating a user interface.

CIS 278: Advanced Java

Programming3 credit hours
Prerequisites: CIS 277
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is a continuation of CIS 277, Java for Programmers. The focus of the course is using Java to access databases and provide Web Server side programming support. Topics covered include Java Servlets, JDBS (database access), Socket Programming, CGI, RMI, Swing, and other related technologies. Students should have previous experience with SQL.

CIS 282: Small System Data Base3 credit hours

Prerequisites: CPS 171 or Consent
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 11, 12

This course is an introduction to relational database theory and practice. Topics covered include: terminology, normal forms, design of the database tables, SQL, and application generation. The student will incorporate SQL in procedural files to program applications. This course is intended for anyone possessing a basic knowledge of programming who is interested in database theory and practice.

CIS 286: UNIX Systems Administration4 credit hours

Prerequisites: CIS 121 or Permission
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 2, 7, 8, 9, 11, 19

Concepts and technical knowledge of operating systems, utilities and control languages are presented with hands-on experience using the UNIX operating system. Topics covered include startup and shutdown, user accounts, security, automating routine tasks, managing system resources, file systems, back-ups, devices, and networking.

CIS 288: Systems Analysis and Design3 credit hours**Prerequisites:** CPS 171, or CPS 185, or Consent**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 3, 7, 9, 11, 19**

This course surveys computer applications and techniques in major areas of business, business structure, analytical communication with system users, principles of package software evaluation and acquisition, planning schedules and resource requirements for software development, program testing and installation procedures, principles of software development monitoring, structured walkthroughs and other programmer communication, and producing software development specifications.

CIS 289: Project Leadership and**Design Tools3 credit hours****Prerequisites:** CIS 288 or Consent**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This course will combine technical, communications and project leadership topics to provide a comprehensive exposure to overall project management. It will prepare the experienced programmer, analyst and business analyst for a project leadership role.

CIS 290: Microcomputer System Support4 credit hours**Prerequisites:** CIS 288 or Consent**Corequisites:** none**60 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 11, 12, 18, 19**

This is the final class in the Microcomputer System Support program. In this class, students gain problem solving skills, practice user training techniques, and consolidate knowledge required for serving as a Microcomputer Systems Support Technician.

CIS 291: Introduction to Oracle SQL/ and PL/SQL4 credit hours**Prerequisites:** CIS 282 and CPS 271**Corequisites:** none**60 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 9, 11, 18**

Students are introduced to Structured Query Language (SQL) and PL/SQL functions. They learn how to create and maintain database objects and how to store, retrieve, and manipulate data. They also learn how to create PL/SQL blocks of application code that can be shared by multiple forms, reports, and data management applications. Further topics include PL/SQL procedures, functions, and packages. Using both the Procedure Builder and the SQL Plus environments, students learn how to create and manage PL/SQL program units and database triggers.

CIS 292: Introduction to Oracle™**Developer3 credit hours****Prerequisites:** CIS 291 or Equivalent**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 9, 11, 18**

This course is an introduction to Developer/2000 technology. Students learn to navigate through the Developer/2000 interface using features such as the Object Navigator and Virtual Graphics System (VGS), which includes the Layout Editor and Menu options. Students build and test interactive applications consisting of one or more Developer/2000 forms modules. Working in a graphical user interface (GUI), participants build a complete forms application.

CIS 293: Advanced Oracle™**Developer4 credit hours****Prerequisites:** CIS 292, or Equivalent**Corequisites:** none**60 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 9, 11, 18**

This course builds on skills learned in CIS 292 in the use of Developer/2000 technology. Students learn to manage projects using Project Builder, to design and build menu modules, use function keys and record groups, create programming modules, and manage data to produce reports. Students create advanced multiple-form applications and reports with various formats and styles.

CIS 294: Information Systems**Planning3 credit hours****Prerequisites:** CIS 289 or Consent**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This course will explore the many issues related to managing technical resources, people, machines, and systems. It prepares the experienced analyst or project leader for the role of IS manager.

Computer Networking Technology CNT**CNT 200: Networking Fundamentals4 credit hours****Prerequisites:** Computer Systems Technology Certificate**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

The basics of computer networking are covered in this course. Contemporary network services, transmission media, and protocols are included. The most common implementations in today's LAN's and WAN's are used.

CNT 211: Network Administration3 credit hours

Prerequisites: Computer Systems Technology Certificate or Equivalent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course, students learn to perform post-installation and day-to-day administration tasks in a single-domain or multiple-domain Microsoft Windows NT-based network.

CNT 221: Server Technologies3 credit hours

Prerequisites: Computer Systems Technology Certificate or Equivalent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides the core foundation for supporting a Microsoft Windows NT operating system. The course provides support professionals with the skills to install, configure, customize, optimize, network, integrate, and troubleshoot a Windows NT operating system.

CNT 225: Introduction to Routers4 credit hours

Prerequisites: Computer Systems Technology Certificate or Equivalent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course students gain the knowledge and skills to install, configure, update, and troubleshoot network routers.

CNT 231: MS Windows® Enterprise Technology3 credit hours

Prerequisites: Computer Systems Technology Certificate or Equivalent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides a training solution for support professionals working in a Microsoft Windows NT Server-based enterprise environment. Students must have previous experience supporting a Windows NT Server-based network. Students learn to design, implement, and support the Windows NT Server network operating system in a multi-domain enterprise environment. The course is organized in four units, each covering support in different areas of the enterprise environment.

CNT 235: Advanced Local Area Networks4 credit hours

Prerequisites: CNT 225
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides students with the knowledge and skills necessary to install switches in Local Area Networks (LANs), and configure, update, and troubleshoot Virtual Local Area Networks (VLANs), Wide Area Networks (WANs), Novell networks, Internetwork Packet Exchange (IPX) routing and Interior Gateway Routing Protocol (IGRP) protocols.

CNT 241: Internetworking Microsoft® TCP/IP3 credit hours

Prerequisites: Computer Systems Technology Certificate or Equivalent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course students learn to set up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on a Microsoft Windows NT operating system.

CNT 245: Introduction to Wide Area Networks4 credit hours

Prerequisites: CNT 235
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides students with the knowledge and skills necessary to install, configure, update, and troubleshoot a variety of Wide Area Networks, including Integrated Services Digital Network (ISDN), Point-to-Point Protocols (PPP), and Frame Relay.

CNT 251: Microsoft® Internet Information Server3 credit hours

Prerequisites: Computer Systems Technology Certificate, or Equivalent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This instructor led course covers the various features of Microsoft Internet Information Server (IIS). Students learn to install, configure, and implement all components that comprise IIS. They will also have hands-on experience setting up a web site.

CNT 255: Advanced Router Configuration4 credit hours**Prerequisites:** CNT 245**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course provides students with the knowledge and skills necessary to configure various routing protocols such as IGRP, EIGRP, OSPF, and BGP. In addition, students will learn how to configure routers to enhance network security.

CNT 265: Remote Access Networks4 credit hours**Prerequisites:** CNT 255**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course provides students with the knowledge and skills necessary to configure various remote access technologies, including backup to permanent WAN connections, optimizing traffic on dedicated WAN connections and scaling IP addresses.

CNT 275: Multi-Layer Switching4 credit hours**Prerequisites:** CNT 265**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course provides students with the knowledge and skills necessary to configure, supervise, manage, and troubleshoot various Virtual Local Area Networks.

CNT 285: Network Troubleshooting4 credit hours**Prerequisites:** CNT 275**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course provides students with the knowledge and skills necessary to troubleshoot a wide variety of LAN and WAN configurations.

Computer Science**CPS****CPS 171: Introduction to Programming with C++4 credit hours****Prerequisites:** MTH 169 or 2 years HS Algebra and CIS 100 or CIS 110 or HS Computer Class**Corequisites:** none**60 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 9, 11, 12, 18, 19, 20

This course is an introduction to programming using the C++ language. Students should have basic experience using a computer but no prior programming is required. (Experienced programmers should consider CPS 290.) Students learn about problem solving strategies, top-down program development and programming style. Topics include sequential, decision and iterative control structures, functions, basic data structures and an introduction to classes. Students write and execute approximately eight C++ programs.

CPS 185: Introduction to Visual Basic Programming4 credit hours**Prerequisites:** CIS 100 or CIS 110 or any Program Language and MTH 097 or MTH 163 or HS Algebra or Consent**Corequisites:** none**60 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 11, 19

This is an introductory course in which students learn essential principles of using Microsoft Visual Basic Programming System for Windows. Subjects covered include: creating the interface (forms, tools, controls, objects, setting properties), writing code (including some programming fundamentals such as variables, arrays, controlling execution), printing, reading from and writing to files, debugging, and creating distribution disks.

CPS 271: Object Features of C++4 credit hours**Prerequisites:** CPS 171, or Consent**Corequisites:** none**60 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course continues the study of C++ begun in CPS 171. (Experienced programmers should consider CPS 290.) Students learn the object-oriented features of the language. Topics include classes, constructors and destructors, operator overloading, pointers, dynamic allocation of memory, inheritance, polymorphism, file manipulation, templates, and exceptions.

CPS 272: Data Structures with C++4 credit hours

Prerequisites: CPS 271, or CPS 290, or Consent
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is the third of a sequence of C++ courses, following CPS 171 and CPS 271. The course covers more advanced computer science features as implemented in C++. Topics include testing, verification and complexity of algorithms, recursion, advanced data structures, class libraries, and techniques for team design of large programs.

CPS 273: Web Programming and Oracle

Database Access4 credit hours

Prerequisites: CPS 271
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course covers web server programming and database access from the web. Students taking this class should have SQL knowledge as well as a good background in C/C++. Students will learn to work with the Apache web server in a Unix environment. The Oracle Pro-C compiler will be used to access an Oracle database. To achieve an efficient solution for accessing databases from the web, students will learn and utilize the following concepts: cookies, Unix multi-tasking primitives, and the Apache API interface.

CPS 285: Advanced Visual Basic

Programming4 credit hours

Prerequisites: CPS 185, or Consent
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12, 18, 19, 20

This course is a continuation of the CPS 185 Visual Basic course, and is intended for student with a basic understanding of Visual Basic. Among the topic to be addressed in this course are: Database Access, OLE, Windows API calls, Active-X controls, Error Checking and Internet access within our Programs including Client/Server applications, creating help files, and packaging an application.

CPS 290: Object-Oriented

Programming4 credit hours

Prerequisites: CIS 275, or Consent
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 8, 9, 11, 12

This course presents techniques and methodologies for designing computer programs, including an introduction to object-oriented design for students with previous experience in the C language. Limitations of traditional methods and the advantages of the object-oriented method are discussed. Topics include: structured programming, pro-

gram testing and verification, encapsulation, inheritance, polymorphism, streams, templates, exceptions and extensibility of code. Students design and write programs using the C++ language.

CPS 293: Visual C++ Windows

Programming4 credit hours

Prerequisites: CPS 271, or CPS 290, or Consent
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides a practical introduction to application development for MS Windows using Microsoft Foundation Class (MFC) Library. Students are expected to have a working knowledge of C++ and should be familiar with Windows concepts such as buttons, menus and the mouse. No prior Windows programming experience is expected. Topics include: MFC's document-view architecture, device contexts and Graphics Device Interface (GDI) functions, Single Document Interface (SDI) and Multiple Document Interface (MDI), and use of standard Windows components such as dialogs, controls, menu toolbars, and status bars.

CPS 295: Advanced Visual C++ Windows

Programming4 credit hours

Prerequisites: CPS 293
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides in-depth exposure to, and experience with, advanced topics of Microsoft Foundation Classes (MFC) Windows programming. Students should be familiar with Microsoft Visual Studio 97, including class wizard, resource and dialog editors, Visual C++ and the debugger; and have a working knowledge of basic MFC programming techniques. Advanced topics include: sockets, threads, COM servers and containers, ActiveX automation, interprocess communication and synchronization (including semaphores, events, and flags), DAO, ODBC, ADO, DLLs, metafile, multi-media and registry programming.

Construction Technology

CON

CON 071: Basic Boiler and Heating

Systems.....2 credit hours

Prerequisites: MTH 039, Consent

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This is an introductory course in boiler-driven heating systems. Topics covered include terminology, heating systems, heat load calculations, equipment identification and application. This course is based upon the Building Owners and Managers Institute (BOMI) System Maintenance Technician Certification (SMT).

CON 073: Basic Refrigeration Systems2 credit hours

Prerequisites: MTH 039, Consent

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is designed to introduce basic refrigeration cycle concepts and system components. Primarily designed for facility maintenance staff, it increases the knowledge level of workers whose major work tasks bring them into incidental contact with climate control systems. This course is based upon the Building Owners and Managers Institute (BOMI) System Maintenance Administration Certification (SMA).

CON 075: Basic Air Handling

Systems.....2 credit hours

Prerequisites: MTH 039, Consent

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course reviews the fundamentals of human comfort and the components of HVAC systems. It is primarily directed toward maintenance staff whose major work tasks involve air cleaning devices and indoor air quality, water conditioning and treatment, and plumbing systems. Fire protection and alarm systems complete the diverse systems this course reviews.

CON 104: Construction I.....5 credit hours

Prerequisites: none

Corequisites: none

60 lecture, 60 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This is an introduction to construction site safety covering portable equipment, scaffolding, personal safety and material handling. Students will be introduced to the basics of residential blueprints, sketching, and shop draw-

ings using a systems approach that includes foundations, framing, interior and exterior systems, and roof systems. Students will develop a professional vocabulary and demonstrate competencies in measurement, layout, and safe use of portable equipment. Basic construction skills will be developed through team projects.

CON 105: Construction II5 credit hours

Prerequisites: CON 104 or Consent

Corequisites: none

45 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This is a continuation of Construction I. After demonstrating sufficient skills and understanding of safe tools and equipment use, the students will team up to develop skills that include installation of floor covering systems, door and window installation, drywall installation, exterior wall covering systems, and roofing systems application. Tear down and demolition processes are important elements of this course.

CON 174: CON Co-op Education I1-3 credit hours

Prerequisites: Consent

Corequisites: none

0 lecture, 0 lab, 0 clinical, 120 other

Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated position in the field of construction. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

CON 204: Construction III4 credit hours

Prerequisites: CON 104 and 105 or Consent

Corequisites: none

45 lecture, 15 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course covers the broad range of common construction materials, including recent technological development in structural support, sound control, insulation and exterior coverings. Students will be introduced to basic concepts of estimating and a further study of residential and light commercial printreading. Further development of technical vocabulary skills are included.

CON 205: Construction IV4 credit hours

Prerequisites: CON 104, 105, and 204 or Consent

Corequisites: none

45 lecture, 15 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course introduces the student to basic concepts of project management, including a further study of estimating and bid preparation, scheduling basics, jobsite management concepts, and an introduction to building codes.

CON 274: CON Co-op Education II1-3 credit hours

Prerequisites: CON 174, Consent
Corequisites: none
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two Co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Correctional Science

COR

COR 110: Basic Corrections Officer

Academy13 credit hours

Prerequisites: none
Corequisites: none
171 lecture, 105 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16, 21, 22

This course teaches basic corrections officers' skills to individuals seeking employment as county corrections officers, lock-up officers, and juvenile detention facility employees.

COR 122: Introduction to Corrections3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 2, 7, 8, 22

This course is an introduction to the correctional system from historical to contemporary times. Examined are incarceration, probation, parole, and new programs in dealing with offenders.

COR 132: Correctional Institutions3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is designed to examine the various types of correctional institutions and the training of the personnel who staff them. There is also an examination of the rights and responsibilities of both staff and inmates to include the social effects upon each.

COR 211: Legal Issues in

Corrections3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 22

This course gives students an overview of the law as it currently applies to the field of corrections. Included is an in-depth look at the application of the Constitution and the court processes, including prisoners' rights and section 42, 1983 concerns.

COR 219: Client Relations in

Corrections3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 21

This course is designed to provide students with a general knowledge of the various meanings and functions of cultures as they might apply to the corrections setting. In addition, students are introduced to the impact of discrimination in corrections and the melting pot concept. There is also work on how one's attitudes are formed and how their background has an impact on them. Students are also exposed to the interaction approach in dealing with the correctional client, and the proper responses within the walls.

COR 228: The Correctional Client: Growth and

Development3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

The course is designed to examine the growth and development of the correctional client, with a particular emphasis on the early environment, psychological and sociological factors, specific problems (i.e. substance abuse, sexual, medical, mental, etc.) and intervention strategies.

Criminal Justice

CJT

CJT 100: Introduction to Criminal Justice3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 20, 22, 23

This course provides an in-depth look at the Criminal Justice System including law enforcement, courts and corrections. Individuality and the purpose of each division is studied. The student is provided with a sound understanding of the basic functions of each component.

CJT 111: Police/Community Relations3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 21, 22

The role of individual officer and the department in achieving and maintaining public support is studied. Topics include: customs, culture, and problems of ethnic and minority groups. Public information services, and techniques for the alleviation of community tensions are also covered.

CJT 120: Criminal Justice Ethics2 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 22

This is a normative ethics course that will examine values and issues relevant to success in the Criminal Justice area. The course includes personal values clarification, historical ethics and applied ethics.

CJT 160: Criminal Justice Constitutional Law3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 22, 23

A comprehensive examination of key provisions of the US Constitution with emphasis on those areas affecting the rights and privileges of individual citizen (eg. Those imparting procedural law). A historical approach is adopted to give students a complete understanding of the mutable nature of the Constitution and those factors which impact it.

CJT 208: Criminal Evidence and Procedure3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 7, 9, 22

This course examines principles of constitutional, federal and state laws as applied to law enforcement. Topics include: adjectival law, the law of evidence; role of the police, prosecutor, defense counsel, judge and jury; the judicial process; criminal procedure in various courts; law of arrest and search and seizure; and constitutional restraints.

CJT 209: Criminal Law3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 7

This course is designed in order for either lawyer or layman to broaden understanding of the various agencies involved in the administration of criminal law. The more important law enforcement functions from arrest to executive pardon are emphasized.

CJT 221A: Law Enforcement - Investigations13 credit hours

Prerequisites: 45 credit hours and eligible for graduation; successful completion of the MCOLES pretest; drug screening; criminal background check
Corequisites: none
 195 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 15, 21, 22

This course is part of the basic law enforcement training program, also known as the Police Academy. The curriculum, established by the Michigan Commission on Law Enforcement Standards (MCOLES), includes physical conditioning, defensive tactics, firearms training, and first aid as well as subjects requiring extensive reading, writing, and notetaking skills. Students successfully completing the Academy are eligible for an examination administered by MCOLES for certification as a law enforcement person. Drug screening and a criminal background check are required as part of the admission procedure. This section covers, in particular, all aspects of police investigations.

CJT 221B: Law Enforcement - Skill Areas13 credit hours
Prerequisites: 45 credit hours and eligible for graduation; successful completion of MCOLES pretest
Corequisites: CJT 221C
 165 lecture, 126 lab, 0 clinical, 0 other
Fulfills Core Elements: 9, 15, 16, 22

This course is part of the basic law enforcement training program, also known as the Police Academy. The curriculum, established by the Michigan Commission on Law Enforcement Standards (MCOLES), includes physical conditioning, defensive tactics, firearms training, and first aid as well as subjects requiring extensive reading, writing, and notetaking skills. Students successfully completing the Police Academy are eligible for an examination administered by MCOLES for certification as a law enforcement person. Drug screening and a criminal background check are required as part of the admission procedure. This course covers, in particular, all the physical aspects of policing.

CJT 221C: Law Enforcement Training - Community Policing & Communication4 credit hours
Prerequisites: 45 credit hours and eligible for graduation; successful completion of the MCOLES pretest
Corequisites: CJT 221B
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9

This course is part of the basic law enforcement training program, also known as the Police Academy. The curriculum, established by the Michigan Commission on Law Enforcement Standards (MCOLES), includes physical conditioning, defensive tactics, firearms training, and first aid as well as subjects requiring extensive reading, writing and notetaking skills. Students successfully completing Police Academy are eligible for an examination administered by MCOLES for certification as a law enforcement person. Drug screening and a criminal background check are required as part of the admission procedure. This section of the Academy covers interactions with community members in non-criminal situations where communication and understanding is of primary importance.

CJT 223: Juvenile Justice.....3 credit hours
Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 2, 7, 8, 21

The major emphasis of this course is on problems of law enforcement related to juvenile crime. Major topics covered include theories of juvenile delinquency, work of youth agencies, legislative involvement and new approaches to the prevention of juvenile crime.

CJT 224: Criminal Investigation3 credit hours
Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 15

Students will be introduced to the science of criminal investigation. They will become familiar with the methodology of crime scene investigations, evidence collection, preservation, and analysis. Included are the rudiments of follow-up investigations, interviews, interrogations and report writing. Techniques applicable to investigation of specific crimes will be highlighted.

CJT 225: Seminar in Criminal Justice3 credit hours
Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 2, 7, 10

This course provides a unifying experience and evaluation of criminal justice systems, policies and practices. Preparation of a concluding research paper is required for this course. The focus is on analytical thought processes and problem solving.

Culinary Arts

CUL

CUL 100: Introduction to Hospitality Management.....3 credit hours
Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1

This course is designed to give students an overview of the hospitality industry and opportunities in the industry today. It is an introduction to the study of the business organization and functions of management. On-site tours of the hospitality industry will be coordinated.

CUL 110: Sanitation and Hygiene3 credit hours
Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9

This course communicates the importance of sanitation to the hospitality worker: layman's bacteriology, communicable diseases, food poisoning, pest control, cleaning and sanitizing, and personal hygiene. Students who complete this course and pass the exams receive National and State Sanitation Certification.

CUL 114: Baking I.....3 credit hours

Prerequisites: none
 Corequisites: none
 30 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course is designed to introduce students to basic theory, practices, and production techniques required to produce quality baked good items such as yeast raised breads, quick breads, cookies, pies, and hi-ratio cakes. Emphasis is placed on time management, safe food handling, storage, and proper utilization of ingredients and equipment.

CUL 115: Pastry I3 credit hours

Prerequisites: CUL 110, CUL 111 or (CUL 120 & CUL 121), and CUL 124, or Permission
 Corequisites: none
 30 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

The student learns to produce contemporary pastries that would appear on the menus of the finer restaurants of the world. Emphasis is placed on the basics of baking and progressing to the fine art of pastry production. Lectures, demonstrations, and practical applications include petite fours and French pastry, puff pastry and pate choux specialties, gateaus and tortes, ice cream production and plated desserts.

CUL 118: Principles of Nutrition3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 16

General principles of nutrition are discussed in this course as they pertain to selection of foods, nutritional needs of all age groups, the meaning of food to people, the relationship of food and nutrition to menu planning.

CUL 120: Culinary Skills.....3 credit hours

Prerequisites: none
 Corequisites: CUL 121
 23 lecture, 90 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course introduces the student to the principles of quantity food production, fabricating techniques and recipe conversions, costing, product identification and classical culinary skills. Students will also learn how to operate and care for equipment, along with maintaining a safe and sanitary environment. When taken with CUL 121, CUL 121 is equivalent to the previously offered CUL 111.

CUL 121: Introduction to Food Preparation Techniques3 credit hours

Prerequisites: none
 Corequisites: CUL 120
 23 lecture, 90 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 7

This course emphasizes the skills necessary to produce a la carte food preparation and presentation in a full service restaurant. This beginning production course will also examine the development of standards in food preparation, portion control, sanitation, receiving and storage of inventory, as well as the proper use in preparation and service. When taken with CUL 120, CUL 121 is equivalent to the previously offered CUL 111.

CUL 124: Baking II3 credit hours

Prerequisites: CUL 114 or Consent
 Corequisites: none
 30 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7

This course builds on principles and production techniques learned in Baking I (CUL 114). Students learn more complex production skills in the preparation of sweet and savory specialty breads, chiffon's mousse, custard pies, egg foam based cakes, pate choix products, doughnuts, Danish and puff pastry.

CUL 125: Pastry II3 credit hours

Prerequisites: CUL 115 or CUL 124
 Corequisites: none
 30 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7

The student continues to learn contemporary desserts and pastries. Emphasis is placed on holiday desserts, hot and cold plated desserts, confectionery, chocolate and sugar show pieces, and management and interpersonal skills.

CUL 130: Beginning Cake Decorating1 credit hour

Prerequisites: none
 Corequisites: none
 7 lecture, 23 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course is designed to teach students proper preparation and frosting techniques. Students learn the decorating techniques required to produce and design borders, side garlands, message inscriptions, buttercream flowers, and wedding cake construction.

CUL 131: Wedding Cake Design1 credit hour

Prerequisites: none
Corequisites: none
 7 lecture, 23 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is designed to teach students the finer techniques of cake decorating. Students learn to cover a cake in rolled fondant, create lace pieces, ruffles, borders, and make beautiful gum paste flowers. Students are encouraged to demonstrate creativity in the production of cakes for competition and decorative show pieces.

CUL 140: Bakery Management and Merchandising2 credit hours

Prerequisites: 15 program hours
Corequisites: CUL 110
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Students understand and develop merchandising techniques through analysis of current competitive practices used in bakeries. They prepare bakery products and promotional projects such as newspaper ads, brochures, press releases and the basics of arranging display cases. Proper control of processing frozen dough products and the theory and application of no-time doughs and mixes used in commercial bakeries are covered, along with management principles and practices of the industry.

CUL 150: Food Service Management.....3 credit hours

Prerequisites: none
Corequisites: none
 23 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Students demonstrate service and supervisory techniques utilized in the operation of the Artist's Gallery, a full-service restaurant. Guest speakers, tours and classroom discussions follow the lab, covering issues of sales, marketing, advertising, financial accounting, responsible beverage service, and human relations principles related to the front of the house management. Students have the opportunity to receive certification for Techniques of Alcohol Management (TAM) and Race for Life (CPR).

CUL 151: Food Service Marketing3 credit hours

Prerequisites: none
Corequisites: none
 23 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Students demonstrate personal sales strategies as they operate a full service restaurant lab. Guest speakers, tours, and classroom discussions will follow the lab covering topics related to the functions of marketing, such as promotion, advertising, and public relations.

CUL 174: CUL Co-op Education I1-3 credit hours

Prerequisites: 15 program hours, Consent
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 240 other
Fulfills Core Elements: none

In this course students gain skills from a new experience in an approved, compensated, culinary arts-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

CUL 210: Garde Manger3 credit hours

Prerequisites: CUL 111 or CUL 120 and CUL 121 or Consent
Corequisites: none
 30 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Students demonstrate classical cold food preparation and presentation techniques as they relate to buffet display. Students will learn the methods related to the preparation of pates, gallantines, terrines, mousse, charcuterie, buffet salads, brines, cures, and ice sculptures.

CUL 220: Organization/Management of Food Systems3 credit hours

Prerequisites: CUL 100
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

A study of the processes of recruitment, selection, training and evaluation, collective bargaining and human relations techniques in personnel management. Theoretical applications are developed and discussed through actual case studies.

CUL 224: Principles of Cost Control3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7

Forecasting and cost control exercises are a major part of this course. Students are involved in analyzing all costs related to food, beverage, labor and supplies as well as discussions and exercises related to purchasing, receiving and storage.

CUL 227: Advanced Culinary Techniques2 credit hours

Prerequisites: CUL 230 and CUL 231
 Corequisites: none
 30 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course is a culmination of experiences for the advanced student. Focus will be placed on competitive skills in food design, presentation, organization, timing, cooking methods used in hot and cold food competition. Students will demonstrate creativity and design skills in ice sculpting.

CUL 228: Layout and Equipment3 credit hours

Prerequisites: (CUL 120 and CUL 121) or CUL 111 or Consent
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 18

This class is designed to give necessary insight involved in developing a floor plan of a restaurant or food service facility. Individual projects make use of information related to surveying, planning and design of both menu and kitchen layout.

CUL 230: Quantity Food Production3 credit hours

Prerequisites: CUL 120 and CUL 121 or CUL 111
 Corequisites: CUL 231
 22.5 lecture, 90 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5

This course builds on basic preparation and production techniques learned in CUL 111, Elementary Food Preparation. Quantity Food Production is designed to provide students with advanced preparation techniques and methods required to produce quality food items in quantity for breakfast, brunches, and luncheon buffets. Students will demonstrate organization, management, and production skills.

CUL 231: A La Carte Kitchen3 credit hours

Prerequisites: CUL 120 and CUL 121 or CUL 111
 Corequisites: CUL 230
 22.5 lecture, 90 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5

This course gives students the opportunity to advance and refine their skills in quality food production. Food preparation focuses on restaurant "cooked to order" cooking. Emphasis is placed on time, organization, portioning, and teamwork.

CUL 250: Principles of Beverage Service3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7

This course is designed to teach students techniques in beverage production and service as well as the ability to identify strategies for effective management and marketing of beverage operations. Emphasis will be placed on point of origin, mixology and regulations of beer, wine, and spirits. Comparative tastings are a major component of this course.

Dance**DAN****DAN 101: Beginning Modern Dance I1 credit hour**

Prerequisites: none
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: 13

This course introduces dance as a creative art form. Basic movement vocabulary is taught along with body placement, alignment and simple tools for composing dance studies.

DAN 102: Beginning Modern Dance II1 credit hour

Prerequisites: none
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: 13

This course continues in more depth the use of basic movement vocabulary by applying the technique to more complex dance phrases and is paced faster than DAN 101.

DAN 103: Beginning Tap Dance I1 credit hour

Prerequisites: none
 Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 13

In this course, students learn basic tap dance vocabulary which is incorporated into traditional steps and dance routines. Rhythmical enjoyment is emphasized.

DAN 104: Beginning Tap Dance II1 credit hour

Prerequisites: none
 Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 13

In this course, students learn basic tap dance vocabulary which is incorporated into traditional steps and dance routines. Rhythmical enjoyment is emphasized.

DAN 105: Beginning Jazz Dance I1 credit hour

Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This dance form originated in Africa and has evolved through American social and stage dance. The movement is rhythmical, bold, percussive, and expansive. Basic jazz vocabulary is taught along with body alignment. This course helps to improve overall body control, agility, and coordination.

DAN 106: Beginning Jazz Dance II1 credit hour

Prerequisites: DAN 105 or Consent
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This is a course designed for students with jazz dance background who want to work on proficiency of jazz movement and stylized dancing.

DAN 107: Beginning Ballet I1 credit hour

Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This course provides basic ballet movement vocabulary by associating the French ballet terms with the appropriate execution. Balance, body alignment, flexibility, and overall body control can be developed in this course and students learn how to view performances.

DAN 108: Beginning Ballet II.....1 credit hour

Prerequisites: DAN 107 or Consent
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This course introduces more complex ballet movements and turns. Students who want to improve their proficiency at the barre, centre, and through the space find this course appropriate.

DAN 110: Afro-American Dance I1 credit hour

Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14

This course introduces the basic movements used in American boogie, jazz, Dixieland, modern and Latin dance. The focus of the class is to identify these movements and relate them to their ancestral African and African/American dance heritage.

DAN 111: Popular Dance Forms1 credit hour

Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This course is an overview of popular dances. Club dancing, line dancing, partner and solo dancing are a few examples of the dances that will be studied. This class also presents contemporary popular social dances.

DAN 122: Ballroom Dance I1 credit hour

Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

Students learn the basics of good social dance so they can feel comfortable in any dance situation. They learn how to lead, follow, and dance the most popular and most useful dances: fox trot, waltz, swing, cha-cha, rumba, polka and hustle. Designed for those with limited or no experience or for those who wish to review the basics.

DAN 123: Dance Exercise I.....1 credit hour

Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Designed for students who are looking for a slower paced dance exercise course, this choreographed program of stretching and simple dance routines set to various types of music, helps trim and recondition the body while providing an excellent starting or re-entry point for a fitness program. Students are encouraged to develop a total fitness program. Discussion of nutrition and the learning of simple relaxation techniques are also a part of this class where no prior dance or exercise experience is required.

DAN 130: Dance for Musical Theatre2 credit-hours

Prerequisites: Beginning level dance class
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This class is designed to familiarize the student with basic movement and music vocabulary as applied to dance in musical theatre.

DAN 180: Dance Appreciation: The World of Dance3 credit hours
Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 13, 14

This is an introduction to dance and movement of many of the world's cultures. After learning the socio-cultural relevance of each dance style, students will be encouraged to express themselves through basic movement exercises patterned after the culture being studied. Owing to the nature of dance, a high emphasis will be placed on video and experiential learning and presentation.

DAN 200: Advanced Performance-Dance2 credit hours
Prerequisites: DAN 101, DAN 105, DAN 107, or Consent
Corequisites: none
15 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides the experienced dancer with the tools and language of choreography. Using these tools the student will create and present dance works. Production aspects will be introduced and utilized.

DAN 210: Afro-American Dance II.....1 credit hour
Prerequisites: DAN 110 or Consent
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14

This class is designed to further students' dance vocabulary using basic African/Afro-American movements employed in the boogie, jazz, hip-hop, modern and Latin dance. Emphasis is on building confidence through the use of movement combinations; traditional African/Afro-American movement; exploring solo creation, and learning at least one Afro-American dance.

DAN 222: Ballroom Dance II1 credit hour
Prerequisites: DAN 122 or Permission
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

Students perfect the basics of good social dance so they can excel in any dance situation. They learn advanced patterns in fox trot, waltz, swing, cha-cha, rumba, polka and hustle. They are introduced to tango, mambo and samba. It is designed for those who have previous ballroom dance experience.

DAN 223: Dance Exercise II1 credit hour
Prerequisites: DAN 123 or Consent
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is designed for students who are looking for a medium paced dance exercise course. This choreographed program of stretching and simple dance routines, set to various types of music, helps trim and recondition the body while providing an excellent maintenance or re-entry point for a fitness program. Discussion of nutrition and the learning of simple relaxation techniques are also a part of this class. No prior dance exercise is required, though a moderate level of fitness is suggested.

Dental Assisting

DEN

DEN 039: Dental Assistant Review1 credit hour
Prerequisites: DA Graduate or Asst
Corequisites: none
15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides the opportunity for a prospective candidate for a dental assistant credentialing exam to review course materials; gain knowledge about test taking; take a simulated exam; and examine areas of need prior to taking a credentialing exam.

DEN 102: Infection Control!.....1 credit hour
Prerequisites: none
Corequisites: none
7 lecture, 17 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is a study of microbiology, types of diseases and their transmission, and the application of OSHA guidelines to dentistry. Students gain practical experience in the operation of all disinfectant and sterilization equipment and techniques. This course aids students in the preparation for the Dental Assistant National Board examination in Infection Control.

DEN 106: Biomedical Science for Dental Assistants2 credit hours
Prerequisites: Admission to program or Consent
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This course covers the formation and eruption of the teeth, the nervous system, the trigeminal nerve and the types and uses of local and general anesthesia.

DEN 107: Oral Anatomy2 credit hours

Prerequisites: Admission to program or Consent
Corequisites: none
 36 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 16

This is an introductory course in head and neck anatomy. It covers skull and facial bones, masticatory muscles, oral anatomy-hard and soft tissues, anatomical nomenclature, tooth development and morphology, tooth surface annotation, cavity classification, occlusion and malocclusion.

DEN 108: Dental Radiography1 credit hour

Prerequisites: DEN 102, or DANB ICE exam, Admission to program or Consent
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 18

The principles, techniques, safety precautions, and operation of various types of radiographic film and equipment are studied.

DEN 109: Oral Hygiene1 credit hour

Prerequisites: Admission to program or Consent
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This course is designed to give dental assisting students a basic awareness of preventive dentistry. The etiology, prevention, and control of dental caries, and oral hygiene instruction are emphasized.

DEN 110: Basic Clinical Dental

Assisting4 credit hours
Prerequisites: Admission to program
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is an orientation to dental assisting. It provides an overview of the history of dentistry and dental assisting, and the role of the modern dental health team. Students are introduced to the dental treatment room equipment and basic procedures used in the application of the concepts of four-handed dentistry.

DEN 112: Dental Materials4 credit hours

Prerequisites: Admission to program
Corequisites: none
 30 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

This course is designed to give dental assisting students theoretical knowledge of the uses and properties (chemical and physical) of the most commonly used dental materials. Students will gain laboratory and clinical experience in the manipulation, practical application, and safe use of common dental materials in accordance with OSHA guidelines.

DEN 119: Dental Nutrition1 credit hour

Prerequisites: Admission to program or Consent
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This course is designed to give dental assisting students a basic awareness of nutrition in dentistry. The etiology, prevention, and control of dental caries through nutrition and diet analysis are emphasized.

DEN 120: Oral Diagnosis Theory.....1 credit hour

Prerequisites: DEN 102, DEN 106
Corequisites: none
 8 lecture, 24 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This theoretical course provides students with the knowledge and techniques used to obtain diagnostic data and the methods of recording this data. Students gain practical experience in common charting techniques and record management in different specialty areas of dentistry.

DEN 128: Dental Radiography

Practicum1 credit hour

Prerequisites: DEN 108
Corequisites: none
 0 lecture, 22.5 lab, 45 clinical, 0 other
Fulfills Core Elements: 7, 9, 18

Using mannequins and patients in the WCC Dental Clinic, students gain experience in making radiographic exposures and practicing radiation safety and infection control techniques. Students demonstrate processing techniques, maintain records, and mount, label and evaluate radiographic films for quality assurance.

DEN 129: Oral Pathology and Dental Therapeutics2 credit hours

Prerequisites: DEN 104, DEN 106, 2.0 GPA
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This course is a study of diseases of teeth and supporting structures, oral pathology, and systemic diseases and their relationship to dental health. Dental assistant students gain experience in critical evaluation of a patient's health status and apply the essential skills needed to assist in common dental/medical emergencies. Various drugs and their effect on medical/dental care also are studied.

**DEN 130A: Oral Diagnosis/Clinical
Practicum0.5 credit hours**
Prerequisites: DEN 102, 106, 107, 108, 110, 112, HSC 131A
 or CPR
Corequisites: none
 0 lecture, 0 lab, 60 clinical, 0 other
Fulfills Core Elements: 7, 16

This course provides students with actual clinical application of all previous knowledge as they gain clinical experience in the WCC Dental Clinic. Students have the opportunity to assist during basic preventive and operative procedures, monitor and record vital signs, apply OSHA guidelines, sterilize instruments, and manage records. This course is graded on a Pass/No Pass grading system.

**DEN 130B: Oral Diagnosis/Clinical
Practicum0.5 credit hours**
Prerequisites: DEN 120, DEN 130A, 2.0 GPA
Corequisites: none
 0 lecture, 0 lab, 60 clinical, 0 other
Fulfills Core Elements: 7, 16

This course provides students with actual clinical application of all previous knowledge as they gain clinical experience in clinics such as the U of M Dental School. Students have the opportunity to assist during basic preventive and operative procedures, monitor and record vital signs, apply OSHA guidelines, sterilize instruments, and manage records. This course is graded on a Pass/No Pass grading system.

**DEN 131: Principles of Dental
Specialties4 credit hours**
Prerequisites: DEN 110
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 18

This course provides a study of advanced clinical procedures used in dental specialties. Latest concepts in each specialty are presented by dental specialists from the community.

**DEN 202: Advanced Clinical
Practice3 credit hours**
Prerequisites: DEN 119, 120, 128, 129, 130A, 130B, 131,
 2.0 GPA in DEN courses
Corequisites: none
 0 lecture, 0 lab, 280 clinical, 0 other
Fulfills Core Elements: none

Students actively participate in a variety of clinical settings. The course is structured according to students' area of interest and geographic access in dentistry. Students become acquainted with a number of office routines, procedures, equipment and patient and staff relationships. This course is graded on a Pass/No Pass grading system.

DEN 204: Advanced Functions3 credit hours
Prerequisites: 2.0 in DEN, or DANB exam,
 or job verification
Corequisites: DEN 202 or f-t employment
 30 lecture, 30 lab, 45 clinical, 0 other
Fulfills Core Elements: 7

This course is designed to provide dental assisting students with knowledge and skill in performing intra-oral functions identified in the ADA Composite Handout. In Michigan, the legal duties of the Registered Dental Assistant are outlined in the rules of the Michigan State Board of Dentistry, Rule #330. A student enrolled in this course must have a CPR card current for the semester enrolled.

**DEN 212: Dental Practice
Management.....4 credit hours**
Prerequisites: BOS 111, or Equivalent
Corequisites: none
 52.5 lecture, 22.5 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 11

This course is an introduction to the dental business office. It is the study of systems of management used in dentistry, interpersonal communications (written and verbal), basic concepts of third party payment, machines and computer utilization. Students gain actual computer experience in word processing, database, and spreadsheet programs. Students develop skills in interviewing and writing letters of application and a resume.

**DEN 230: Alternative Dental Assisting
Education Project9 credit hours**
Prerequisites: Completion of the Dental Assisting Board
 Exam
Corequisites: FT employment in dental office
 30 lecture, 16 lab, 600 clinical, 0 other
Fulfills Core Elements: none

This course is designed specifically for the on-the-job trained dental assistant who has been admitted to the Dental Assisting Program with advanced standing after successfully passing the Dental Assistant National Board Examination. In this course the dental assistant will demonstrate hands on skills that cannot be tested in a written examination. The student will validate clinical, laboratory, radiographic, and business office skills in the office of employment. This course is graded on a Pass/No Pass grading system.

Drama

DRA

DRA 152: Acting for the Theatre I3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 1, 7, 9, 13**

This class is an introduction to acting through improvisation and the presentation of poetry, original text, monologues and scenes. Basic acting techniques, including voice projection, staging, character development and emotional expression are covered. Various additional theatrical workshops are made available to the student. This course will appeal to anyone interested in developing their acting, presentation and/or communication skills. All skill levels are welcome.

DRA 160: Movement for Actors3 credit hours**Prerequisites:** DRA 152, DAN 101, DAN 102**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This course introduces and familiarizes students with basic stage movement and techniques to increase movement vocabulary.

DRA 167: Theatre Production2 credit hours**Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 13, 14**

This is a course in which, through tours of area theaters, workshop participation and supervised participation in a faculty-directed production, the student will be exposed to or gain practical experience in one or more of the various phases of the theatre arts: stage managing, lighting design, lighting execution, scenery, publicity, house management and properties. Specific duties to be arranged with the instructor/director.

DRA 170: Stratford Theatre Festival2 credit hours**Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 13, 14**

Students will travel to Stratford, Ontario to attend plays presented at the Stratford Theatre Festival. The course will appeal to those with an interest in many aspects of theatrical performance, including acting, directing, design, production, and literature. A back-stage tour of the facilities will be included. There will be additional expenses for travel.

DRA 208: Acting for Theatre II3 credit hours**Prerequisites:** DRA 152**Corequisites:** none**0 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 1, 7, 9, 13**

This course is a continuation of DRA 152, focusing on the further study and practice of acting techniques, including the performance of poetry, prose, spoken word, monologues, scenes, personal narrative and improvisation.

DRA 209: Acting for Musical Theatre2 credit hours**Prerequisites:** DRA 152 and MUS 204 or MUS 206**Corequisites:** MUS 209**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This is a fundamentals in acting for musical theatre course, covering analysis and application of the performance skills needed by the actor/singer in a musical theatre performance. Through song and scene study, basic acting techniques, including expression of character through vocal and physical performance, staging, character development and emotional expression will be covered. This course has an emphasis on performance, not on vocal techniques. This course will appeal to anyone interested in developing their vocal performance and acting skills specifically for musical theatre performance.

DRA 220: Playwriting3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

Students develop playwriting skills and techniques by critiquing published one-acts and through exercises on character, monologue, dialogue and conflict. During the course, students will write a ten to fifteen page play, which will be workshopped by the class. Avenues of production will be discussed for these plays, and when possible, stage readings of some plays will be performed in New Voices Rising at WCC.

Economics ECO

ECO 120: Making of Economic Society3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 6, 20, 21, 23, 24

This course examines the social, political, historical, and technological factors that shape the development of the economy. The course emphasizes basic economic ideas rather than technical analysis and theory.

ECO 211: Principles of Economics I.....3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 6, 10, 21, 23, 24

This is the first half of basic principles of economics. Emphasis is on macroeconomic concepts of national income, fiscal and monetary policy and problems of unemployment, inflation and economic growth. This course is required of all Business Administration transfer students. This course is also taught as a telecourse using the program series "Economics U\$A."

ECO 222: Principles of Economics II3 credit hours

Prerequisites: ECO 211 or Permission
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 6, 10, 21, 23, 24

This is the second half of Principles of Economics 211. Emphasis is on microeconomic concepts of demand, supply and problems relating to prices and resource allocation. This course is also taught as a telecourse using the program series "Economics U\$A."

ECO 280: International Economics3 credit hours

Prerequisites: ECO 211
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 21, 23, 24

This is a course in international trade and finance covering topics such as tariffs and quotas, trade agreements, exchange rates, and international finance institutions such as the IMF and World Bank. It is designed primarily for transfer students and those interested in pursuing international business.

Electrical Engineering Tech. EET

EET 100: DC Circuit Analysis and Measurements4 credit hours

Prerequisites: 2 years HS algebra or MTH 169 or equivalent score on COMPASS algebra test
 Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 7, 9, 18

This is an introductory course in DC circuit design and analysis. The major topics in this course are: branch, nodal and mesh analysis, Thevenin, Norton and other network theorems, and electrical measurements. Other topics include laboratory data collection and interpretation, and report writing.

EET 110: Digital Electronics Design I.....4 credit hours

Prerequisites: EET 100
 Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 7, 8, 9, 11

This is the first course in a two course sequence in digital circuit design. The major emphasis is on computer solutions using standard circuit design packages. Topics include combinatorial and sequential circuit design, digital circuits and logic families, and the design process. Other topics include programming, hardware design using PLDs, and an introduction to an eight bit micro-processor.

EET 200: AC Circuit Analysis4 credit hours

Prerequisites: EET 100
 Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 4, 5, 7, 8, 9, 11, 18

This is a continuation of the study of electric circuits, emphasizing AC circuit analysis and design. Topics include: sinusoidal waveforms, phasors, impedance, phase relationships, behavior of R, L and C components, mesh and nodal analysis, network theorems, power, resonance, frequency response, polyphase systems, transformers, and an introduction to transform methods. Test equipment and computer simulation software are used to confirm analysis.

COURSE DESCRIPTIONS

EET 201: Linear Electronics I.....4 credit hours**Prerequisites:** EET 100, MTH 178, MTH 176, PHY 111**Corequisites:** none

45 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 3, 4, 5, 7, 8, 9, 11, 18

This course is the first of a two-course sequence in basic electronics. There is a major emphasis on computer solutions to problems with standard software packages.

Topics include diodes, transistors and biasing, small signal and power amplifiers, power supply regulation, and filtering.

Electricity/ Electronics**ELE****ELE 040: Residential Wiring2 credit hours****Prerequisites:** none**Corequisites:** none

0 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is a practical hands-on course that has been designed to help students better understand wiring techniques and safety considerations for dealing with a residential wiring system. A great deal of "hands on" time is offered and is devoted to working with the wiring materials and constructing circuits of the type found in the home. Typical of the kinds of circuits that are discussed and wired by the student are: duplex outlet circuits, dimmer circuits, three and four-way switch circuits, CGI circuits, lawn and garden lighting circuits, electrical dryer and electric stove circuits. Grading is by the satisfactory/unsatisfactory system.

ELE 095: Electrical Blueprint**Reading.....2 credit hours****Prerequisites:** none**Corequisites:** none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 18

This is an introductory level course in reading basic electronic/electrical manufacturing drawings to determine if the hardware complies with the engineering design requirements. Students learn to identify the basic graphical symbols used in electrical/electronic manufacturing drawings. The basic types of technical information contained in each category of manufacturing drawing is studied.

ELE 104: Electronic Soldering1 credit hour**Prerequisites:** none**Corequisites:** none

7.5 lecture, 15 lab, 0 clinical, 0 other

Fulfills Core Elements: 18

Upon satisfactory completion of this course, students possess the knowledge and skills necessary for entry-level employment as bench soldering technicians. Students learn about the different solder alloys and their fluid temperatures, how to control heat and the flow of molten solder, and the proper procedures for removing and replacing common electronic components.

ELE 105: Introduction to Telecommunications3 credit hours**Prerequisites:** none**Corequisites:** none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 10, 18, 19, 20

This is an introductory level course designed to expose the entering student to the concepts, equipment, and terminology used in the telecommunication industry. Topics include: basic telephony, transmission systems, satellite communications, fiber optics, switching systems, data communications, local area networks, and telecommunications management.

ELE 111: Electrical Fundamentals.....4 credit hours**Prerequisites:** none**Corequisites:** none

60 lecture, 30 lab, 0 clinical, 0 other

Fulfills Core Elements: 6, 7, 17, 20

A basic electricity course that includes both DC and AC circuits. The course has been designed for those students who need an understanding of electrical principles and applications but do not need the theoretical or mathematical depth required for circuit design. Lab exercises deal with many of the practical applications of electricity along with learning to use test equipment for the purpose of circuit diagnosis and troubleshooting.

ELE 118: MS DOS for Technicians2 credit hours**Prerequisites:** CIS 117 or Equivalent**Corequisites:** none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 11

This course introduces students to the use of MSDOS commands and utilities used in the installation and maintenance of computer hardware and networks. Through hands-on experiences, students will examine DOS command syntax and respond to DOS error messages. Students will learn efficient techniques for managing disk drives, files, and directory structures. In addition, students will create and use batch files to automate routine configuration and maintenance tasks.

ELE 134: Motors and Controls4 credit hours**Prerequisites:** ELE 111 or ELE 123A**Corequisites:** none**60 lecture, 30 lab, 0 clinical, 0 other****Fulfills Core Elements: 4, 5, 7, 18, 19**

Topics include DC motors and generators, alternators, AC motors and typical controls for DC and AC motors. This is a hands-on course with heavy emphasis on laboratory exercises.

ELE 137: Switching Logic4 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements: 5, 7, 9, 15**

This is a beginning course in digital switching logic. Students learn the devices and circuits used to build computers and other digital control equipment. Lecture topics include data codes, digital logic gates and circuits, ladder logic diagrams, and the use of programmable logic controllers (PLCs). Laboratory topics stress breadboarding logic circuits and programming logic circuits using PLCs.

ELE 139: Microprocessors4 credit hours**Prerequisites:** ELE 137**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements: 4, 7, 9, 18, 19**

This course is an introduction to the physical makeup of a microprocessor-based computer system. The major functional elements of a microprocessor system and their relationship to each other are examined. Topics include data coding, data storage, microprocessor architecture, input/output devices and machine language programming. The laboratory exercises provide experience with microprocessor hardware and machine language programming.

ELE 140: Software Concepts4 credit hours**Prerequisites:** none**Corequisites:** none**60 lecture, 30 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 11, 12, 18**

Students use standard software design techniques to develop and code algorithms for the solution of electrical and electronics problems, thus gaining a useful tool for problem solution while learning software fundamentals such as understanding the difference between syntax and semantics, refinement of algorithms into working solutions, executing programs on a computer system, correct use of appropriate subsets of a language, development of consistent test cases and preparation of understandable documentation.

ELE 150: PC Hardware Concepts and Troubleshooting4 credit hours**Prerequisites:** CIS 117, or Equivalent high school course in Windows**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 10, 11, 18, 19**

This course is designed for the beginning user and those without a technical background. Through hands-on experiences, students examine the internal hardware components of IBM compatible computers with an emphasis on troubleshooting and repair. Topics covered include what the DOS operating system does and how it works with the computer hardware to run application programs. Students explore how to upgrade and optimize your computer and how to solve typical hardware and software problems using time saving and cost-effective techniques. Students in the Computer Systems Technology certificate program must take CIS 118: DOS for Technicians, either before or concurrently with ELE 150.

ELE 155: Advanced Computer Concepts and Troubleshooting4 credit hours**Prerequisites:** ELE 150 or Equivalent**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 8, 9, 11, 18, 19**

This course builds on students' knowledge of computer troubleshooting and takes you through more advanced problems and how to solve them. Through hands-on experiences, students will improve their understanding of and develop specific skills for solving the tough stuff—dead PCs, memory errors, interrupt conflicts, and paralyzed hard drives—to name a few. In addition, you will learn advanced techniques for configuring and troubleshooting the Microsoft Windows operating system.

ELE 174: ELE Co-op Education I1-3 credit hours**Prerequisites:** ELE 111, ELE 137, ELE 140, Consent**Corequisites:** none**0 lecture, 0 lab, 0 clinical, 120 other****Fulfills Core Elements: none**

In this course the student gains skills from a new experience in an approved, compensated, electronics related position. Together with the instructor and employer, the student sets up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two possible co-op experiences. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

ELE 204: National Electrical Code.....4 credit hours**Prerequisites:** ELE 111**Corequisites:** none**75 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 9

This course covers the use of the National Electrical Code as a tool to plan the safe installation of electrical equipment in residential, commercial, and industrial locations. Students calculate required numbers of branch circuits; select sizes of conductors, raceways, fuses, circuit breakers, and boxes; and plan motor circuits, services, and feeders. Other topics include: cardio-pulmonary resuscitation and other safety issues, grounding, GFCI, kitchen circuits, motor controls, local codes, and code changes. Recommended for industrial controls students and those interested in becoming licensed journeypersons or master electricians.

ELE 205: Basic Telephony.....4 credit hours**Prerequisites:** none**Corequisites:** none**60 lecture, 30 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 18, 19

This course covers the theory, maintenance, and installation of telephone systems. Topics include state of the art telephone system technology, basic electromechanical and electronic key systems with emphasis placed on voice systems. Laboratory experiments involve measurements, troubleshooting, transmission line noise analysis, and switching concepts.

ELE 209: Operational Amplifiers.....2 credit hours**Prerequisites:** ELE 111 or ELE 123B**Corequisites:** none**22.5 lecture, 22.5 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 9

This course is a lecture and laboratory course covering operational amplifier circuits, active filters, and regulators. Circuits are constructed and tested in the laboratory. Students also learn how to service equipment containing these circuits.

ELE 211: Basic Electronics.....4 credit hours**Prerequisites:** ELE 111 or ELE 123B**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 9

Basic Electronics is a beginning lecture and laboratory course covering solid state devices. It includes the theory and application of diodes, and both bipolar and field effect transistors. These devices are tested and then circuits using them are constructed and tested in the laboratory using common laboratory equipment.

ELE 216A: Modem Hardware Install, Configuration & Troubleshooting.....2 credit hours**Prerequisites:** ELE 150**Corequisites:** none**22.5 lecture, 22.5 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 11, 18

This course is designed for the beginning user and for those without a technical background. It provides the basic knowledge and skills required to install and operate modem hardware for PCs. Lecture and laboratory topics include the installation, configuration and troubleshooting of modem hardware and software for PCs. Also covered are various communications standards and protocols and PC hardware interfacing to the Internet and bulletin boards and file transfers using modems.

ELE 216B: Data Communications Hardware Standards, Configuration & Troubleshooting.....2 credit hours**Prerequisites:** ELE 216A**Corequisites:** none**22.5 lecture, 22.5 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 9, 11, 18

This course provides the basic knowledge and skills required to install and use data communications equipment, and to operate test equipment and interpret the results. Lecture and lab topics include data communications protocols and standards, data compression, error detection and correction and data communications theory.

ELE 220: Modems, Peripherals and Introduction to Networking.....4 credit hours**Prerequisites:** ELE 150 and ELE 155**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This is a lecture and laboratory course in the basic knowledge and skills required to install, troubleshoot and operate modems, printers and network hardware for PC's. Topics include an introduction to the theory and practical aspects of Local Area Networks and the installation, configuration and troubleshooting of modems, printers and network hardware for PC's. Also covered are various standards, network architectures and protocols.

ELE 224: Introduction to PLC's.....4 credit hours**Prerequisites:** ELE 137 or Consent**Corequisites:** none**60 lecture, 30 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 9, 11, 18, 19

This is a beginning course in programmable logic controllers (PLCs). The course introduces students to the Allen Bradley PLC-5, the SLC-500. Topics include standard relay-type instructions, timers, counters, sequencers, move instructions, and arithmetic operations. This is a

hands-on course intended for students in the electronics controls and robotics programs. It is also for electricians, technicians, and engineers who wish to upgrade their skills.

ELE 225A: Network Installation and Troubleshooting2 credit hours

Prerequisites: ELE 150

Corequisites: none

22.5 lecture, 22.5 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 9, 11, 18

This is a lecture and laboratory course in the theory and practical aspects of Local Area Networks. Major lecture discussions are directed toward network architectures, hardware, operating systems, installation and troubleshooting.

ELE 225B: Advanced Networking Concepts ..2 credit hours

Prerequisites: ELE 225A

Corequisites: none

22.5 lecture, 22.5 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 9, 11, 18, 19

This is a lecture and laboratory course in the theory and practical aspects of advanced networking systems. Major lecture discussions are directed toward telephone system performance requirements, transmission of data, digital modulation and network protocols, multiplexers and internetworking techniques.

ELE 230: Computer System Fundamentals4 credit hours

Prerequisites: ELE 140, ELE 150

Corequisites: none

60 lecture, 30 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 8, 9, 11, 12, 18, 19

This course provides the basic knowledge and skills required to operate and perform corrective maintenance on modern, 32-bit micro and minicomputer systems. The uses of operational theory, system block diagrams, and diagnostics as aids in troubleshooting are emphasized. Computer operating system concepts and the use of a system's command language as a hardware maintenance tool are introduced.

ELE 235: Computer System Troubleshooting4 credit hours

Prerequisites: ELE 230

Corequisites: none

60 lecture, 30 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 8, 9, 11, 12, 18, 19

This course is a continuation of ELE 230. Students develop an integrated knowledge of computer hardware and software concepts with an emphasis on the installation, operation, and maintenance of peripheral controllers and devices (terminals, printers, disk and tape drives). Local Area Network (LAN) concepts and fault isolation tools are introduced.

ELE 244: Motion Control4 credit hours

Prerequisites: ELE 140, ELE 224, or Consent

Corequisites: none

60 lecture, 30 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 9, 11, 19

This course features the Allen Bradley IMC 120. Topics include programming and applications for multi-axis digital control systems. This course is intended for Electronics Technology Program students, technicians, electricians, and engineers who wish to upgrade their skills.

ELE 245: Transmission Systems4 credit hours

Prerequisites: ELE 216A, ELE 216B

Corequisites: none

60 lecture, 30 lab, 0 clinical, 0 other

Fulfills Core Elements: 5, 7, 9

This course studies the principles of digital and analog transmission systems. Topics covered are transmission codes, conventions, and hierarchy. Specific subjects include the T-1 system, Time Division Multiplexing, Frequency division Multiplexing, multiplexer interfacing and system maintenance.

ELE 250: Microprocessor Interfacing4 credit hours

Prerequisites: ELE 137, ELE 140, or CPS 171

Corequisites: none

45 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 8, 9, 10, 11, 18, 19

This is an advanced level course covering theory, hardware, software and applications of microprocessors. Topics include interfacing with sensors and actuators to control position, velocity, acceleration, temperature, flow rate and pressure. Laboratory exercises provide experience in analyzing and troubleshooting modern microprocessor-based control circuits.

ELE 254: PLC Applications4 credit hours

Prerequisites: ELE 224 or Permission

Corequisites: none

45 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This is an advanced course which features the Allen Bradley PLC 5/15 and the Modicon M-984. Topics include program control instructions, analog I/O, and PID process controls. This course is intended for ECS students and technicians, and industrial electricians and engineers who need to upgrade their skills in the area of PLC applications.

ELE 274: ELE Co-op Education II1-3 credit hours

Prerequisites: ELE 174, Consent
Corequisites: none
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two Co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

ELE 275: Switching Systems4 credit hours

Prerequisites: Pre or CoReq, ELE 205
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 6, 7, 9, 11, 19

The theory, operation and maintenance of analog and digital telephone switches is studied. Topics include switch programming, diagnostic procedures, and system trouble shooting. Customer-owned switching systems are emphasized.

ELE 299: Customer Relations1 credit hour

Prerequisites: none
Corequisites: none
21 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9

Students enhance their interpersonal skills through the techniques gained in this course. Developing insight using demonstrations, video tape, role playing, and interaction, the student is guided in a curriculum that builds a value-added attitude for customer service personnel. Skills learned include controlling one's emotions in difficult situations and increasing customer satisfaction.

ENG 020: English as a Second Language I8 credit hours

Prerequisites: Oral Interview
Corequisites: none
120 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This class is designed for students who do not speak or understand spoken or written English. This course teaches survival language necessary for minimum functioning in the community. Grading is by the satisfactory/unsatisfactory system.

ENG 021: English as a Second Language II8 credit hours

Prerequisites: ENG 020
Corequisites: none
120 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This class is designed for students who have had some exposure to and/or instruction in English. The course emphasizes survival language. Grading uses the satisfactory/unsatisfactory system.

ENG 022: English as a Second Language III8 credit hours

Prerequisites: ENG 021 or Test
Corequisites: none
120 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This class is designed as a continuation of ENG 021 and is for students who have had some exposure to and/or instruction in English. This course goes beyond minimal survival English toward communication for daily living. Grading is by the satisfactory/unsatisfactory system.

ENG 028: Beginning ESL Reading4 credit hours

Prerequisites: Placement test, completion of ENG 022, or faculty recommendation
Corequisites: ACS 000
45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is designed to lay the foundations for reading improvement needed by ESL students. Emphasis is placed on reading for personal pleasure. Vocabulary development, active reading strategies, independent silent reading and comprehension are covered. Students must satisfactorily complete their work before advancing to a higher level reading course. On the recommendation of the instructor, this course may be completed in three semesters as ENG 028A, 028B, and 028C. Grading uses the satisfactory/unsatisfactory system.

English ENG

ENG 010: Writing Practicum1 credit hour

Prerequisites: Consent
Corequisites: none
0 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides individualized instruction. Students may be referred to this course by their instructor to remove a specific deficiency in their writing. Students may enroll in this course to improve writing or receive help in completing writing assignments for English classes or other courses requiring writing. Grading is by the satisfactory/unsatisfactory system.

ENG 030: Intermediate ESL Grammar4 credit hours

Prerequisites: EPT 45 or placement by ESL faculty
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This intermediate level class expands students' knowledge of English grammar and vocabulary and their ability to understand and use spoken and written English. Special attention is given to the appropriate use of the forms studied. On the recommendation of the instructor, this course may be completed in two semesters as ENG 030A and ENG 030B.

ENG 033: Intermediate ESL Reading4 credit hours

Prerequisites: ENG 028 placement
Corequisites: ACS 000
 45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is designed to further develop independent reading comprehension skills for ESL students through reading authentic texts including novels and textbook selections. Emphasis is placed on vocabulary development, active reading strategies, variable reading rates, silent reading and comprehension. Placement is determined by a diagnostic reading test. The fourth hour of instruction is given in the lab every week. Students must demonstrate a reading level at or above the ninth grade level course. Grading uses the satisfactory/unsatisfactory system.

ENG 035: English Pronunciation and Conversation.....3 credit hours

Prerequisites: ENG 022 or EPT over 45
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This intermediate pronunciation and conversation class is for learners of English as a second language. Students practice using English to agree, disagree, invite, and compare. Grammar and vocabulary are reviewed as they relate to the conversations. Some outside reading is required. Grading is by the satisfactory/unsatisfactory system.

ENG 037: Intermediate ESL Writing4 credit hours

Prerequisites: ENG 030 and ENG 033
 (may be taken concurrently)
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This class is designed to help students internalize both the grammar and vocabulary that they have been studying by using it to produce well-formed sentences and paragraphs. Writing as communication is emphasized. Grading is by the satisfactory/unsatisfactory system.

ENG 050: Basic Writing I4 credit hours

Prerequisites: none
Corequisites: ENG 000
 45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This class is the first course for inexperienced writers. It helps students to gain confidence writing formal English sentences and paragraphs. It is strongly recommended that students enroll in ACS 045 before or at the same time as this course. Grading is by the satisfactory/unsatisfactory system.

ENG 051: Basic Writing II4 credit hours

Prerequisites: none
Corequisites: ENG 000
 45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is a continuation of English 050. It meets along with an ENG 050 class but has more advanced writing lab assignments. Grading uses the satisfactory/unsatisfactory systems.

ENG 060: Advanced ESL Grammar4 credit hours

Prerequisites: EPT or placement by ESL faculty
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This class is a continuation of ENG 030. More sophisticated forms are studied, including SV inversion, reduced clauses, and complex verb phrases. Special attention is given to the appropriate use of the forms studied. This class uses the pass/no pass grading system. On the recommendation of the instructor, this course may be completed in two semesters as ENG 060A and ENG 060B.

ENG 063: Advanced ESL Written Communication8 credit hours

Prerequisites: ENG 060 (may be taken concurrently) or placement by ESL faculty
Corequisites: ENG 000
 105 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This advanced reading/writing course is designed to prepare students for academic study. Reading strategies and vocabulary development enable students to read authentic texts and to use the information as a springboard to their own writing. English rhetorical structure and the writing process are introduced. This course is graded on a Pass/No Pass grading system.

ENG 065: Advanced ESL Speaking and Listening3 credit hours

Prerequisites: ENG 060 (may be taken concurrently) or placement by ESL faculty
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This class is designed to prepare students for active participation in college classes. Understanding lectures, taking notes in class, and participating in class discussion are covered. This course is graded on a Pass/No Pass grading system.

ENG 085: Review of English

Grammar3 credit hours
Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course reviews basic English grammar. It helps students to write sentences more precisely and effectively as well as to understand the principles of our grammatical system. This is not an appropriate course for ESL students. It may be taken prior to or in conjunction with any writing course or a foreign language.

ENG 091: Writing Fundamentals4 credit hours

Prerequisites: ENG 051
Corequisites: ENG 000
 45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course focuses on strengthening the writing skills required of a worker, citizen, or college student. The emphasis is on developing and organizing ideas in long paragraphs and short essays in preparation for college-level writing courses.

ENG 100: Communication Skills4 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 2, 3, 7, 8, 9, 10

Students receive practice in a variety of writing assignments relevant to their program area. Assignments include letter writing for a variety of situations (e.g., job application, complaint, commendation, courtesy), memos written in response to situations students are likely to encounter on the job, resumes fitted to the student's particular background (work and educational experience), and other writing forms. During the first week of class, students must demonstrate a writing proficiency at the ENG 091 level. Students must select a writing lab section with this course.

ENG 101: Journalism I3 credit hours

Prerequisites: ENG 091, or higher
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 2, 3, 7, 8, 10

This course is an introduction to understanding the demands and effects of journalism in both the electronic and print media. Techniques of finding, writing and presenting both news and feature stories are emphasized. Students are expected to find and write various types of stories. They will also be introduced to typical newsroom structure and organization, as well as issues of ethics in journalism.

ENG 105: Bridge ESL Written Communication8 credit hours

Prerequisites: TOEFL 500 or placement by ESL faculty
Corequisites: ENG 000
 105 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides a bridge between ESL classes and college level classes. College level texts and video from both sciences and humanities are used as a springboard for discussion and writing. The emphasis is on fluency at the college level.

ENG 107: Technical Communication3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 2, 3, 7, 8, 9, 10

This course is a continuation of ENG 100 with an emphasis on longer, more complex assignments which simulate work situations. As an introduction to more advanced courses in Technical Communication, this course is a requirement for the Scientific and Technical Communication degree program.

ENG 111: Composition I4 credit hours

Prerequisites: none
Corequisites: ENG 000
 45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 2, 3, 7, 8, 9, 10

This course focuses on developing skills in critical reading, logical thinking, and written composition (from paragraphs to expository essays and documented papers). Reading materials serve as a basis for papers and classroom discussions. Students write both in-class and outside themes frequently. Methods of organization and development are emphasized. During the first week of class, students must demonstrate a writing proficiency at the college level.

ENG 122: Composition II.....3 credit hours**Prerequisites:** ENG 111**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 2, 3, 7, 8, 9, 10**

This course is a continuation of ENG 111 and further develops critical reading and logical thinking skills. Students will write argumentative essays using a variety of formats. The research paper is emphasized.

ENG 140: Horror and Science Fiction3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 3, 7, 13, 14**

This course is a study of science fiction and horror in literature with emphasis on literary, historical, psychological, and social relevance. Short stories, novels, films, and/or nonfiction related to both genres are analyzed and discussed. Specially designated sections may focus on horror, science fiction, subgenres, or major authors.

**ENG 160: Introduction to Literature:
Poetry and Drama.....3 credit hours****Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 3, 13, 14**

This course is designed to give an understanding of literature through writing assignments, close reading and discussion of selected works of poetry and drama. Students are encouraged to evolve criteria for assessing the value of literary works.

**ENG 170: Introduction to Literature:
Short Story and Novel3 credit hours****Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 3, 7, 8, 13, 14**

Students explore short stories and the novel as they provide blueprints for living, self-discovery and recreation. Each student is helped in strengthening reading and writing skills. Readings and discussion consider the cultural relevance of writings, the structural design, and the effect upon the reader. Students are encouraged to evolve criteria for assessing the value of literary works. Special, designated sections of ENG 170 emphasize popular literature, mystery, westerns or images of women in literature.

ENG 181: African American Literature3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 3, 7, 8, 13, 14**

This course provides a critical analysis of the African-American experience in the world of literature through reading, class discussion and writing assignments. It is an introduction to contemporary African-American literature, letters and thought, as well as a survey of the great works of Afro-American fiction.

**ENG 183: Special Topics in African
American Literature3 credit hours****Prerequisites:** ENG 181**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

This course provides the opportunity for students to continue their study of African American Literature through a more focused study of a specific author, genre or topic. Individual research and writing are emphasized. See time schedule note for the focus of each section.

ENG 185: Grammar and Usage3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7**

In this course, students formalize their knowledge of the structure of English. They learn to respect the internal grammar of native speakers and to separate the issues of grammar and usage. Students examine some of the complex problems faced by speakers of English.

**ENG 199: Scientific/Technical
Communication Internship1-3 credit hours****Prerequisites:** ENG 100, ENG 107, ENG 108, Consent**Corequisites:** none**0 lecture, 0 lab, 0 clinical, 120 other****Fulfills Core Elements: 3, 7, 20**

In this course, the student integrates theory and practice by working in an area of professional interest in the technical communication field under the dual supervision of a professional technical communicator and instructor of Scientific and Technical Communication. Students spend 3-18 hours per week in a work setting and one hour per week in conference with the instructor. Note: The college cannot guarantee an internship, since the employer provides the assignment.

ENG 200: Shakespeare.....3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 2, 3, 7, 8, 13, 14

This course provides introductory reading and discussion of the varieties of Shakespeare's plays: comedy, history, tragedy and dramatic romance. All periods of Shakespeare's work are represented. Wherever possible, the opportunity to view performances, either live or on film, is made available.

ENG 208: Advanced Technical Communication I3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 1, 2, 3, 9, 11

In this course, students write professional documents and learn the documentation creation process from beginning to end, including conducting a formal document needs analysis, drafting a detailed project plan and schedule, and producing and testing the document. Working in groups and individually, students will have an opportunity to revise existing documents and create original work for their portfolios. This is a required course in the Scientific and Technical Communication Program and the Internet Professional Program.

ENG 209: Advanced Technical Communication II3 credit hours

Prerequisites: ENG 208

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 2, 3, 7, 9, 11

In this hands-on course, students write and design technical documents for online delivery. Using the latest technology, students design effective online help systems, convert hard copy documents to online formats, and convert existing online help files to HTML formats. This is a required course in the Scientific and Technical Communication program.

ENG 211: American Literature I3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 3, 7, 8, 13, 14, 22

The nation's literature from its beginnings to the Civil War are discussed, stressing the major authors of the period. The course relates trends of the period to contemporary problems and readings.

ENG 212: English Literature I3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 3, 7, 13, 14

The course studies English literature from its origins through the 18th Century. Readings stress the major works and authors from Beowulf to Swift.

ENG 213: World Literature I3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 3, 7, 8, 13, 14

World Literature 213 and 224 is a sequence that attempts an approach to the eternal values of man through literary masterpieces written from the time of ancient Greece to the present.

ENG 214: Literature of the Non-Western World3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 8, 10, 13, 14, 24

This course is a survey of major world literature outside the body of traditional Western European and American literature usually studied in college classes. Typically, the course covers selections from African, Asian, and Near Eastern literature. This course includes an introduction to each culture and explore how the literature reflects that culture.

ENG 222: American Literature II3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 3, 7, 8, 13, 14, 22

This course is the second half of a two-semester sequence (see ENG 211). It covers the period from the Civil War to the present and relates trends of the period to problems and writings occurring after the Civil War. Major fiction of the period including poetry, drama, short stories and novels as well as literary, social, political and economic trends are part of discussions. Some designated sections focus on contemporary American Literature. Some writing is required.

ENG 223: English Literature II3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 3, 7, 13, 14

This course is a continuation of ENG 212. It involves a study of representative writers of the Romantic, Victorian, Modern, and Contemporary periods.

ENG 224: World Literature II3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 3, 7, 8, 13, 14

This course is a continuation of ENG 213. It explores some of the great literary experiences of the Western tradition since the Renaissance and attempts to show how they have contributed to present cultural heritage.

ENG 225: Advanced Composition3 credit hours

Prerequisites: ENG 122 or Permission
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 2, 3, 7, 8, 10

The purpose of this course is to help students improve critical thinking, research, and writing — especially persuasive writing — skills introduced in English 111 and English 122. Paper topics emphasize students' field of interest.

ENG 240: Children's Literature3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 1, 3, 8, 14

This course is a survey of prose, poetry and illustrated books suitable for the preschool, elementary, and early adolescent child. This course is required of students entering elementary education; also for library studies or work, teacher's aide program, nursery and day care work and as general education for parents.

ENG 241: Adolescent Literature3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 1, 3, 7, 8, 14

This course is a survey of prose, poetry and some non-fiction suitable for adolescent readers. It is recommended for students entering upper elementary and high school teacher training programs; also for library science students and as a general education for parents.

ENG 260: Journal Workshop I.....3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 3

This workshop is for emotionally mature, self-directed people committed to growth and discipline in their writing and in their lives. It offers in-class writing as a means to self-discovery and expression. Students explore movement and continuity of their lives while exploring creative and healing power of symbols. There is a choice of many ways to use writing: biography, mind exploration, growth work, creative expansion, problem solving, renewing faith, celebrating life, affirming commitments. Journals remain confidential. The course is transferable to four year colleges.

ENG 261: Journal Workshop II3 credit hours

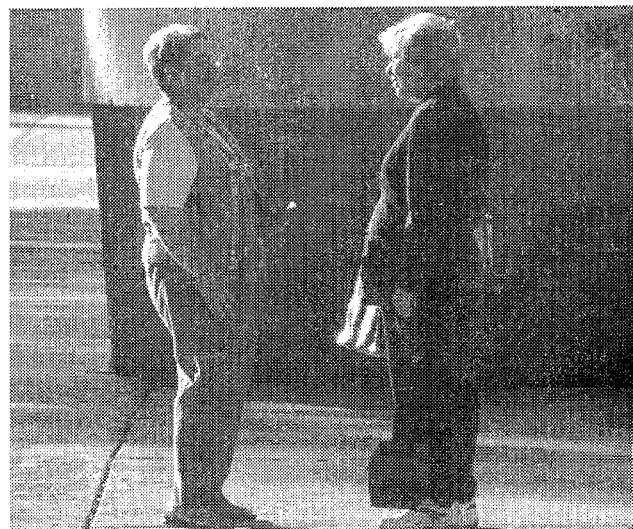
Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 3

This is a continuation of ENG 260, for students who have already completed 260, and who wish to continue to develop their skills and produce additional written work.

ENG 270: Creative Writing I.....3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 8, 13

Students explore processes by which writers discover ideas. Aided by a series of writing exercises, students create elements of poetry, fiction, drama, and/or non-fiction such as dialogue, point of view, voice, and rhythm. Students also explore relationships between form and ideas in writing. Writing is viewed as a means of personal expression and as a craft with definable measures of quality.



ENG 271: Creative Writing II3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 8, 13

Students work on individual writing projects such as a novel, short stories, poetry, film/TV/play scripts in a workshop setting.

ENG 278: Magazine Publication3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 8

This workshop course produces Northern Spies, WCC'S literary journal. Students advertise for writing to be considered for publication, and then read, discuss, select, edit, typeset, and proofread work submitted by WCC writers. Students learn critical thinking, discussion, and decision-making skills, editing skills, and technical skills involved in computer desktop publishing.

Facility Management**FMA****FMA 101: Facility Management I2 credit hours****Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course covers the fundamental principals involved in engineering and building structures. Topics include building design and construction, construction materials, structural systems, the building envelope, roofing systems, interior systems, paint and wall covering systems, plumbing, and HVAC.

FMA 103: Facility Management II2 credit hours**Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:**

This is a continuation of FMA 101. Topics include operation and maintenance of electrical systems, lighting principles, vertical transport systems, energy management, cleaning management, landscaping and parking, fire protection systems, security, and building operations management administration.

FMA 105: Facility Management III2 credit hours**Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:**

This course focuses on development and improvement of communication skills with senior management. The concepts of strategic planning and management, corporate finance and capital investment, management information systems, resource maximization, and physical asset management are introduced.

FMA 107: Technologies for Facility**Management.....2 credit hours****Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:**

This course provides an in-depth study of the technology commonly used in facilities and the skills needed to maximize its use. Maintaining control of new technologies and enhancements and the evaluation of impact of present services and assessment are learned. Topics include facilities technology defined, technology in business operations, telecommunications systems, high support special space, and implementing facility management technology.

FMA 109: Facilities Planning and**Project Management.....2 credit hours****Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:**

This course provides an in-depth study of the skills needed to manage a project from start to finish. Topics include identification and rating of user needs, classification of facility projects, design development and review, project implementation, and reporting techniques.

Fluid Power**FLP****FLP 111: Fluid Power Fundamentals4 credit hours****Prerequisites:** none**Corequisites:** none**30 lecture, 60 lab, 0 clinical, 0 other****Fulfills Core Elements:** 5, 18, 19

This is a beginning course in fluid power that deals with the basic principles of hydraulics and pneumatics. (Hydraulics is used as a means of teaching the fundamentals.) Directional valves, pressure control valves, flow control valves, actuators and basic pump theory are studied. ANSI and ISO symbols are used to design simple circuits. Disassembly of components and assembly of circuits make up the lab experiences.

FLP 174: FLP Co-op Education I1-3 credit hours

Prerequisites: 1st semester courses, Consent
Corequisites: none
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

FLP 213: Hydraulic Controls3 credit hours

Prerequisites: FLP 111
Corequisites: FLP 214
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 8, 9, 10, 18, 19

FLP 213 parallels FLP 214 concentrating on the controls used in hydraulic circuits. The course takes a closer look at the directional, pressure and flow controls studied in FLP 111. The concentration is on specialty type valves such as stack modules, cartridge valves, pressure and flow control. Electric components used in ladder logic sequencing of hydraulic actuators also are studied. Lab time is an integral part of this course. It is recommended that students enroll in FLP 214 at the same time as this course.

FLP 214: Basic Hydraulic Circuits3 credit hours

Prerequisites: FLP 111
Corequisites: FLP 213
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 8, 9, 18, 19

This course parallels FLP 213 and deals with circuits as the application of hydraulic controls. Circuit design, application and troubleshooting are major topics studied. Electric logic for hydraulic sequencing is included. Lab time is an important part of this course. It is recommended that students enroll in FLP 213 at the same time as this course.

FLP 225: Fluid Power Motion

Control4 credit hours
Prerequisites: FLP 111, FLP 213, FLP 214
Corequisites: none
30 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 8, 18, 19

This course includes the study of electronic instrumentation as it applies to hydraulics and an introduction to automatic control. Discussion and laboratory exercises involve sensors of all types, oscilloscopes, and X/Y recorders. Characteristics of various pressure controls and electro-hydraulic valves are studied utilizing this equipment. The course concludes with an introduction to feed-

back control theory.

FLP 226: Pneumatics3 credit hours

Prerequisites: FLP 111
Corequisites: none
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 18, 19

Basic air systems are studied as a control medium in industrial applications such as presses, clamps, transfer devices, etc. Valves, cylinders, motors, compressors, regulators, filters and other power components are included. Ladder logic provides a means of circuit design on an introductory level.

FLP 274: FLP Co-op Education II1-3 credit hours

Prerequisites: FLP 174, Consent
Corequisites: FLP 174
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two Co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

French

FRN

FRN 111: First Year French I4 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This is a beginning and transferable course in French which emphasizes the aural-oral approach. Classroom work and language laboratory sessions assist the student in establishing and perfecting basic conversational tools in the language.

FRN 112: French Laboratory I1 credit hour

Prerequisites: none
Corequisites: FRN 111
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This course is intended to augment FRN 111. Students work in a supervised language lab with taped materials that correlate to the lessons in their texts and workbooks. Students are provided with supplemental listening aids that include both music and literature.

FRN 120: Beginning Conversational French2 credit hours
Prerequisites: none
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This is a basic French course, mainly conversational in approach, which assumes no previous knowledge of the language. It is chiefly for persons interested in foreign travel through a basic knowledge of spoken and written French. It may also be taken as a preview for students entering the first-year of college French studies or students already enrolled in the first year French course.

FRN 121: Intermediate Conversational French2 credit hours
Prerequisites: FRN 120, or 1 semester college FRN, or Permission
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 13, 14, 24

This course emphasizes the use of spoken French in every day context. Students work on improving aural/oral skills. By semester's end, students should feel comfortable creating with language in the present, past, and future tenses. This course does not satisfy college language requirements.

FRN 122: First Year French II.....4 credit hours
Prerequisites: FRN 111
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This is a continuation of FRN 111. Continuing classroom work and language sessions help the student to acquire basic conversational tools of the language as well as basic informational aspects of the French culture.

FRN 123: French Laboratory II.....1 credit hour
Prerequisites: none
Corequisites: FRN 122
 0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This course is intended to augment FRN 122. Students work in a supervised language lab with taped materials which correlate to the lessons in their texts and work-books. Students are provided with supplemental listening aids that include both music and literature.

FRN 213: Second Year French I3 credit hours
Prerequisites: FRN 122 or Consent
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

The goals for this course are the acquisition of extensive French lexicon and a comprehensive knowledge of advanced French grammar. Both areas are thoroughly tested and improved by a series of writing and oral assignments.

FRN 224: Second Year French II3 credit hours
Prerequisites: FRN 213 or Consent
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This is a continuation of FRN 213. This course offers a complete and final overview of the French Language. Special attention is placed on the practical world of commercial, fiscal and bureaucratic French by dealing with textual and aural real life contexts. Students are exposed to the new trends and directions in the life of the French Language.

Geography

GEO

GEO 101: World Regional Geography3 credit hours
Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 17, 20, 24

This global survey course covers the world by regions emphasizing the contemporary relationships between developed nations and developing nations. It evaluates how geophysical elements, climates, location, vegetation, and resources interact with culture, economic and political aspects which in turn relates to environmental problems and the accelerating growth of the global population. This course was previously GEO 100.

GEO 103: Cultural Geography.....3 credit hours
Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 24

This course examines the world-wide patterns and characteristics of some of man's major economic activities (agriculture, industry, trade and commerce), on-going processes (urbanization, population growth and movement), institutions (language, religion and the nation-state), and current concerns (health and nutrition).

Geology

GLG

GLG 100: Introduction to Earth Science4 credit hours

Prerequisites: none

Corequisites: GLG 100L

30 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 3, 7, 15, 17

This course provides practical training in earth science including work with soils, minerals, rocks, glaciers, volcanism, plate tectonics, meteorology, oceanography, and astronomy.

GLG 103: Field Geology3 credit hours

Prerequisites: none

Corequisites: none

0 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 5, 7, 17

Students examine the processes that have formed and are forming the landscape by studying formations at local sites.

GLG 104: Weather3 credit hours

Prerequisites: none

Corequisites: none

22.5 lecture, 22.5 lab, 0 clinical, 0 other

Fulfills Core Elements: 5, 7, 17

Atmospheric processes and phenomena that produce the day-to-day weather changes experienced throughout the world are studied. Emphasis is placed on empirical observation of cloud types, development, and movement.

Weather map interpretation and analysis including elementary weather forecasting techniques are presented.

Field trips are included. GLG 104 is normally offered only in the spring term.

GLG 109: Common Rocks3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 17

The identification of rocks and minerals is accomplished through laboratory and field studies. Emphasis is placed on Michigan specimens. This course is intended for students interested in becoming teachers, or needing a science elective.

GLG 110: Geology of the National Parks and Monuments2 credit hours

Prerequisites: none

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 2, 5, 17

The geological settings of specific National Parks and Monuments are studied including the principles and processes which shaped them. Slide programs and maps are used to illustrate geological features.

GLG 114: Physical Geology4 credit hours

Prerequisites: none

Corequisites: none

30 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 15, 17

The physical features and processes of the earth are studied. Plate tectonics along with the interpretation of topographic maps and the study of common rocks and minerals are included. A three day field trip is required with food and housing expenses the responsibility of the student.

GLG 125: Historical Geology4 credit hours

Prerequisites: GLG 100

Corequisites: none

30 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 15, 17

The development of North America as a typical continent is presented including the formation of mountains, plains, the evolution of life, and the identification of fossils. Several field trips are taken. A three day field trip is required with food and housing expenses the responsibility of the student.

GLG 202: Earth Science for Elementary Teachers4 credit hours

Prerequisites: none

Corequisites: none

30 lecture, 45 lab, 0 clinical, 0 other

Fulfills Core Elements: 15, 17

This course presents the content and methodology necessary for success in teaching earth science in the elementary school. It includes laboratory activities, laboratory projects, lesson planning and student presentations. Content topics include rocks and minerals, volcanism, mountain building, dinosaurs, and weather. Methodology topics include behavioral objectives, lesson plans, presenting lessons, and student-centered approaches.

GLG 219: Field Studies in Geology2 credit hours

Prerequisites: none
Corequisites: none
0 lecture, 0 lab, 0 clinical, 240 other
Fulfills Core Elements: none

Field Studies in Geology is intended to teach geology in the field through travel. Students will learn the geology and the geologic history of a given locale, read maps, and identify field rocks and fossils. Topics will vary in scope, place, and design. For example, students will learn the geology of the Grand Canyon by rafting through it for one week. Another is a dinosaur trek visiting museums and digging dinosaurs with experts in the west. Students will have a pre-course meeting and post-course assignments. Students are responsible for their own travel expenses.

German

GRM

GRM 111: First Year German I4 credit hours

Prerequisites: none
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This is a beginning and transferable course in German which emphasizes the aural-oral approach. Classroom work and language laboratory sessions assist the student in establishing and perfecting basic conversational tools in the language. Students intending to study German should have a sound, basic background in English grammar and syntax to be able to take and succeed in a foreign language as inflected and analytical as German.

GRM 120: Conversational German2 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This course is conversational in approach and assumes no previous knowledge of the language. It is geared chiefly for persons interested in obtaining a basic knowledge of spoken and written German, as well as an appreciation and awareness of contemporary German culture. German 120 may be taken as a preview for students entering the first year German studies or students already enrolled in the first year course.

GRM 121: Intermediate Conversational German2 credit hours

Prerequisites: GRM 120 or Consent
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This course is a continuation of GRM 120, Conversational German. It emphasizes a conversational approach to the German language and includes instruction in the German culture including shopping, mass media, travel, social interactions, theatre and film. Emphasis is placed on speaking and listening comprehension.

GRM 122: First Year German II4 credit hours

Prerequisites: GRM 111 or Consent
Corequisites: none
45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This is a continuation of GRM 111. Continuing classroom work and language laboratory sessions emphasize the aural-oral approach. Class conversations, short readings, and lab practice also assist students in acquiring facility in the language, as well as informational aspects of the culture.

Graphic Design Technology

GDT

GDT 100: Typography I4 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 11, 18

This is an introduction to evolution/principles of typography with concentration on typeface identification, copyfitting, and layout formulation. Assignments investigate lettering as a design element in graphic design and advertising.

GDT 101: History of Graphic Design3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 13, 20

This course surveys historical and contemporary styles and influences in graphic design through the ages.

GDT 105: Introduction to Mac Graphics™3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This course is an introduction to the fundamental tools and procedures of desktop publishing using Macintosh computers. Students complete tutorial exercises in a laboratory setting using a variety of page layout and graphic applications. This course is recommended for those with little or no computer experience.

GDT 112: Graphic Communication.....4 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 13

This course covers methods in visual communication, ideation, visual perception and problem solving techniques. Exercises explore word-picture-abstract design, visual thinking and communication theories.

GDT 117: Introduction to PageMaker™2 credit hours

Prerequisites: GDT 105, or Basic Macintosh proficiency
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This course is an introduction to the fundamental tools and techniques of the page layout software application Adobe PageMaker.™ Working in a laboratory setting, students are escorted through the basic features of the current version of the software and execute tutorial exercises and industry related projects. This course is a program requirement for the GDT-Design, Illustration and Digital Prepress programs.

GDT 118: PageMaker™ II2 credit hours

Prerequisites: GDT 117 or Consent
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This course is a continuation of skill building in using the page layout software Adobe PageMaker.™ Students are guided through more advanced features of the current software version, completing tutorial exercises and publication production projects. This course is a requirement for GDT-Design, Illustration and Digital Prepress programs.

GDT 125: Introduction to QuarkXPress™.....2 credit hours

Prerequisites: GDT 105 or Basic Macintosh proficiency
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This course is an introduction to the fundamental tools and techniques of the page layout software QuarkXPress.™ Working in a computer laboratory setting, students are escorted through the basic features of the current version of the software, completing tutorial exercises and publication production projects. This course is a requirement in the GDT-Design and Digital Prepress programs.

GDT 126: QuarkXPress™ II2 credit hours

Prerequisites: GDT 125
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This course is a continuation of skill building in using the page layout software QuarkXPress.™ Students are guided through more advanced features of the current software version, completing tutorial exercises and publication production projects. This course is a requirement in the GDT-Design and Digital Prepress programs.

GDT 137: Introduction to Illustrator™

.....2 credit hours
Prerequisites: GDT 105, or Basic Macintosh proficiency
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This course is an introduction to the fundamental tools and techniques of the vector-based drawing software application Adobe Illustrator.™ Working in a laboratory setting, students are escorted through the basic features of the current version of the software and execute tutorial exercises and industry related projects. This course is a requirement for the GDT-Design, GDT-Illustration and Digital Prepress programs.

GDT 138: Illustrator™ II2 credit hours

Prerequisites: GDT 137 or Consent
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This course is a continuation of skill building using the vector-based drawing software application Adobe Illustrator.™ Students are guided through the more advanced features of the current software version, completing tutorial exercises and vector drawing projects. This course is a requirement for the GDT-Design, GDT-Illustration, and Digital Prepress programs.

GDT 141: Introduction to Photoshop™2 credit hours

Prerequisites: GDT 105, or Basic Macintosh proficiency
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 18

This is an introduction to the fundamental tools and techniques of the image-editing software Adobe PhotoShop.™ Students are guided through the basic features of the current version of the software, completing tutorial exercises and image retouching/editing projects. This course is a requirement in the GDT-Design, GDT-Illustration, and Digital Prepress programs.

GDT 142: Intermediate Photoshop™2 credit hours

Prerequisites: GDT 141 or Consent
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 18

This course is a continuation of skill building using the image-editing software Adobe PhotoShop.™ Students are guided through more advanced features of the current software version using tutorial exercises and completing faster imaging projects. This course is a requirement in the GDT-Design, GDT-Illustration, and Digital Prepress programs.

GDT 150: Design for the Internet4 credit hours

Prerequisites: GDT 142 or PHO 127
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides a thorough introduction to the process of designing and constructing web sites. Students will complete exercises and projects using current industry standard web authoring and image editing software. Students will use graphic design principles and methodologies to construct a web site and post it on the World Wide Web. Knowledge of vector drawing software is recommended.

GDT 174: GDT Co-op Education I1-3 credit hours

Prerequisites: 1st semester courses, Consent
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

Students are placed in approved industrial work experience to gain skills and knowledge offered by the employer. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

GDT 201: Graphic Illustration4 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

Traditional drawing methods and materials using a variety of media, help communicate a visual concept. The use of computers and software helps develop the concepts of 3 dimensional visualization for illustrators and designers. Computer models and physical scale models are created. A computer generated walk-through animation is part of the coursework that utilizes Macintosh computers and software. This course is required for illustration Majors and is a recommended approved elective for Design Majors. Students will need to purchase art supplies and a computer disk.

GDT 214: Advanced Photoshop™3 credit hours

Prerequisites: GDT 142 or PHO 127 or Consent
Corequisites: none
 40 lecture, 20 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 18

This course covers advanced features and uses of the image-setting software Adobe Photoshop.™ Exercises and production projects using the current version of Photoshop™ focus on developing skills and understanding of such topics as getting good scans, color spaces and profiles, tonal image correction, removing color casts, clipping paths, task automation and more. A good basic working knowledge of Photoshop is an essential course prerequisite. This course is an approved elective for Graphic Design Technology majors.

GDT 215: Typography II4 credit hours

Prerequisites: GDT 100 or Consent
Corequisites: none
 30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 8, 11, 18

This course is a continued study into the principles of typography with greater concentration on typographic composition, expressive form, computer applications, and visual communication systems. This course is required for GDT - Design option majors.

GDT 220: Publication Design4 credit hours

Prerequisites: GDT 100, GDT 126, GDT 142
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 9, 11, 18, 19

This is a computer-based design course focusing on layout and design of publications. Students incorporate the use of grids and other methodologies to design and produce a variety of single- and multi-page publications in black and white, spot and process color. This course is required for all GDT-Design majors.

GDT 222: Commercial Illustration4 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 13

Traditional rendering illustration methods and 3D Computer illustration software provide students with the basics used by professional illustrators and designers. Comparative techniques of rendering projects are explored using traditional tools and Macintosh computers. Emphasis is placed on developing a strong portfolio. This course is required for Illustration Majors and is a recommended approved elective for Design Majors. Students provide supplies and computer disk.

GDT 223: Image Assembly2 credit hours

Prerequisites: none
Corequisites: none
15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 18, 19

This course explores pre-press film assembly for single-color and multi-color layout and printing production. In addition, students learn proofing, step-and-repeat systems and platemaking.

GDT 228: Airbrush4 credit hours

Prerequisites: GDT 222 or Consent
Corequisites: none
30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

Traditional airbrush method and 3D computer illustration software provide students with the basics used by professional illustrators and designers. Comparative techniques of rendering projects will be explored using traditional airbrushes, tools and Macintosh computers. Emphasis will be placed on developing a strong portfolio. This course is required for Illustration Majors and is a recommended approved elective for Design Majors. Students will provide airbrush, supplies and computer disk.

GDT 230: Professional Practices4 credit hours

Prerequisites: 48 credits completed in the GDT program
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This class prepares students for seeking employment in graphic design/illustration. Topics covered include graphic design career options/specialties, job hunting skills/techniques, freelancing, resume preparation and portfolio preparation, and includes a professional review of student portfolios. This course should be taken during the final semester prior to graduation.

GDT 236: Specialized Study1-3 credit hours

Prerequisites: Consent
Corequisites: none
0 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This class provides an opportunity for independent study in a particular area of instruction with faculty supervision. This is a course requirement for GDT Design, Illustration and Printing option majors.

GDT 239: Imaging and Illustration.....4 credit hours

Prerequisites: GDT 138, GDT 142
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 11, 19

In this course students create industry related illustrations using vector and raster based software programs. Projects include: charts and graphs, technical renderings, and editorial and promotional illustrations. This is a required course for GDT-Design and GDT-Illustration majors.

GDT 243: 3D Computer Illustration/Rendering4 credit hours

Prerequisites: GDT 105, or Basic Macintosh proficiency
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12

Using Macintosh computers, students sketch in 3D space on 3D surfaces. This course introduces Freeform-Wireframe illustration and design. Students explore the rendering of objects with lighting, shadows, reflections and backgrounds to achieve photo realistic images. This course is required for Illustration Majors and is an approved elective for Design Majors.

GDT 245: Computer-Aided Painting4 credit hours

Prerequisites: GDT 105 or Basic Macintosh proficiency
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12

In this course, students explore the world of digital art where the computer screen is transformed into an electronic canvas offering virtually limitless creative possibilities. Working with traditional themes, hands-on exercises and an array of simulated painting media and surfaces, students produce computer-generated images that have expressive and dynamic characteristics. Proficiency with the Macintosh computer is essential.

GDT 252: Advanced Digital Studio.....4 credit hours

Prerequisites: GDT 126, GDT 138, GDT 142, or Consent
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12, 13, 19

This course offers advanced techniques and applications in computer based imaging and publication design. Topics include design, illustration, and electronic file preparation for offset printing involving integration of several professional graphics software programs. Advanced techniques in software such as Adobe PhotoShop,™ Adobe Illustrator,™ and QuarkXpress™ emphasize creative, real-world applications for graphic design production.

GDT 274: GDT Co-op Education II1-3 credit hours

Prerequisites: Consent
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain further skills from continued experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Health Science

HSC

HSC 100: Basic Nursing Assistant

Skills4 credit hours

Prerequisites: Age 17 or older and Consent
Corequisites: none
 38 lecture, 22 lab, 30 clinical, 0 other
Fulfills Core Elements: none

This course prepares students for employment in hospitals, long-term care facilities or home care as a Nursing Assistant, using classroom, laboratory and clinical methods for learning basic nursing skills.

HSC 101: Healthcare Terminology1 credit hour

Prerequisites: none
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is designed to introduce healthcare professionals to terminology used in the workplace. Lecture material is supplemented by independent student computer assignments.

HSC 115: Medical Office and Laboratory

Procedures.....3 credit hours

Prerequisites: none
Corequisites: none
 37.5 lecture, 22.5 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This course consists of lecture on office examining room procedures, sterile techniques, medical emergencies, specimen collection and minor surgery. Laboratory experience applies course material from the lectures.

HSC 118: General Nutrition2 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 10, 16

This course presents normal nutrition and its relationship to health. It includes a study of the nutrients and nutrition planning guides. It covers energy balance and nutritional needs for physical activity. Nutritional needs throughout the life cycle are studied. Other topics covered include: food safety, food technology and cultural aspects of nutrition. The course meets the Nursing Program requirements and is appropriate for the general student population.

HSC 128: Therapeutic Nutrition1 credit hour

Prerequisites: HSC 118 or LPN
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course combines knowledge and application of nutrition in clinical practice. Various diseases and disorders of organ systems and the use of therapeutic nutrition in alleviating the symptoms of these illnesses are addressed.

HSC 131: CPR/FPR and First Aid1 credit hour

Prerequisites: none
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This course teaches American Red Cross first aid and cardiopulmonary resuscitation for the professional rescuer (CPR/FPR). Students learn adult, child and infant CPR, use of resuscitation masks and how to treat choking emergencies. Additional skills taught include emergency care of sudden illnesses, bleeding, thermal injuries and injuries to muscles, bones and joints. Successful students earn ARC First Aid and CPR/FPR certification cards. This course is graded on a Pass/No Pass grading system.

HSC 131A: Community CPR.....0.5 credit hours

Prerequisites: none
Corequisites: none
 7.5 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This course prepares students to perform adult, child, and infant cardiopulmonary resuscitation (CPR). Information about preventing injury and illness is provided. Students also learn basic care for illness or injury until professional help arrives. Course objectives follow American Red Cross guidelines, and successful students earn the ARC Community CPR card. This course is graded on the Pass/No Pass grading system.

**HSC 131B: CPR/FPR
(for the Professional Rescuer)0.5 credit hours**

Prerequisites: Current CPR/FPR card (1993 guidelines)
Corequisites: none
 7.5 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides the required annual update and skill practice for persons certified in American Red Cross cardiopulmonary resuscitation for the professional rescuer (CPR/FPR). This course is graded on a Pass/No Pass grading system.

HSC 147: Growth and Development4 credit hours

Prerequisites: ENG 111 or ENG 122
Corequisites: ENG 111 or ENG 122
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 2, 15, 16, 21

This course covers the physical, mental, psychological and social growth of the individual from birth to death. The role of the family and theories of death and mourning also are included. This course meets Nursing Program requirements and also is appropriate for the general student population. This course transfers to four-year institutions.

**HSC 180: Simulated Scenarios in
Health Care1 credit hour**

Prerequisites: Consent
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course features the human patient simulator, with which students will learn to evaluate, diagnose and treat patients in various virtual health care scenarios. Teaching and evaluation strategies relevant to the identified content will be discussed and demonstrated.

**HSC 200: Advanced Nursing
Assistant Skills5 credit hours**

Prerequisites: HSC 100 or departmental approval
Corequisites: none
 60 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 16, 18

This course builds on previously learned basic nursing assistant skills in the care of clients/patients/residents in a variety of health care settings. The course focuses on the acquisition of delegated technical skills required in the provision of treatments and procedures to clients/patients with more acute and/or complex health care needs. Emphasis is placed on the regular reporting and communication between the nursing assistant (delegatee) and registered nurse (delegator). This course is graded on the pass/no pass grading system.

HSC 210: Rehabilitation Assistant Skills.....3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course will instruct students in assisting the rehabilitation professional in a hospital, outpatient, or other healthcare setting. It will also assist individuals to prepare for the Certified Personal Training Credentials offered by the National Strength and Conditioning Association (NSCA). Students will be prepared to help in a rehab setting as a patient care assistant. Successful completion of the exam will allow physical training of clients in a home or health care setting.

HSC 220: Pathophysiology4 credit hours

Prerequisites: BIO 111 or LPN
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 16

The focus of this course is the study of disease processes in humans. The course includes identification of the etiology and pathogenesis of disease, alterations in normal body function, and the reaction and adaptation of the body to disease.

**Heating, Ventilation, and
Air Conditioning**

HVA

**HVA 101: Heating, Ventilation, and
Air Conditioning I5 credit hours**

Prerequisites: none
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course introduces the concept of thermodynamics and principles of refrigeration. Major units covered include HVAC mathematics, refrigeration systems, refrigerants, refrigerant tables, refrigerant oils, contaminants, dryers, moisture in the air, food preservation, refrigerant components (i.e. compressors, condensers, cooling towers, evaporators, metering devices, motors and accessories), defrost systems, estimating heat loads and commercial refrigeration systems. An overview of domestic and commercial AC systems and components will be provided from an operation and service perspective.

**HVA 103: Heating, Ventilation, and
Air Conditioning II5 credit hours**

Prerequisites: HVA 101
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is the second course in this series and covers OHM's law, voltage, amperage, and circuitry as applied to HVAC and refrigeration systems. It also introduces AC motors, common control systems and applications, wiring schematics and diagrams for both high and low voltage systems. Basic diagnostic skills are covered.

**HVA 105: Heating, Ventilation, and
Air Conditioning III5 credit hours**

Prerequisites: HVA 101 and HVA 103
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course covers common heating systems including fuels and combustion characteristics, furnaces and furnace components and accessories, burner efficiency, and supply systems. Students use charts to determine heat load and system sizing principles. Control systems are covered and basic diagnostic skills are developed.

**HVA 107: Heating, Ventilation, and
Air Conditioning IV5 credit hours**

Prerequisites: HVA 101, 103, and 105 or Consent
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is the final course in this series that prepares students to successfully enter the HVAC industry as repair personnel, sales personnel, maintenance staff, or apprenticeship. This capstone course provides learning experiences in design, application and servicing techniques for a wide range of refrigeration and HVAC equipments commonly found in domestic and commercial applications. Basic troubleshooting skills are identified and practiced.

History

HST

HST 121: Western Civilization I3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 3, 7, 13, 20, 21, 24

This course analyzes the character and evolution of Western institutions and values from the ancient Near Eastern civilizations through the High Middle Ages.

HST 122: Western Civilization II3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 3, 7, 13, 20, 21, 24

This course investigates the evolution and expansion of Western institutions and values from the breakdown of the medieval synthesis in the early fourteenth century through the Congress of Vienna in 1815.

**HST 123: Western Civilization: Modern World -
1815 to Present3 credit hours**

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 3, 7, 13, 20, 21, 24

This course covers the development, evolution, and expansion of Western institutions, ideas, and values from the Congress of Vienna in 1815 through the nineteenth and twentieth centuries to the present.

HST 150: African American History3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 13, 23

This course examines the history of African-Americans in the United States from 1619 to the present.

HST 160: American Film.....3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 3, 13, 14, 18, 20, 21, 22

The development of American cinema from its beginnings in 1896 to the present is studied. The films, viewed in class, are discussed in terms of technique as well as in terms of content. The course relates American cinema to themes in American culture.

HST 201: United States History to 18773 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 3, 8, 10, 23

This is the first half of the basic, introductory survey of American History. It deals with what happened in the part of North America that became the United States, from just before European contact to the end of the Civil War. Focal points are the interaction of Native, European, and African people, the emergence of political structures and cultural patterns under British colonial rule, the nature and impact of the American Revolution, the economic and social transformation of the United States after the Revolution, the origins and course of the Civil War and the impact of Reconstruction. This course is also taught as a television course using the program series "The American Adventure."

HST 202: United States History Since 18773 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 3, 8, 10, 23

This is the second half of the basic, introductory survey of American history. It examines the United States development into the world's leading economic, political, and military power. Focal points are the era's major political reform movements, the changing nature of American society and culture, the impact of war upon the nation's economy and society, and the increased role played by the United States in world affairs.

HST 215: History of U.S. Foreign Relations3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 23, 24

This course traces the history of U.S. foreign policy from the Revolutionary era to the present. It will address the relationship between the American economic, social, and political systems and the conduct of the nation's foreign policy. The role played by race, economics, ideology, and "national interest" will be assessed. Emphasis will be placed on the conduct of diplomacy immediately before, during, and immediately after periods of military conflict. The conduct of the Cold War will be reviewed in detail.

HST 216: U.S. Military History, Colonial Times to Present3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 3, 8, 10, 23, 24

This course traces the American military from its pre-colonial origins to the present. It addresses the relationship between the American economic and social systems and the nation's military, and addresses the effect of the nation's geography on the mission and organization of the military. Key conflicts such as the American Revolution, the Civil War, the Second World War, and the Vietnam conflict are addressed in detail in an effort to discern if there is a unique "American Way of War."

HST 220: The Civil War Era, 1845-18773 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 1, 2, 3, 8, 10, 23

This course deals with the causes, conduct, and impact of the American Civil War. It focuses on the political, social, economic, and racial background to the conflict, the conduct battles and campaigns, the formulation of strategy, the mobilization of the nations' societies and economies, wartime diplomacy and politics, and the numerous issues surrounding Reconstruction. The course will assess the impact of the war on the nation's society, political system, and economy.

HST 230: History of the Holocaust3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 21, 24

This course investigates the origins, development, and legacies of the Nazi onslaught against the European Jews from 1933 to 1945.

HST 240: The History of the Modern Middle East, 1798-Present3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 10, 14, 21, 24

This course provides an introduction to the history of the modern Middle East from the end of the eighteenth century to the present, focusing on the territories of the Ottoman Empire and its successor states. Major topics and themes will include Ottoman and Islamic institutions, the decline of the Ottoman and Persian empires and the rising influence of European powers; the emergence of Arab nationalism; the origins and development of the Arab-Israeli conflict; the emergence of radical Islamic movements; and contemporary events.

HRM 222: Lodging Marketing and Promotion3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

This course is designed to zero in on both hotel and restaurant marketing. A special emphasis is placed on sales and promotion of the hotel operation dealing with related activities such as banquet sales, convention planning and holiday packages. Official certificate of completion is available from the American Hotel/Motel Association for those students who successfully pass the required exam.

Hotel-Restaurant Management HRM

HRM 104: Front Office Procedures3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 9

The class provides an introduction to a systematic approach to front office operations as well as an overview of the flow of business through the hotel organization. Students complete exercises using front office simulation disks within the computer lab. Official certificate of completion is available from the American Hotel/Motel Association for those students who successfully pass the required exam.

HRM 174: HRM Co-op Education I1-3 credit hours

Prerequisites: 15 program hours
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 240 other
Fulfills Core Elements: none

In this course students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. Students should contact supervising instructor prior to registration. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Human Services Worker HSW

HSW 100: Introduction to Human Services3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 21

This course is an introduction to basic human services work including discussion of the various target populations, the types of professions and careers, social organizations and systems, history and ethics and legal considerations. Self-exploration of values is also included.

HSW 200: Intro to Interviewing and Assessment3 credit hours

Prerequisites: HSW 100
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 3, 7, 8, 9, 10, 21

This course introduces students to basic interviewing skills and to the process of individual needs assessment. These form the basis of developing treatment strategies. Videotaped and/or audiotaped practice are used.

HSW 220: Helping Approaches for Groups3 credit hours

Prerequisites: HSW 100, HSW 200, or Consent
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 21

This course introduces the beginning helper to using groups to promote change. The student learns how to screen candidates for groups, prepare potential members to use the group productively, use basic group techniques, attend to group process, and use specific activities and techniques to achieve desired outcomes.

HSW 230: Field Internship and Seminar I3 credit hours

Prerequisites: HSW 100 and HSW 200, 2.0 GPA in all HSW courses
Corequisites: none
 15 lecture, 0 lab, 180 clinical, 0 other
Fulfills Core Elements: 1, 7, 8, 9

This course integrates students into the working world by having them complete field work in a human service agency. Students have the opportunity to progress from observation, to directly supervised client, to indirectly supervised client contact. The field work is integrated with course work during a one hour per week seminar. Learning objectives are individualized according to the field internship and career goals of each student.

HSW 232: Field Internship and Seminar II3 credit hours

Prerequisites: HSW 100, HSW200, HSW230, 2.0 GPA HSW Consent
Corequisites: HSW 220
 15 lecture, 0 lab, 0 clinical, 180 other
Fulfills Core Elements: 7, 8, 9

This course integrates students into the working world by having them complete field work in a human service agency. Students complete this internship at a different agency from the internship held in HSW 230 or hold a significantly different role in the same agency. The field work is integrated with course work during a one hour per week seminar. Learning objectives are individualized according to the field placement and career goals of each student.

Humanities HUM

HUM 101: Humanities I - Ancient to Medieval Times3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 13, 14

This course explores the human experience in Western Culture expressed in art, literature, drama, music, and philosophy, from ancient times to the High Middle Ages.

HUM 102: Humanities II - Renaissance to Modern Times3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 13, 14

This course explores the human experience in Western Culture expressed in art, literature, drama, music, and philosophy, from the Renaissance to the present.

HUM 140: Special Topics3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 2, 7, 10, 13, 14

Courses offered in this Special Topics series will provide a unique opportunity for alternative learning. Field work (trips to local museums), research projects, classroom discussions, slide lectures, and videos will be utilized to gather a wealth of materials which will allow a comprehensive understanding of a specific culture. Areas of study include the arts and architecture, religions, ways of life and thinking, cultural traditions and achievements and their implications for our contemporary world.

HUM 145: Comparative Religions3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 14, 24

This course will examine the basic beliefs and practices of a variety of Eastern and Western religious traditions. During this examination, the similarities and differences between these traditions will be explored, as will the role of religious practice in society and the lives of human beings.

HUM 150: International Cinema3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14

This course provides a survey of important foreign films and film makers (primarily, though not exclusively, European). The films viewed in class are discussed in terms of film techniques as well as in terms of content. No foreign language ability is assumed.

HUM 160: American Film3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 3, 13, 14, 18, 20, 21, 22

The development of American cinema from its beginnings in 1896 to the present is studied. The films, viewed in class, are discussed in terms of technique as well as in terms of content. The course relates American cinema to themes in American culture.

HUM 170: Montreal World Film Festival2 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This brief course is held at the Montreal World Film Festival in late August. Students travel to Montreal to attend screenings of films at the World Film Festival. The course appeals to those with an interest in film or in cross-cultural travel as it offers both intensive film-viewing and an introduction to the largest French-speaking community in North America. The course fee covers round trip train fare from Windsor, dormitory accommodations in Montreal, passes to ten Festival films and the Festival program guide. Orientation sessions are held both on campus and in Montreal.

Industrial Drafting and Design IDD

IDD 111: Drafting Standards and Conventions3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course takes a look at all engineering drawings used in an industrial setting. Specifically you will learn how to read, sketch, and use various types of engineering documentation. Students will review and sketch machine drawings, sheet metal layouts, cast and forged drawings, hydraulic and pneumatic schematics, industrial-based electrical schematics and diagrams, piping layouts and schematics, welding and fabrication drawings. Students will learn the national drafting standards as it applies to each discipline and apply any related mathematics as required on the drawing. This course was previously IND 108.

IDD 113: Theory of Dies2 credit hours

Prerequisites: CAD 113
Corequisites: none
30 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is a survey course designed to introduce the students to four major types of dies and their design components. This course was previously IND 212.

IDD 211: Theory of Jigs and Fixtures2 credit hours

Prerequisites: CAD 111, CAD 113, MTT 111, or Apprentice
Corequisites: none
30 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

The design and use of jigs and fixtures for purposes of work-holding and quality control is studied and applied. Emphasis is placed on the students ability to develop a practical design including proper locating and clamping principles for given parts. This course was previously IND 121.

IDD 251: Electrical CAD2 credit hours

Prerequisites: ELE 111, ELE 137, CAD 101
Corequisites: none
15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides the beginning engineering student with an overview of engineering design, based on a "hands-on" experience with a client-centered engineering design project. The project includes: 1) a team-based design project, 2) an introduction to the use of computer tools and lab techniques for a design project, and 3) a survey of engineering disciplines involved with concurrent engineering projects. This course was previously IND 251.

Internet Professional INP

INP 111: Web Searching1 credit hour

Prerequisites: Basic Computer Skills
Corequisites: none
15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This web searching course focuses on basic and intermediate research using the World Wide Web. Students learn to search various search engines, subject directories, electronic databases, and fee-based sites using basic and advanced search features, and common Internet functions including the web, web browsers, and listserves. In addition, the course includes searching for images on the web, generating a works cited list, attaching a file to e-mail, creating bookmarks, and application of copyright law.

INP 143: Imaging for the Web3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This course is an introduction to the fundamentals, tools and techniques of web imaging and web design software applications. Students will gain an in-depth understanding of imaging for the web including creating and manipulating images, and optimizing images for the web. Industry-standard software applications for web design will be used in a computer-based classroom. This course was previously GDT 143

INP 159: Internet I1 credit hour

Prerequisites: none
Corequisites: none
15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12

In this course students will become familiar with using the Internet, including electronic mail, browsing and searching the World Wide Web. Students will learn the finer points of "net etiquette" and understanding Internet addresses. Students will discover how copyright law applies to use of the Internet and will discover options on how to connect to the Internet from home or a small business. Basic competence with Windows computers is required; CIS 100 or CIS 110 are recommended.

INP 160: Internet II2 credit hours

Prerequisites: INP 159 or passing score on Internet Placement examination
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 10, 11

In this course, students will learn about the Internet and its history, core functions and components, standard approval processes, domain names and IP addresses. Students will analyze and validate Web sites, use browser options and plug-ins effectively, become acquainted with newsgroups, chat, ftp, and telnet, and explore options for organizations to connect to the Internet. Students will also understand HTML, its strengths and weaknesses, how to use email attachments, and understanding their types and limitations. This course was previously CIS 160.

INP 165: Basic HTML.....2 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is an introduction to Hypertext Markup Language. Students will create web pages using a text editor and publish them on a server using an FTP program. This course was previously CIS 165.

INP 174: Internet Professional Co-op I.....1-3 credit hours

Prerequisites: Consent, 2 core and 2 specialty option courses
Corequisites: none
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

Co-op courses provide the student with worksite skills and experience in an approved, compensated position related to their chosen field of study. Together with an instructor, an employer, and the Workplace Learning Center, the student determines work assignments and learning objectives to connect classroom learning with career-related work experience. Registration for a cooper-

ative education course requires attendance at a Co-op Orientation and a faculty co-op advisor's approval. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

INP 200: Web Site Fundamentals3 credit hours

Prerequisites: INP 160 and INP 165
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course students will learn to plan for, research, and prepare usable content and imagery for web sites. Using the latest, industry software, students will design, construct and publish several small web sites. Instruction includes basic concepts for developing a site from scratch. Students will gain critical thinking skills related to web site design, navigation, usability and architecture. This course was previously GDT 200.

INP 230: Advanced Web I3 credit hours

Prerequisites: INP 200, INP 165, INP 160
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 9, 11, 19

This is an advanced course in publishing for the world-wide web. The focus is on exploring and incorporating advanced technologies into web sites. Topics range from technical to design, including creating advanced tables, frames, and style sheets, utilizing interactive forms and scripts, using JavaScript® to create effective rollovers, and discussing and evaluating new emerging web technologies. The latest, industry-standard software for creating and publishing web sites will be used.

INP 240: Advanced Imaging for the Web.....3 credit hours

Prerequisites: INP 143 and INP 200
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This advanced course is an in-depth exploration into creating effective and attractive web site designs. Students learn advanced imaging techniques for the web, with a focus on user interface and navigation design. Industry-standard software applications for web design will be used in a computer-based classroom.

INP 250: Audio and Video for the Web3 credit hours

Prerequisites: INP 160, INP 165, INP 200
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course focuses on incorporating audio and video into web sites. Topics covered include studying the following concepts as they relate to the web: Capturing audio and video properly, editing audio and video with the latest industry software, compression codes required for optimization, and publishing compressed audio and video. The latest industry-standard hardware and software for manipulating, compressing and publishing audio and video for the web will be used.

INP 255: Animation on the Web3 credit hours

Prerequisites: INP 143, INP 160, and INP 165
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 13

This course introduces students to effective use of animation for the web. Students will learn a brief history of animation and how animation has become a growing trend in presenting information on the web. The class will use Macromedia Flash 4 as the main tool to create web animations in the exercises, but many other forms of animation and software used on the web will also be explored and discussed. Students will learn when and why animation is used as well as when it should be avoided or minimized. Students will gain an understanding of all aspects of animating for the web from concept, to storyboarding, to final production and implementation. In learning the animation process, they will gain a working knowledge of Flash as a design, animation, and drawing tool for web design. Students will also gain valuable experience using the web to research further information on Flash animation techniques, as well as how to use the web as a resource tool to gain further animation knowledge, skills and inspiration.

INP 260: Advanced Web II3 credit hours

Prerequisites: INP 230
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is a seminar/portfolio course focusing on creating comprehensive, interactive web sites. Students will work individually and in groups to create advanced, interactive web sites for specified clients. Topics covered include creating a professional portfolio, critiquing student work, and monitoring and managing a web site.

INP 274: Internet Professional Co-op II.....1-3 credit hours

Prerequisites: Consent and INP 174
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

Co-op courses provide the student with worksite skills and experience in an approved, compensated position related to their chosen field of study. Together with an instructor, an employer, and the Workplace Learning Center, the student determines work assignments and learning objectives to connect classroom learning with career-related work experience. Registration for a cooperative education course requires attendance at a Co-op Orientation and a faculty co-op advisor's approval. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

INP 283: Databases and the Web3 credit hours

Prerequisites: CIS 265
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Students will learn to distinguish different types of databases and the software available to create them. They will learn the principles of relational databases, and how databases are connected to the World Wide Web. Students will create both simple and relational databases using industry-standard software, put the database on a Web server, and create the HTML code and scripts to link the database to the Web user.

INP 287: Web Server Security3 credit hours

Prerequisites: CIS 286
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Students learn how to set up and maintain secure servers. Topics include ecommerce objectives, firewalls, passwords, and other security issues for the Web. This course was previously CIS 287.

Machine Tool Technology MTT

MTT 100: Machine Shop Theory4 credit hours

Prerequisites: none
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 18, 19

The purpose of this class is to obtain a general scope of the machine tool industry and manufacture of parts using metal removal techniques. This class is designed to supplement Machine Tool Theory and Practice. The theory, set-up, and operation of basic machine tools is presented.

Major units include precision measurement, cutting tools, and speeds and feeds for various operations. Lecture will be supplemented with demonstrations in the machine tool laboratory.

MTT 103: Introduction to Materials.....3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 18

This course includes an introduction to the basic terms, processes and structures of materials. Hardness testing, classification systems and demonstrations of testing equipment are studied. Principles of heat treatments are studied and demonstrated.

MTT 111: Machine Shop Theory and Practice5 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 75 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 18, 19

This course provides an introduction to machine tool operation. Much emphasis will be placed on shop safety. Other topics that will be covered include measurement, blueprint reading, tool grinding, layout, and hand tools. In addition to the above, students will gain valuable "hands-on" experience learning basic operations on the sawing machines, drill presses, engine lathes, millin machines, and grinding machines.

MTT 174: MTT Co-op Education I1-3 credit hours

Prerequisites: MTT 111, MTT 202, Consent
Corequisites: none
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

Students are placed in an approved work experience to gain skills and knowledge offered by the employer. Together with the instructor and the employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experiences. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

MTT 202: Machine Tool Operations and Set-Up I4 credit hours

Prerequisites: MTT 111 or Permission
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 18, 19

This course is a continuation of MTT 111. More advanced techniques of measurement, blueprint reading, and tool grinding will be covered. In addition, the students will be introduced to the study of materials and the use of indicators. Also, machine accessories and special attachments/

operations are covered for each of the machine tools. The student's "hands-on" experience will include external and internal threading, surface grinding, E.D.M. machining, and producing a spur gear. This course was previously MTT 122.

MTT 203: Machine Tool Operations and Set-Up II4 credit hours

Prerequisites: MTT 202 or consent
Corequisites: none
0 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 18, 19

This course is a continuation of MTT 122. The study of materials will be more advanced along with the techniques of measurement and blueprint reading. The technology of metal cutting, dimensional metrology, and special processes will also be introduced. The student's "hands-on" experience will include multiple lead threading, external grinding, E.D.M. machining, using the C.M.M., and producing a helical gear. This course was previously MTT 123.

MTT 210: Machine Tool Technology4 credit hours

Prerequisites: MTT 203 or consent
Corequisites: none
0 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 18, 19

This course is a continuation of MTT 123. It is also the last and most advanced machine tool technology course. Therefore, the most advanced information on materials, blueprint reading, measurement, metal cutting technology, and special processes will be covered. Along with that, the student will prepare a resume that will include his/her newly acquired proficiencies and well thought-out goals. The student's "hands-on" experience will include acme threading, internal grinding, E.D.M. machining, using the C.M.M., and producing a pair of bevel gears. This course was previously MTT 201.

MTT 274: MTT Co-op Education II1-3 credit hours

Prerequisites: MTT 174, Consent
Corequisites: MTT 174
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

Students are placed in an approved work experience to gain skills and knowledge offered by the employer. Together with the instructor and the employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experiences. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Mathematics

MTH

MTH 010: Arithmetic3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is for students having difficulty with arithmetic. Topics include whole numbers, common fractions, decimal fractions, percents, and applications of arithmetic. Hand calculations are emphasized, however, work with calculators and computers is included. The course is offered only in an individualized format using a Satisfactory/Unsatisfactory grading system. This course may not be repeated for additional credit. Students are required to supply their own handheld calculators.

MTH 011: Solving Equations3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is for students having difficulty solving mathematical equations. Topics include: properties of real numbers, signed numbers, simplifying algebraic expressions, and solving simple equations. Work with computers is used to enhance the understanding of these concepts. The course is offered only in an individualized format using a Satisfactory/Unsatisfactory grading system. This course may not be repeated for additional credit. Students are required to supply their own handheld calculators.

MTH 012: Geometric Figures3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is for students needing to improve their skills with mathematics relates to basic geometric figures. Topics covered include: points, lines, rays, segments, descriptions of geometric figures, polygons, circles, perimeter, solids, area, and volumes. Work with computers is used to enhance the understanding of some of these concepts. This course is offered only in an individualized format using a Satisfactory/Unsatisfactory grading system. This course may not be repeated for additional credit. Students are required to supply their own handheld calculator.

MTH 013: Graphs and Elementary

Statistics3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is for students needing to improve their Graphing and Statistical skills. Topics covered include: ratio and proportions, circle graphs, bar graphs, mean mode median, and tabulation data. Work with computers is used to enhance the understanding of some of these concepts. The course is offered only in an individualized format using a Satisfactory/Unsatisfactory grading system. This course may not be repeated for additional credit. Students are required to supply their own handheld calculators.

MTH 014: Interest and Taxes3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is for students needing to improve the application of mathematical skills to practical business situations. Topics covered include: use of formulas, simple and compound interest, notes, loans, installment contracts, taxes, and payroll. Work with computers is used to enhance the understanding of some of these concepts. The course is offered only in an individualized format using a Satisfactory/Unsatisfactory grading system. This course may not be repeated for additional credit. Students are required to supply their own handheld calculator.

MTH 016: Right Triangles3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is for students needing to develop or improve mathematical skills in working with right triangles. Topics covered include: the similar triangle theorem, trigonometric ratios, and the solution of right triangles. Work with computers is used to enhance the understanding of some of these concepts. The course is offered only in an individualized format using a Satisfactory/Unsatisfactory grading system. This course may not be repeated for additional credit. Students are required to supply their own handheld calculators.

MTH 039: Basic Mathematics3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course is a review of the basic arithmetic operations common in every-day situations. Topics covered include whole numbers, fractions, decimals, and percents. This course is offered both in a self-paced format and the standard lecture format. The lecture course includes an additional hour of computation guided by the instructor. Grading uses the satisfactory/unsatisfactory system.

MTH 054: Basic Math for Health Students3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

A study of whole numbers, fractions, decimals, and percentages with mental arithmetic and estimation development. Accuracy and speed of calculations are emphasized with timed tests. Ratio and proportion with applications to health are emphasized. This course is taught with a self-paced mode of instruction designed for students preparing for nursing and pharmacology courses.

MTH 062: Prealgebra3 credit hours

Prerequisites: MTH 039 or Equivalent or consent
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

Prealgebra begins with a review of arithmetic including story problems. Topics include properties of whole numbers, signed numbers, variables, expressions, and equations.

MTH 090: Occupational Mathematics3 credit hours

Prerequisites: MTH 062 or Equivalent or consent
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 4, 5, 6, 7, 9

This course provides the computational skills needed to solve problems commonly encountered in various general occupational fields. Students with an interest in business should consider MTH 163, Business Mathematics. Students with an interest in health fields should consider MTH 165, Health Science Mathematics. Topics covered include: arithmetic review, sets, whole and integer number systems, practical algebra, geometry, measurements, the metric system, ratio and proportion problems, graphs, and statistics. This course is offered in a self-paced format and occasionally in the standard lecture format.

MTH 097: Introductory Algebra4 credit hours

Prerequisites: MTH 062, or MTH 090, or Equivalent, or Consent
 Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 4, 5, 7, 9

The scope and content of this course is equivalent to a first-year high school algebra course. Topics include: the real number system, algebraic operations, solving equations, practical applications, inequalities, graphing, systems of equations, polynomial and rational expressions, roots and radicals, and quadratic equations. This is a standard lecture format course. The content of this course is offered in the self-paced format as MTH 097A and MTH 097B.

MTH 097A: Introductory Algebra (first half)3 credit hours

Prerequisites: MTH 062, or MTH 090, or Equivalent, or Consent
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 4, 5, 7, 9

This course is the first half of MTH 097. Topics include the rational number system, algebraic operations, solving equations, ratio and proportion, and practical applications. This course is offered only in the self-paced format.

MTH 097B: Introductory Algebra (second half).....3 credit hours

Prerequisites: MTH 097A
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 4, 5, 7, 9

This course is the second half of MTH 097. Topics include inequalities, graphing, systems of equations, polynomials, rational expressions, roots and radicals, the real number system, and quadratic equations. This course is offered only in the self-paced format.

MTH 107: Triangle Trigonometry.....3 credit hours

Prerequisites: MTH 097
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 4, 5, 7, 8, 9

This course is an introduction to the trigonometric concepts of the triangle. Topics covered include triangles and the basic trigonometric ratios, solving right triangles, laws of sines and cosines, trigonometric ratios of any angle, degrees and radians, and vectors. This course is currently offered only in the self-paced format. Students with very limited math experience may wish to take this course in preparation for MTH 178. This course was formerly MTH 177.

MTH 148: Functional Mathematics for Elementary School Teachers I4 credit hours

Prerequisites: MTH 097

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 4, 5, 7, 8, 9

This course is the first of a two-semester sequence presenting the mathematical concepts and problem solving techniques necessary for success in a teaching career at the elementary school level. It is not a course solely for teachers of mathematics; rather, it provides the general mathematical background for teachers on all subjects. Topics covered include problem solving, sets, functions, numeration systems, number theory and number systems, applications, and an introduction to probability. This course transfers to some four-year institutions.

MTH 149: Functional Mathematics for Elementary School Teachers II4 credit hours

Prerequisites: MTH 148

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 4, 5, 6, 7, 8, 9

This course is the second of a two-semester sequence presenting the mathematical concepts and problem solving techniques necessary for success in a teaching career at the elementary school level. It is not a course solely for teachers of mathematics; rather, it provides the general mathematical background for teachers of all subjects. Topics covered include probability, an introduction to statistics, introductory geometry, congruence and similarity, and measurement concepts.

MTH 151: Technical Algebra4 credit hours

Prerequisites: MTH 039

Corequisites: none

75 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 4, 5, 6, 7, 8, 9

This course introduces algebraic and geometric concepts in an applied setting and is primarily for trade and technical students. Topics, which emphasize applications, include: mean, median, mode, percents, ratio and proportion, operating with algebraic expressions, formulas and equations, area, volume, and right triangle trigonometry. This course is offered in both a self-pace format and the standard lecture format.

MTH 152: Technical Geometry and Trigonometry.....4 credit hours

Prerequisites: MTH 097 or MTH 151

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 4, 5, 7, 8, 9

This course provides students with the geometric and trigonometric concepts needed to solve problems commonly encountered in technical and trade fields. Topics, which emphasize applications, include basic theorems of geometry, formulas for areas and volumes, trigonometric functions, solutions of right triangles, laws of sines and cosines, and the solution of oblique triangles. This course is offered in both a self-paced format and the standard lecture format.

MTH 160: Basic Statistics4 credit hours

Prerequisites: MTH 097

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 4, 5, 6, 7, 8, 9, 10

This course provides students with a general understanding of statistical concepts dealing with the processing and interpretation of numerical information. Topics covered include describing a numerical data set, central tendency, variability, probability distributions, inference, and hypothesis testing. This course transfers to many four-year institutions. A graphing calculator is required for this course. Consult the time schedule for current brand and model.

MTH 163: Business Mathematics3 credit hours

Prerequisites: MTH 039

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 4, 5, 6, 7, 9

This course provides the mathematical skills needed to solve business application problems and satisfies the math requirements of several one- and two-year WCC business programs. The topics, which emphasize business applications, include operations with whole numbers, fractions, decimals, and percents; measurement or computer mathematics; the metric system; signed numbers; solving equations; ratio and proportion; percent applications; circle, bar, and line graphs; savings and loans; taxes and payroll; and an introduction to statistics. This course is offered in a self-paced format, occasionally in the standard lecture format, and as a television course using the program series "By the Numbers."

MTH 165: Health Science Mathematics3 credit hours
Prerequisites: MTH 039
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 7, 9

This course provides the mathematical skills needed to solve problems encountered in health-related fields, and satisfies the math requirements of several one- and two-year WCC occupational programs. The topics, which emphasize health science applications, include basic mathematics; operations with percents; fractions and decimals; geometry; the metric system; the apothecary and household systems; signed numbers; solving equations; ratio and proportion; instrumentation; circle, bar, and line graphs; an introduction to statistics; and exponents and logarithms. This course is currently offered only in the self-paced format.

MTH 169: Intermediate Algebra4 credit hours
Prerequisites: MTH 097
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 7, 8, 9

The scope and content of this course is equivalent to a second-year high school algebra course. Topics include: descriptive statistics, the real number system, polynomials, linear equations, inequalities, absolute value, radicals and exponents, complex numbers, quadratic equations and inequalities, linear and quadratic functions, inverse functions, lines and linear systems, non-linear systems, systems of inequalities and determinants. This course is offered in the standard lecture format. The content of this course is offered in the self-paced format as MTH 169A and MTH 169B. This course transfers to some four-year institutions.

MTH 169A: Intermediate Algebra (first half)3 credit hours
Prerequisites: MTH 097
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 7, 8, 9

This course is the first half of MTH 169. Topics include descriptive statistics, the real number system, polynomials, linear equations, inequalities and absolute value. This course is offered only in the self-paced format. The combination of MTH 169A and MTH 169B transfers to some four-year institutions as MTH 169.

MTH 169B: Intermediate Algebra (second half)3 credit hours
Prerequisites: MTH 169A
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 8, 9

This course is the second half of MTH 169. Topics include radicals and exponents, complex numbers, quadratic equations and inequalities, linear and quadratic functions, inverse functions, lines and linear systems, non-linear systems, systems of inequalities, and determinants. This course is offered only in the self-paced format. The combination of MTH 169A and MTH 169B transfers to some four-year institutions as MTH 169.

MTH 176: College Algebra4 credit hours
Prerequisites: MTH 169 or Equivalent
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 7, 8, 9

This course may serve as a terminal college algebra course or, together with MTH 178, provides the necessary background for calculus. Topics include: descriptive statistics, properties of real numbers, relations and functions, graphs, rational and non-rational functions, exponential and logarithmic functions, inverses, conic sections, sequences and series, and the binomial theorem. It transfers to most four-year institutions. A graphing calculator is required for this course. Consult the time schedule for the current brand and model. This course was formerly MTH 179.

MTH 178: General Trigonometry3 credit hours
Prerequisites: MTH 169 or Equivalent
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 8, 9

This course provides a rigorous background in trigonometry necessary for students intending to study calculus. Topics include trigonometric functions, inverse trigonometric functions, trigonometric graphs and manipulations, identities, solutions of trigonometric equations, measurement of triangles and arc. This course transfers to many four-year institutions. A graphing calculator is required for this course. Consult the time schedule for current brand and model. (It is recommended that MTH 176 be taken before MTH 178, however, it also may be taken concurrently.)

MTH 180: Precalculus with Trigonometry.....5 credit hours
Prerequisites: MTH 169 or Equivalent Trigonometry functions background
Corequisites: none
75 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 7, 8, 9

This course provides the necessary background in college-level algebra and trigonometry for calculus for those with a previous background in the study of trigonometric functions. Those without a trigonometry background should elect MTH 176 and MTH 178 instead. Topics include descriptive statistics, properties of real numbers, relations and functions, graphs, rational and non-rational functions, exponential and logarithmic functions, trigonometric functions, inverses, conic sections, sequences and series, and the binomial theorem. This course transfers to most four-year institutions. A graphing calculator is required for this course. Consult the time schedule for the current brand and model.

MTH 181: Mathematical Analysis I4 credit hours
Prerequisites: MTH 169 or Equivalent
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 7, 8, 9

This course teaches the methods and applications of finite mathematics applied to social science and business. Topics covered include solution to linear equations and inequalities, mathematics of finance, matrices, linear programming, sets, probability and statistics. This course transfers to many four-year institutions. A graphing calculator is required for this course. Consult the time schedule for current brand and model.

MTH 182: Mathematical Analysis II.....4 credit hours
Prerequisites: MTH 176 or MTH 181
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 8, 9

This course teaches the elementary methods of calculus applied to social science and business. Topics covered include functions, differentiation of algebraic functions, optimization, exponential functions and logarithmic functions and their derivatives, integration, selected applications, and an introduction to multivariate calculus. Some four year institutions accept this course as the calculus requirement of certain of their business and social science programs. A graphing calculator is required for this course. Consult the time schedule for current brand and model.

MTH 191: Calculus I5 credit hours
Prerequisites: (MTH 176 and MTH 178) or MTH 180
Corequisites: none
75 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 7, 8, 9

This is first-semester college calculus of one variable. Topics include limits, continuity, derivatives, applications of derivatives, elementary integration, and applications of integration. This course transfers to four-year institutions. A graphing calculator is required for this course. Consult the time schedule for current brand and model.

MTH 192: Calculus II.....4 credit hours
Prerequisites: MTH 191
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 8, 9

This is second-semester college calculus of one variable. Topics include the calculus of transcendental functions, techniques of integration, indeterminate forms and improper integrals, sequences and series, parametric equations and polar coordinates. This course transfers to four-year institutions. A graphing calculator is required for this course. Consult the time schedule for current brand and model.

MTH 197: Linear Algebra4 credit hours
Prerequisites: MTH 191
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 8, 9

This is an introductory college course in linear algebra. Topics include linear systems of equations, properties of vectors and matrices, determinants, vector spaces, linear transformations, eigenvalues, and applications. This course transfers to four-year institutions. A graphing calculator is required for this course. Consult the time schedule for current brand and model.

MTH 293: Calculus III4 credit hours
Prerequisites: MTH 192
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 8, 9

This is the third-semester college calculus of more than one variable. Topics include geometry in the plane and in space, vector-valued functions, partial derivatives, multiple integrals, and an introduction to vector calculus. This course transfers to four-year institutions. A graphing calculator is required for this course. Consult the time schedule for current brand and model.

MTH 295: Differential Equations4 credit hours
Prerequisites: MTH 197, MTH 293
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 8, 9

This is a first college course in elementary differential equations. Topics include techniques for solving ordinary differential equations of order one, techniques for solving linear equations, applications, the Laplace transform, and solving linear systems of equations using eigenvalues. This course transfers to four-year institutions. A graphing calculator is required for this course. Consult the time schedule for current brand and model.

**Mechanical Engineering
 Technology**

MET

MET 100: Presentation and Computer Aided Drawing4 credit hours
Prerequisites: MTH 152, or Equivalent, or Consent
Corequisites: none
30 lecture, 90 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is designed to increase the student's competence in using presentation and drawing tools. The principles and applications of computer-aided drafting systems and familiarity with presentation of technical information are emphasized. Use of interactive graphic software, development of input and output skills, and familiarity with software, languages and CAD systems hierarchy are covered. The student is also introduced to three-axis creation of parts and the drafting of auxiliary views, details, assemblies, and solid models. Also covered are AutoCAD, CADKEY, and Microsoft Office software.

MET 110: Statics3 credit hours
Prerequisites: Consent
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course represents an introductory, analytical, and practical approach to the principles and physical concepts of statics as they apply to timber construction. The emphasis is on the mastery of basic principles. AutoCAD r14 will be featured as a practical approach to problem solving.

MET 174: MET Co-op Education I1-3 credit hours
Prerequisites: 1st semester courses, Consent
Corequisites: none
0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

MET 188: Introduction to Engineering Design3 credit hours
Prerequisites: MET 100 or Consent
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides the beginning engineering student with an overview of engineering design, based on a "hands-on" experience with a client-centered engineering design project. Included is a team-based design project, an introduction to the use of computer tools and lab techniques, and a survey of engineering disciplines involved with concurrent engineering projects.

MET 211: Statics and Introduction to Solid Mechanics3 credit hours
Prerequisites: MTH 191, or Equivalent, MTT 103, MET 100
Corequisites: MTH 191
30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 18

This course is an analytical and graphical study of the principles of statics including equilibrium and static equivalence. Also covered is determination of moment and force resultants in members, centroids, and moments of inertia. The course focuses on applications to engineering problems and the introduction to concepts of stress-strain relationships and generalized Hooke's law.

MET 221: Computer Aided Mechanical Design3 credit hours
Prerequisites: MET 100 or Permission of instructor
Corequisites: none
30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course examines the principles of parametric and feature based three dimensional CAD models, including the application of creating assemblies, creating drawings and good design practices. Agile design models are created using Pro/Engineer software.

COURSE DESCRIPTIONS

MET 239: Design of Machine Components3 credit hours
Prerequisites: MTH 192, PHY 211, MET 260
 or Permission of instructor
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course students learn the methods of designing the common machine components applying the principles of mechanics of materials and other engineering sciences. The focus is on the safety, reliability and cost effective issues with emphasis on obtaining computer aided design criteria. Topics include load analysis and material strength overview, fatigue and failure theories, contact stress mechanics, hydrodynamic lubrication, and methods of design and performance analysis of machine members.

MET 241: Introduction to Dynamics.....3 credit hours
Prerequisites: MET 211 or Consent
Corequisites: none
 30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 18

This course is an analytical and graphic study of the motion of rigid bodies. Vector description of force, position, velocity, and acceleration in fixed and moving reference frames are covered. Also included are kinetics of particles, assemblies of particles and of rigid bodies, energy and momentum concepts, and Euler's equations. Applications to engineering problems with principles of linkages, cams, gears, and displacement, velocity and acceleration analysis of mechanisms are included.

MET 260: Strength of Materials3 credit hours
Prerequisites: MET 241 or Consent
Corequisites: none
 30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 6, 18, 19, 20

In this course, students learn methods for calculation of shear, tensile, and compressive stresses in industrial materials. Topics include energy methods, buckling of columns, bending of beams, shear and torsion. The focus is on design of engineering structures with emphasis on problem solutions techniques, experimental analysis, and computer aided solutions.

MET 274: MET Co-op Education II1-3 credit hours
Prerequisites: MET 174, Consent
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course students gain skills from a new experience in an approved, compensated position in the field of Technology. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related

work experience. This is the second of two possible co-op experiences. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

MET 278: Finite Element Modeling Fundamentals3 credit hours
Prerequisites: MET 100 or Consent
Corequisites: none
 30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides a general introduction to Finite Element Modeling (FEM). The integration of finite element theory, principles, problem formulation, and computer analysis are introduced along with the use of commercially available finite element software. Emphasis is placed on practical modeling methods, understanding FEM and FEA concepts, interpreting results and obtaining realistic solutions. Attention is give throughout to the modeling of engineering problems. Pre and post processing concepts are discussed in conjunction with the HYPERMESH software.

Music

MUS

MUS 103: WCC Community Jazz Orchestra1 credit hour
Prerequisites: none
Corequisites: none
 0 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 7, 13

This course in performance is open to those who desire to read, improvise and perform. An audition is necessary for registration; the course may be repeated for credit up to a maximum of four times.

MUS 105: Basic Combo and Improvisation1 credit hour
Prerequisites: none
Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 13

This is a basic performance skills class for instrumental and vocal solo or small group expression. Students learn basic improvisation and listening skills, how to express their original ideas through the acquisition of chord and scale relationships, and communication and group interaction skills. Students must demonstrate basic competency on their instruments.

MUS 106: Instrumental Combo1 credit hour
 Prerequisites: none
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: 13

The Combo course is designed for the musician with some degree of competency to gain experience and skill in performance and improvisation of different styles of music. This is a performing group which offers concerts in the college community and community-at-large.

MUS 108: Musical Theatre Performance1 credit hour
 Prerequisites: Audition or consent
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: 13

This course provides the experience of participating in a production of a musical or musical revue. Students learn the basic vocal, acting, and dance fundamentals necessary to learning their music, staging and choreography. Students receive experience in working with costumes, sets, lighting, props, and sound in support of their performance.

MUS 135: Chorus.....1 credit hour
 Prerequisites: none
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: 13

A course in performance in a wide variety of choral music. This group is open to all students. It may be repeated for credit up to a maximum of three times.

MUS 136: Gospel Chorus1 credit hour
 Prerequisites: none
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: 13

This course in gospel choral performance is open to all students. It may be repeated up to a maximum of six times.

MUS 140: Music Theory I3 credit hours
 Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 13

This course is designed to give students, prospective teachers and others a foundation in music theory and reading, concepts of rhythm, tonality, music composition, and other techniques, with the aim of developing musical skills and understanding. No musical experience is necessary. Instructional assignments are adapted to student goals.

MUS 142: Music Theory II3 credit hours
 Prerequisites: MUS 140
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 13

This course includes an in-depth study of melodic, harmonic and rhythmic aspects of tonal music related to various styles: European, rock, jazz, ballads and the Blues. The course equips students with a theoretical knowledge to extend and cultivate musical understanding and creativity while giving primary emphasis to the harmonic aspects of music.

MUS 143: Music Composition and Arranging2 credit hours
 Prerequisites: MUS 140 or consent
 Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 13

This class is designed to enable students to develop skills and techniques in music composition, orchestration and arranging for all musical mediums.

MUS 146: Songwriting and Creative Improvisation3 credit hours
 Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 13

For the prospective song writer, this class deals with lyric writing and musical accompaniment. Students collaborate using their talents to produce songs and also become acquainted with musical styles through recordings and demonstrations. Music industry procedures concerning how to get a song published and recorded is discussed. Other areas of study include recording, the recording studio, record pressing and copyright procedures.

MUS 147: Entertainment Law2 credit hours
 Prerequisites: none
 Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7, 8, 22

This is a music course for the serious music student and professional musician covering basic agreements, contracts, royalties, copyrights and other legal aspects in the music industry.

MUS 149: Ear Training2 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

This course provides an approach to listening to and reading music designed to develop composing and listening skills. It also offers an introduction in training the ear to identify intervals, chords, scales and chord progressions.

MUS 157: Jazz Improvisation2 credit hours

Prerequisites: MUS 105 or consent
Corequisites: none
 32 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 13

This course in jazz theory provides students with techniques of melody, harmony and rhythm that would excite spontaneous creativity in the jazz style.

MUS 170: Computer Applications in Music ..3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 11, 18

This course uses computer applications to provide basic instruction in the theory of computer-aided composition and sequencing. Terminology and theory in midi, digital audio, keyboard synthesis, and sequencing as are covered. Students will apply themselves to basic assignments in the areas cited above and complete individual and group projects.

MUS 175: Audio Recording

Technology I3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 18

This course is designed to provide students with the fundamentals necessary for a career-oriented study in creative audio recording. Audio-visual and hands-on experience (professional recording studio access) is provided, as is lecture and studio experience on multimedia recording and mixing techniques.

MUS 180: Music Appreciation3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 10, 13, 14, 24

This introduction to music, using innovative techniques on how to listen to music after becoming acquainted with the socio-cultural values of people who produced the many kinds of music of our world. All music styles are covered. Presentations deal with the growth and development of musical forms and different styles through recording, demonstrations, instructor and student generated demonstrations and projects.

MUS 204: Voice I3 credit hours

Prerequisites: none
Corequisites: none
 0 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This course is a beginning course in voice, enabling the student to effectively sing with proper technique as well as perform beginning repertoire in class. The course covers fundamentals of vocal technique, basic anatomy and physiology of the voice, basic music terminology, and exposure to various vocal styles and genres. A significant amount of class time is spent on individual performance in a studio class setting.

MUS 205: Voice II3 credit hours

Prerequisites: none
Corequisites: none
 0 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14

This course is a continuation of MUS 204, providing studies beyond the beginning stage. It focuses more on individual development in terms of technique, repertoire, and performance. The course also further develops the student's knowledge of theory, sightsinging and basic musicianship as they apply to the singer.

MUS 207: Introduction to American

Musical Theatre2 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is an introduction to the uniquely American art form, the Broadway musical. It traces the development of the musical from its roots in operetta, vaudeville and burlesque to the modern-day diversity of today's offerings; it also looks in depth at several musicals from different styles and periods, and provides background and resources for repertoire and song selection.

MUS 209: Musical Theatre Song Performance Seminar1 credit hour
Prerequisites: MUS 204
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This course is a studio/seminar on song performance in the musical theatre genre, and is intended for students with background in voice. Vocal technique, diction, performance techniques, and development of repertoire are emphasized in a studio class setting where students perform frequently in class for each other and receive coaching from the instructor as well as feedback from their classmates. It is suggested that this course be taken the first time in conjunction with DRA 209, Acting for Musical Theatre.

MUS 210: Functional Piano I3 credit hours
Prerequisites: none
Corequisites: none
0 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This class is aimed to give those who wish to learn the fundamentals of playing the piano the ability to read and execute keyboard music harmonically and melodically. The course covers basic musicianship, piano technique fundamentals, elementary keyboard harmony, sight-reading, pedal technique, and keyboard facility for use in support of other music classes. The course also offers an introduction to how the piano works, its development, and composers and pianists in various styles.

MUS 211: Functional Piano II3 credit hours
Prerequisites: none
Corequisites: none
0 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This course is a continuation of MUS 210, providing studies beyond the beginning stage. It focuses more on individual development in terms of technique, expression, and performance, as well as providing further keyboard skills, historical and theoretical background.

MUS 216: Piano: Jazz & Blues2 credit hours
Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This piano course is designed to cover such styles as Blues and jazz techniques. Music theory in terms of scales, scale patterns, diatonic chords, available tensions, triads, seventh chords, improvisation, and some simple voicing techniques is covered. This course is for pianists and other instrumentalists who want to develop their keyboard skills.

MUS 225: Drums: Beginning Jazz/Rock.....2 credit hours
Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

Rudimentary skills in jazz drumming are learned; study includes historical styles such as Swing, Be-Bop, and South American and African rhythms.

MUS 233: Beginning Guitar2 credit hours
Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

Designed for those with limited or no experience playing the guitar, this course teaches basic chords and techniques as well as folk and Blues songs. Class is keyed to students' interests and needs.

MUS 236: Intermediate Guitar2 credit hours
Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This course is for students with a basic knowledge of guitar playing. There are opportunities to learn more advanced techniques as well as learning about song arrangements and theory. Class is keyed to students' interests and needs.

MUS 239: Jazz Guitar2 credit hours
Prerequisites: none
Corequisites: none
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This course will focus on the styling of jazz guitar greats like Wes Montgomery, Kenny Burrell, and Joe Pass. Students will examine Montgomery's chord melody solos, the melodic content of his solos, and the use of playing with octaves. Students will learn the importance of Burrell's dynamics sensitivity, and will gain insight into Pass' playing of chords, walking bass lines, and improvising. Through the use of videotape these guitar masters will be introduced into the classroom.

MUS 275: Audio Recording Technology II3 credit hours

Prerequisites: MUS 175
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 18

This is a career-oriented course for advanced audio technology recording. Students apply basic theory and recording skills to progressive recording of solo instrumental, small group and finally multi-track large ensembles. Students are assigned projects to record both student a professional groups within the college or externally.

MUS 285: Self Management for Working Artists3 credit hours

Prerequisites: 8 Credits of Performing Arts or instructor consent
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 15 other
Fulfills Core Elements: none

This is a career-oriented course for advanced audio technology recording. Students will apply basic theory and recording skills to progressive recording of solo instrumental, small group and finally multi-track large ensembles. Students will be assigned projects to record both student and professional groups within the college or externally.

MUS 290: Special Projects in Music3 credit hours

Prerequisites: Minimum of 4 credits in Music, Completion of MUS 147 or 275 or 285 or Instructor Consent
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 30 other
Fulfills Core Elements: none

This course provides the student with the necessary skills in advanced production and management or recording technology beyond the basic to moderate levels. Each section of this course will be offered with a specific designation of the project or instruction focus such as: concert production and promotion, advanced audio editing, CD and media product development an marketing. This course is designed to provide professional training in music production and recording technology where curriculum does not exist.

Natural Resources

NRS

NRS 110: Seasonal DNR Park Officer

Training8 credit hours
Prerequisites: DNR employment
Corequisites: none
 114 lecture, 12 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is a short course for training Department of Natural Resources Seasonal Parks and Recreation Officers.

NRS 120: DNR Enforcement Officers

Training11 credit hours
Prerequisites: DNR employment and selection
Corequisites: none
 158 lecture, 34 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides training in law enforcement skills for Department of Natural Resources Park and Recreation/Forest Fire Officers. Individuals must be employed by the DNR and designated for this training.

Numerical Control

NCT

NCT 112: Introduction to CNC Machining5 credit hours

Prerequisites: none
Corequisites: none
 52.5 lecture, 67.5 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 18

This course develops proficiency in setup and operation of CNC Machining and Turning Centers. Students master CNC machine tool controls through laboratory experiences and the manufacture of pre-programmed parts. Part holding techniques and alignment are included course material. Process planning, tooling for CNC Machine Tolls and inspection of machined products are included in the course.

NCT 121: Manual Programming and

NC Tool Operation.....5 credit hours
Prerequisites: NCT 112
Corequisites: none
 52.5 lecture, 67.5 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 11, 18, 19

This is the first in a two-course study of manual programming of CNC Machining and Turning Centers. Students experience the entire process of part manufacture by processing working drawings of sample parts, writing and editing of programs, set up and operation of CNC machine tools, and inspection of finished products. Feeds and speeds, fixed cycles, program editing, set up procedures, and tape preparation are major topics presented. Laboratory time is required outside of class time.

NCT 174: NCT Co-op Education I1-3 credit hours**Prerequisites:** NCT 112, NCT 121, NCT 221, Consent**Corequisites:** none**0 lecture, 0 lab, 0 clinical, 120 other****Fulfills Core Elements:** none

Students are placed in an approved industrial work experience to gain skills and knowledge and skills offered by the employer. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

NCT 221: Advanced Manual Programming and NC Tool Operation5 credit hours**Prerequisites:** NCT 112, NCT 121**Corequisites:** none**53 lecture, 68 lab, 0 clinical, 0 other****Fulfills Core Elements:** 4, 5, 7, 8, 9, 11, 18, 19

This is the second of a two-course study of Manual Programming and CNC Machine Tool Operation. Complex cutter path generation, cutter compensation, repetitive programming, multi-quadrant circular interpolation, three axis interpolation, threading, and other advanced programming techniques are practiced. The class format is similar to that of NCT 121.

NCT 236: SURFCAM 2 Axis CNC Programming4 credit hours**Prerequisites:** NCT 112, NCT 121**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 11

Students generate tool paths for milling and turning machines which are CNC controlled, using SURFCAM CAD/CAM software. Part programs are constructed by defining the part geometry and then defining the tooling parameters and the tool path required to manufacture the part using SURFCAM, a "PC" based CAM system. Tool path generation on CAD produced databases are included as part of the class activities. Program editing and transfer of part programs to CNC machine tools from the CAM system also are included. The machining operations are considered to be "2-D machining" applications. Students are provided time outside class to use the CAM hardware and software to complete assignments.

NCT 247: SURFCAM 3 Axis CNC Programming4 credit hours**Prerequisites:** NCT 236**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements:** 9, 11, 12, 18, 19

This course builds upon skills learned in NCT 236. Students learn to create 3-D Wireframe drawings and surfaces using SURFCAM CAD/CAM software. Course concentration is on full 3 and 4 Axis machining of complex surfaces. Transfer of geometric data from CAD systems is included. Students are provided the opportunity to manufacture parts programmed on the CAM workstation. Students are provided access to the NC computer lab outside of class to complete assigned work.

NCT 249: Mastercam CNC Programming4 credit hours**Prerequisites:** NCT 121, NCT 236, or Equivalent**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements:** 9, 11, 12, 18, 19

Students learn to use Mastercam CAD/CAM software to design parts and generate CNC Machine Tool Programs for part manufacture. Students practice the input of geometry as the basis for tool path generation. Both 2-D geometry and 3-D wireframe geometry are practiced. All methods of surface creation are presented and practiced using Mastercam. CNC Machine Tool Programs are created for the manufacture of parts within the software. Drilling, Pocketing and Contour milling are typical 2-D machining applications presented. Students are provided time in the CNC Machine Tool laboratory.

Nursing

NUR

NUR 039: State Board Preparation1 credit hour**Prerequisites:** Consent**Corequisites:** none**15 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course assists Nursing Program graduates in preparing for the State Board of Nursing Examination. Emphasis is placed on reviewing learned materials and on taking a national competitive examination. Grading uses the satisfactory/unsatisfactory system.

NUR 101: Introduction to Nursing1 credit hour

Prerequisites: Admission to Nursing Program
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 2

This is the first course in the nursing sequence. Information which provides a foundation for other nursing courses is introduced. Topics include the roles of nurses, personal philosophy of nursing, an overview of nursing history. The course emphasizes associate degree nursing, the Code of Ethics for Nurses, universal precautions, basic legal issues, and medical terminology.

NUR 102: Fundamentals of Nursing2 credit hours

Prerequisites: 1st Semester Courses
Corequisites: NUR 103
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 16

Theory which provides a foundation for other nursing courses is introduced, including Modeling and Role Modeling and the nursing process. Teaching and learning and the concepts of pain, sleep and cultural issues are included.

NUR 103: Fundamentals of Nursing - Clinical Practice3 credit hours

Prerequisites: 1st Semester Courses, HSC 131, or Equivalent
Corequisites: NUR 102
 0 lecture, 81 lab, 54 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 16

Students will develop skills basic to nursing care in the nursing laboratory. Clinical practice will be in acute and extended care facilities. Emphasis is on assessment skills and implementation of care using standard nursing care plans for commonly encountered nursing diagnoses. The role of the ADN on the health care team is included. This course is graded on a Pass/No Pass grading system.

NUR 104: Nursing of the Older Adult1 credit hour

Prerequisites: Admission to Program
Corequisites: NUR 105
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 10

This course uses the nursing process to promote self care for adults from mid-life to death. It focuses primarily on healthy, non-institutionalized older adults, their accommodations to normal changes, commonly encountered alterations in health maintenance, prevention and screening programs and national and state health systems.

NUR 105: Nursing of the Older Adult - Clinical Practice1 credit hour

Prerequisites: Admission to Program, HSC 131, or Equivalent
Corequisites: NUR 104
 0 lecture, 0 lab, 45 clinical, 0 other
Fulfills Core Elements: 10, 13

Clinical practice in the nursing of the older adult is provided in community settings. Students explore community resources for the support of the older adult. Opportunities are provided for interaction with the healthy older adult to focus on psychosocial, nutritional, and mobility assessment. This course is graded on a Pass/No Pass grading system.

NUR 111: Pharmacology I1 credit hour

Prerequisites: Consent
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 11

Principles of pharmacology are introduced, including drug sources, preparations, classification and legislation. By the end of the course, students must demonstrate proficiency in calculating drug dosages. This course is the basis for continued learning of pharmacology in subsequent nursing courses.

NUR 112: Pharmacology II2 credit hours

Prerequisites: NUR 111 or Equivalent, Consent
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This course builds on principles and concepts learned in NUR 111, Pharmacology I. Students are provided with expanded information on major drug classifications using a body system approach. Discussion is directed at general mechanisms of action, clinical indications for use, common adverse reactions, general nursing implications, and significant drug interactions. Students are exposed to representative drugs of each class that are frequently used in clinical practice.

NUR 123: Acute Care Nursing I.....3 credit hours

Prerequisites: 2nd Semester Courses
Corequisites: NUR 124
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 8

Students are introduced to principles and skills related to the care of clients/patients with problems of fluid and electrolyte balance, gas transport, inflammation and the immune responses and disorders. Using the nursing process as a framework, students learn preoperative, intraoperative and postoperative nursing care. Various nursing approaches which support an individual's adaptation to stressors are examined.

NUR 124: Acute Care Nursing I - Clinical Practice2 credit hours
Prerequisites: 2nd Semester NUR Courses
Corequisites: NUR 123
0 lecture, 0 lab, 90 clinical, 0 other
Fulfills Core Elements: 18

This course builds on and supports skills learned in NUR 103: Fundamentals of Nursing Clinical Practice, and NUR 105: Nursing of the Older Adult Clinical Practice. Students gain increased competence in assessment skills including the integration of diagnostic tests and procedures and their results. Planning individualized nursing care including discharge teaching, based on appropriate nursing diagnoses and collaborative problems will be introduced. This course is graded on a Pass/No Pass grading system.

NUR 131: Nursing of the Childbearing Family.....3 credit hours
Prerequisites: 2nd Semester Courses
Corequisites: NUR 132
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 6, 16

This course introduces basic nursing care of the family during the childbearing process, including antepartum, intrapartum, postpartum and normal newborn period. Topics of family structure and adaptation, fertility and infertility, and deviations from the normal maternity and newborn cycle will be addressed.

NUR 132: Nursing of the Childbearing Family - Clinical2 credit hours
Prerequisites: 2nd Semester Courses
Corequisites: NUR 131
0 lecture, 0 lab, 90 clinical, 0 other
Fulfills Core Elements: 7, 8, 9

Students use the nursing process to provide care for families in the childbearing cycle within the hospital setting. Use of family and wellness diagnoses is introduced. Emphasis is on health teaching to assist the family in adapting to parenting and recovery from childbirth. Some experience with high-risk mothers and newborns is provided. This course is graded on Pass/No Pass grading system.

NUR 201: Transition for LPNs.....2 credit hours
Prerequisites: LPN Admission to Advanced Standing in Program, Consent
Corequisites: none
15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is limited to licensed practical nurses. The course content and competencies selected are those required for the first three semesters of the nursing program which are not generally covered in a practical nursing program. Guided laboratory experience will provide

opportunity to demonstrate mastery of psychomotor skills with emphasis on physical assessment and application of the nursing process. Note: The English, Biology and Computer Science requirements in the nursing program must either be taken before or concurrently with NUR 201.

NUR 205: Nursing as a Societal and Interpersonal Profession4 credit hours
Prerequisites: Admission to the NURT program
Corequisites: BIO 237 and PSY 100
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

The purpose of this course is to provide students with a foundation in the scientific and social dimensions of nursing as a discipline and a health profession. Students will examine the historical development of nursing and assess the impact of that development on contemporary nursing. Cultural variables and personal values will be examined by the student. Finally, the social context within which nursing is practiced is reviewed, providing the student with an appreciation of the health care system, with particular emphasis on legal and ethical frameworks.

NUR 222: Health Assessment Throughout the Lifespan4 credit hours
Prerequisites: Departmental approval
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 16

This course provides the beginning knowledge needed to assess the health status of individuals from infancy through old age, including physical, developmental, psychological, cultural and spiritual dimensions. The laboratory experience provides students the opportunity for skill acquisition in history taking, assessment skills, and documentation of findings, focused on the adult client.

NUR 223: Acute Care Nursing II3 credit hours
Prerequisites: 3rd Semester Courses or 1st Semester Advanced Standing in Program
Corequisites: NUR 224
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 9, 16

This course builds on principles and skills learned in NUR 123: Acute Care Nursing I in the areas of fluid and electrolyte balance, biologic defense mechanisms, metabolism/nutrition and elimination patterns. Additional principles introduced include disturbances in the functional patterns of activity/exercise, cognitive/perceptual and sexual/reproduction. Students learn holistic care of individuals with complex medical/surgical problems. The nursing process is used as the integrating framework.

**NUR 224: Acute Care Nursing II -
Clinical Practice2 credit hours**

Prerequisites: Admission to Nursing Program,
Complete 3rd semester

Corequisites: NUR 223

0 lecture, 0 lab, 90 clinical, 0 other

Fulfills Core Elements: 5, 7, 8, 9, 16, 18

This course builds on and supports skills learned in NUR 124: Acute Care Nursing I - Clinical Practice with emphasis on progressive development of technical skills. Students learn to care for clients/patients with complex medical-surgical problems in the acute care setting. Nursing process focuses on individualized care planning and evaluation. This course is graded on a Pass/No Pass grading system.

NUR 231: Nursing of Children3 credit hours

Prerequisites: NUR 223, NUR 224, NUR 255, NUR 256

Corequisites: NUR 232

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course focuses on the care of children and their families during health and illness. Concepts learned in the previous semesters are applied to develop nursing interventions to care for this population. Principles of nursing care for children of all age groups experiencing health deviations and their adaptation to the stressors of hospitalization are addressed. Promoting health and fostering normal growth and development are emphasized.

**NUR 232: Nursing of Children -
Clinical Practice2 credit hours**

Prerequisites: NUR 223, NUR 224, NUR 255, NUR 256

Corequisites: NUR 231

0 lecture, 0 lab, 90 clinical, 0 other

Fulfills Core Elements: none

Clinical experience focuses on care of hospitalized children and support of their families in the acute care setting. Using the nursing process as a framework, students focus on incorporating growth and development assessment, as well as response to illness, into the development of nursing interventions appropriate for the specific child and family. Opportunity for interaction with the well child in community settings also is provided. This course is graded on a Pass/No Pass grading system.

NUR 255: Mental Health Nursing3 credit hours

Prerequisites: NUR 123, NUR 124, NUR 131, NUR 132, HSC 128, HSC 220

Corequisites: NUR 256

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 9, 13, 21

This course develops an understanding of common mental health problems and skills necessary to provide basic mental health nursing care to selected clients in hospital

or community settings. The central focus is to help the student become more sensitive to human behavior and to use him/herself in a therapeutic manner. Prevention of mental illness and maintenance and restoration of mental health are discussed.

**NUR 256: Mental Health Nursing -
Clinical Practice2 credit hours**

Prerequisites: 3rd Semester Courses

Corequisites: NUR 255

0 lecture, 0 lab, 90 clinical, 0 other

Fulfills Core Elements: 9, 13, 21

This is the clinical component of Mental Health Nursing and should be taken concurrently with NUR 255. Mental health nursing concepts are applied in hospital and community situations. Students gain experience with current methods of prevention, maintenance and treatment. This course is graded on a Pass/No Pass grading system.

**NUR 261: Transition to Graduate
Nurse Role1 credit hour**

Prerequisites: NUR 223, NUR 224, NUR 255, NUR 256

Corequisites: NUR 262

15 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course assists students in planning the transition from the classroom to employment. Principles of management, including delegation, quality assurance, cost effectiveness and risk management are emphasized. Information useful in securing employment, membership in professional organizations and continuing education also is presented.

**NUR 262: Transition to Graduate Nurse
Role - Clinical4 credit hours**

Prerequisites: NUR 223, NUR 224, NUR 255, NUR 256

Corequisites: NUR 261

0 lecture, 0 lab, 180 clinical, 0 other

Fulfills Core Elements: none

This course is intended to integrate students into the working role. Experience is provided for each student to function cooperatively with staff nurses and other members of the health team. Attendance at one continuing education program is required. An observation in an intensive care unit will be included. This course is graded on a Pass/No Pass grading system.

Pharmacy Technology

PHT

PHT 100: Introduction to Pharmacy and Health Care4 credit hours

Prerequisites: Admission to Program
Corequisites: PHT 101, PHT 103
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7

In this course students become familiar with health care systems and various pharmacy systems provided within those systems. The role of the pharmacist and technician in providing pharmaceutical care is studied. Students gain an understanding of the interrelationships between pharmacy and technological advances, pharmacy business practices and the clinical applications of pharmaceuticals in patient care. Discussion includes legal and ethical responsibilities.

PHT 101: Pharmacology for Pharmacy Technicians4 credit hours

Prerequisites: Admission to Program
Corequisites: PHT 100, PHT 103
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 16

Students learn the purposes, actions, side effects, precautions and significant interactions of major drug classes with special attention on dosage forms and commonly used drug names. The student learns to describe the use of these agents in the management of disease states and their effects on body systems.

PHT 103: Pharmaceutical Calculations2 credit hours

Prerequisites: Admission to Program, MTH 097, or Equivalent
Corequisites: PHT 100, PHT 101
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5

Applications of pharmaceutical dosage calculation are presented in this course. Accuracy of calculations is stressed to assure that the patient receives the correct dose. This course prepares students for second semester laboratory course work.

PHT 140: Pharmacy Prescription Processing2 credit hours

Prerequisites: PHT 100, PHT 101, PHT 103
Corequisites: PHT 150, PHT 198
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 11

This course is an introduction to the operation of a pharmacy dispensing system. Students participate in practical exercises pertaining to prescription processing on a computer, relative to the pharmacy environment.

PHT 150: Pharmacy Operations and Compounding3 credit hours

Prerequisites: PHT 100, PHT 101, PHT 103
Corequisites: PHT 140, PHT 198
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 8

In this course, students gain knowledge and experience in ambulatory pharmacy prescription processing, nonsterile compound product preparation and institutional pharmacy prescription processing. Discussion includes drug information resources, telephone communication skill, and parenteral and enteral nutrition. Emphasis is on aseptic technique and parenteral product preparation where students develop skills in manipulation of parenteral drug products.

PHT 174: PHT Co-op Education I1-3 credit hours

Prerequisites: 20 PHT cr hr & Consent
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course students gain skills from a new experience in an approved, compensated, position related to their chosen field of study. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two possible Co-op experiences courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

PHT 198: Pharmacy Experience4 credit hours

Prerequisites: PHT 100, PHT 101, PHT 103
Corequisites: PHT 140, PHT 150
 0 lecture, 0 lab, 360 clinical, 0 other
Fulfills Core Elements: none

Skills and knowledge acquired in the first semester of the Pharmacy Technology program are applied in pharmacy practice settings. All experience is under the supervision of a registered pharmacist. Students obtain experience with ambulatory care and acute care pharmacy skills that can be applied to a wide variety of pharmacy practice. This course is graded on a Pass/No Pass grading system.

PHT 274: PHT Co-op Education II1-3 credit hours

Prerequisites: PHT 174, 20 PHT credit hours & Consent
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, the student gains skills from a new experience in an approved, compensated, position related to the chosen field of study. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two possible Co-op experiences. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Philosophy

PHL

PHL 101: Introduction to Philosophy3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 10, 14**

The course introduces the general nature of philosophical thought, its basic methods, problems and goals. It includes representative philosophers and such classic philosophical problems as the meaning of existence, the nature of reality, criteria of morality and the nature of the human mind. The class also uses philosophical concepts to help understand oneself, other people and the world around us, and focuses on formulating and defending individual viewpoints and developing personal skills in abstract thinking. An honors section is available for this course.

PHL 102: History of Philosophy3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 9, 10, 14**

This course emphasizes the historical development of philosophy. It begins by examining the early roots of philosophy in ancient Greece, and proceeds through the medieval and modern periods, concluding in the work of contemporary philosophers. Special attention will be paid to the development of empiricist and rationalist thought during the modern period. The philosophers to be studied may include Plato, Aristotle, Anselm, Augustine, Locke, Hume, Berkeley, Descartes, Malebranche, Spinoza, Leibnitz, William James, Sartre, Wittgenstein, and Quine.

PHL 120: Philosophy of Work.....3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 8, 10, 13, 14, 22**

The purpose of this course is to help students to explore all the philosophical dimensions of 'work;' to cultivate critical thinking about a number of work-related concepts; to lead students to an understanding of a myriad of traditional, contemporary, and challenging perspectives on the nature, meaning, origin, and value of work; and finally to help students to form their own work-related beliefs with which they can lead more meaningful lives.

PHL 123: Critical Thinking3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 7, 8, 9, 10**

This course focuses on the practical side of logic and critical thinking. Students are expected to develop the ability to recognize and construct arguments of all kinds, and to identify and then correct errors in their reasoning. If some formal logic is included, it is used primarily as a tool for critical thinking in everyday life. Other topics include: the difference between thinking objectively and subjectively (and between thinking and feeling), overcoming prejudices, and learning how to learn.

PHL 200: Existentialism3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 8, 9, 10, 13, 14**

A general introduction to the existentialist tradition of philosophy is provided as it is presented in the works of such representative thinkers as Nietzsche, Kierkegaard, Heidegger, Sartre and Camus. Special attention is paid to major existentialist themes; for example, authentic existence, integrity, freedom, anxiety, non-being, melancholy, death, guilt, conscience and values.

PHL 205: Ethics3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 8, 9, 10, 14, 22**

This course provides an overview of the discipline of ethics. Theories used to assist in ethical decision-making will be discussed, as will the relationship between fact and value. To assist in the understanding of the concepts and theories examined, these will be applied to current ethical debates surrounding issues such as abortion, euthanasia and assisted suicide, capital punishment, sexuality, and affirmative action.

PHL 244: Ethical and Legal Issues in Health Care3 credit hours**Prerequisites:** none**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 14**

This course provides an introduction to issues arising from the application of philosophical ethics or moral theory to the health care context. Different models of ethical decision-making will be used to examine current issues in health care. These models will involve the use of philosophical concepts as well as values clarification exercises. This course also provides an overview of legal theory and

responsibility as it applies to the health care context, with an emphasis on professional negligence, and an introduction to different aspects of moral psychology. Topics to be discussed will include patient rights, informed consent, confidentiality, experimentation procedures, genetics, treatment of impaired newborns, euthanasia and assisted suicide, and HIV/AIDS. Special issues surrounding moral and legal responsibilities toward colleagues will also be covered.

PHL 250: Logic3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 10, 15

This course offers an introduction to the nature of logical reasoning, especially as found in examples of everyday thought, and studies the role of language in reasoning and communication, the influence of emotions on logical thinking and the nature of inductive as well as deductive reasoning. Emphasis is on developing habits of good reasoning, as well as the ability to recognize and avoid bad reasoning.

Photography

PHO

PHO 090: General Photography2 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is a course for students wishing to understand basic photography and its processes. Primary emphasis is on understanding and using the camera and related equipment, picture taking, composition, lighting, film, etc. Students should own or have the use of some type of camera. No darkroom work is included in this course.

PHO 101: Photography and Environment3 credit hours

Prerequisites: none
Corequisites: none
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is a study of the methods of documenting various types of environments with the camera. This includes the recording of current environmental situations as well as presenting suggestions for improving undesirable conditions. Students must have their own 35mm or roll film camera and previous photo experience.

PHO 103: History of Photography3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 13, 14, 20

This course studies the chronology of photographic processes, the progression of social uses of the medium, and the history of photography as a technology and an art form.

PHO 111: Photography I4 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 13

This is a first-term course in basic photography including darkroom work. Areas of study include: camera and meter usage, film, lighting and composition, laboratory equipment and procedures, chemical mixing and handling, black and white film and print processing, etc. Students must have an adjustable camera.

PHO 116: Studio Portraits3 credit hours

Prerequisites: PHO 117
Corequisites: none
30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13

This course is the study of basic lighting and posing techniques used to create studio portraits. Areas of investigation include photographic equipment used in a portrait studio, traditional and non-traditional lighting techniques, and business concerns for portrait photographers.

PHO 117: Introduction to the Studio3 credit hours

Prerequisites: PHO 111
Corequisites: none
45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides a thorough introduction to photographic studio equipment and procedures. Through hands on exercises using 35mm color slide film, each students learn a variety of artificial lighting techniques. Emphasis is placed on the safe and effective handling of studio equipment. Students are required to purchase a hand held light meter.

PHO 122: Photography II4 credit hours

Prerequisites: PHO 111
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course builds on skills acquired in Photography I. Areas of study include medium format camera operation, advanced black and white film processing and printing techniques, and further investigation and control of lighting conditions. Emphasis is placed on using advanced photographic techniques for visual problem solving. Students will need to purchase film, paper, and other supplies.

PHO 124: Color Photography4 credit hours

Prerequisites: PHO 111
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides a thorough exploration of color photography. Areas of investigation include color theory, color photographic materials and equipment, color film processing and color printing. Particular attention is paid to the ways in which photographers use color as a tool in a variety of photographic applications.

PHO 127: Digital Photo Imaging I4 credit hours

Prerequisites: PHO 111
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 12, 18, 19

This course is designed to provide photography majors with a thorough introduction to current digital imaging technology as it relates to the production of photographic imagery. Through the use of digital cameras, scanners, printers and photo imaging software, students explore the world of the electronic darkroom. Prior computer experience is recommended but not required. Students must purchase printing and data storage materials. This course is required of photography majors.

PHO 174: PHO Co-op Education I1-3 credit hours

Prerequisites: PHO 111
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

Students are placed in an approved industrial work experience to gain skills and knowledge offered by the employer. Together with the instructor and the employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experiences. This is the first of two possible co-op experiences. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

PHO 210: Alternative Processes3 credit hours

Prerequisites: PHO 122
Corequisites: none
 45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 9, 13

This course is an investigation of alternative processes and new technologies currently in use by commercial and artistic photographers. Students employ a variety of traditional and non-traditional darkroom techniques including digital image manipulation, to create new and exciting photographs. Emphasis is placed on the exploration of new techniques to develop a broad sense of options in visual problem solving. Students are required to purchase photographic supplies.

PHO 211: Large Format Photography3 credit hours

Prerequisites: PHO 111
Corequisites: none
 45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 5

This course introduces students to monorail and flatbed cameras in both 8x10 and 4x5 formats. Students learn to process the film in deep tanks, and to load and process Polaroid film. Other topics include the use of perspective and depth of field controls, correctly using shutter and aperture of a large format lens, the darkcloth, magnifier, film holder, tripod and filters. Also included is a discussion of color negative and positive films. Students are required to purchase a photographic loupe, film and paper.

PHO 212: Large Format Photography II3 credit hours

Prerequisites: PHO 211
Corequisites: none
 30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements:

This course continues the exploration of large format photography. Topics include formats other than 4x5 roll film, contact printing, advanced methods of focus and perspective control, zone system controls, and various film types. Students are expected to pursue individual projects.

PHO 216: Environmental Portraiture3 credit hours

Prerequisites: PHO 111
Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Through a variety of location shooting assignments students learn to photograph people outside the photographic studio. Techniques using natural and artificial lighting for portraiture on location will be explored.

PHO 219: Photographic Design3 credit hours

Prerequisites: PHO 111
Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 13

This is an intensive review of photographic composition and design techniques with emphasis on design in the photographic image through lecture, demonstration, critique, and darkroom practices. Included is a survey of contemporary photographers and new directions in modern photographic images and design.

PHO 220: Commercial Product Photography 3 credit hours

Prerequisites: PHO 117
Corequisites: none
 30 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9

This course includes a detailed study of the various types of cameras and their uses. This course emphasizes roll and sheet film cameras, as well as the more unusual applications of the medium format camera. Color film use is stressed.

PHO 225: Digital Studio Photography3 credit hours

Prerequisites: PHO 117, PHO 127
Corequisites: none
 45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: 11, 18, 19

In this course students explore the digital realm of commercial photography. Emphasis is placed on the ways in which photographers working in traditional studio genres such as commercial product and portrait photography are now using digital photographic technologies. Class time is split between the studio and the digital imaging lab. Areas of investigation include the use of digital cameras in the studio, advanced methods of digital manipulation, and marketing considerations for digital studio photography.

PHO 227: Photojournalism3 credit hours

Prerequisites: PHO 111
Corequisites: none
 45 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements: none

In this course students receive a variety of photographic assignments involving newsworthy events, contemporary social issues, and human interest stories. Students work with black and white negative and color transparency films. An introduction to digital imaging technologies as they relate to photojournalism is included in the course. Students must own a manual electronic flash.

PHO 228: Digital Photo Imaging II4 credit hours

Prerequisites: PHO 127 or consent
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides an advanced level of investigation into digital photographic tools and techniques. Students will expand their understanding of digital input devices, photo imaging software, and output devices. Students will be encouraged to work toward developing their own creative style.

PHO 230: Specialized Studies in Photography3 credit hours

Prerequisites: Consent
Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 8

This course offers students the opportunity to work independently with faculty consultation in major areas of photography.

PHO 231: Portfolio Seminar4 credit hours

Prerequisites: PHO 122, PHO 127, PHO 211, or Consent
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

Students who are nearing completion of the program will develop a professional portfolio, resume, and query letter in this course. Contact is made with a potential employer, client or transfer school. Professional critiques will be conducted on individual portfolios.

PHO 274: PHO Co-op Education II1-3 credit hours

Prerequisites: PHO 174 and Consent
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two Co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Physical Education Activities PEA

PEA 102: Cardiovascular Training1 credit hour

Prerequisites: none
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

The purpose of this course is to develop a basic understanding of the equipment and physical requirements necessary for improved cardiovascular endurance and body fat reduction (caloric expenditure). Students are provided with an exercise recommendation based upon American College of Sports Medicine (ACSM) guidelines. Equipment includes treadmills, stairmasters, nordic tracks, rowing ergometers, airdynes, bicycle ergometers, and elliptical machines.

PEA 103: Beginning Golf1 credit hour

Prerequisites: none
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course is designed for the beginning player who wants to learn the basics of golf. Priority is given to the general golf swing, chipping, putting, and course management. Students are given information on what type of equipment to use and how to use it, including proper warm up and stretches. Students in this course will pay greens fees and provide their own clubs.

PEA 104: Intermediate Golf1 credit hour

Prerequisites: PEA 103 or golf score of 110 or less for 18 holes
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course is designed for the intermediate player who wants to learn more about golf. Priority is given to golf etiquette, course management skills, golfing strategies, and golfing for conditions. Students will practice a variety of trouble shots and more advanced shots. Students in this course will pay greens fees and provide their own clubs.

PEA 105: Weight Training-Cybox/Free

Weights2 credit hours
 Prerequisites: none
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

The purpose of this course is to develop basic weight training skills. Using Cybox and free weight equipment, students develop an understanding of the basic weight training exercises associated with each major muscle group. Emphasis is placed on understanding the proper form and technique necessary to train safely and effectively. (Free weight training is optional.)

PEA 109: Beginning Tennis.....1 credit hour

Prerequisites: none
 Corequisites: none
 0 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

The purpose of this course is to introduce students to the game of tennis. The fundamentals of the game are taught in a progressive learning experience. Students are instructed in the areas of skill development and scoring. A tennis racquet and tennis shoes are required.

Physics PHY

PHY 059: Fundamentals of Physics3 credit hours

Prerequisites: none
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This is a course for students with no previous physics background. The emphasis is on acquiring the basic conceptual understanding necessary to succeed in later courses. The course is recommended for those students wishing to improve their physics background before taking 100 level physics courses, or students desiring an exposure to physics. Physics topics focus on mechanics and include motion, force, momentum, energy, rotation, and gravity.

PHY 105: Conceptual Physics4 credit hours

Prerequisites: MTH 090
 Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 7, 9, 15, 17, 18

Designed for both transfer and vocational students with no physics experience, but desiring a working knowledge of physics, PHY 105 surveys the major topics of motion, heat, waves, electricity, magnetism, light, and atomic energy using a conceptual approach with a minimum of mathematics.

PHY 110: Applied Physics.....4 credit hours

Prerequisites: MTH 090
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 15, 18

Technical-Vocational students with no previous experience with physics should take this course to fulfill their program requirements. Topics covered are: properties of matter, motion, force, energy, machines, fluids, and heat. Laboratory exercises give students an opportunity to test theoretical principles.

PHY 111: General Physics I.....4 credit hours

Prerequisites: MTH 169
Corequisites: MTH 107
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 11, 15, 18

The topics of mechanics, wave motion and heat are presented to pre-professional and liberal arts students using algebra and trigonometry. Open Physics Laboratory exercises supplement students' understanding of the topics covered. PHY 111 usually represents the first part of a two-semester sequence in algebra-based physics required by many programs.

PHY 122: General Physics II4 credit hours

Prerequisites: PHY 111
Corequisites: none
 45 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 11, 15, 18

As the second part of a two-semester sequence in algebra-based physics, PHY 122 includes the topics of electricity, magnetism, light, and atomic physics. Open Physics Laboratory exercises are included to assist students' understanding of these topics.

PHY 211: Analytical Physics I5 credit hours

Prerequisites: MTH 191 and PHY 105 or PHY 111 or HS Physics
Corequisites: none
 60 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 7, 9, 15, 17

The first of a two-course sequence in calculus-based physics for students intending to major in science or engineering, PHY 211 develops the concepts of mechanics, heat, and wave motion. Laboratory exercises are included to assist students' understanding of these topics.

PHY 222: Analytical Physics II.....5 credit hours

Prerequisites: PHY 211
Corequisites: none
 60 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 9, 15, 18

This second part of a two-course sequence in calculus-based physics covers the concepts of electromagnetism, light, and modern physics extending the student's knowledge of physics learned in PHY 211.

Political Science

PLS

PLS 112: Introduction to American Government3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 2, 7, 8, 9, 10, 21, 22, 23, 24

This class studies the forms and functions of American government with emphasis on national government. The decision-making process in Congress, the Presidency and the federal court system are studied. The course also examines the relationship of political parties and public opinion to the electoral process. This course is also taught as a television course using the program series "Government by Consent".

PLS 150: State and Local Government and Politics3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 2, 7, 8, 10, 21, 22, 23, 24

In the current political environment, many functions formerly performed by the national government are being shifted to the state and local governments examined in this course. Special emphasis on the governments of Michigan and Washtenaw County provide for an investigation of the challenges of making decisions and governing a society in response to the immediate needs of its citizens in a global society.

PLS 211: Introduction to Comparative Government3 credit hours

Prerequisites: 1 Social Science Course or Consent
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 7, 21, 22, 23, 24

This class surveys the political systems of Great Britain, France, Italy, Germany, the former Soviet Union, and China.

Psychology

PSY

PSY 100: Introductory Psychology3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 6, 7, 15, 16, 21

This class provides an introduction to the scientific study and interpretation of human behavior surveying such topics as psychological development, learning, thinking, motivation, emotion, perception, intelligence, aptitudes and personality. Basic principles and their practical application are discussed. This course also is taught as a television course using the program series "Understanding Human Behavior."

PSY 107: Black Psychology3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 9, 21

This course is organized around the premise that there is a distinctive Afro-American psychological frame of reference that is evident in the behavior and lifestyles of Black Americans. This is an attempt to build a conceptual model to help understand and explain the psychosocial behavior of Black Americans.

PSY 130: Alcoholism and Substance Abuse ..3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 21

This course is a presentation of information concerning most aspects of alcoholism and how it affects the afflicted physically, socially, psychologically, vocationally and spiritually. Also, its effect on the significant others in his/her life is discussed.

PSY 200: Child Psychology3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 1, 7, 16, 21

This course stresses the child as an individual, his or her original nature and temperament and position as part of the group. Introduction of social raw materials is considered. In addition, such topics as the conditioning and reconditioning of behavior patterns and the individuality and similarity of responses are developed.

PSY 206: Life Span Developmental**Psychology.....4 credit hours**

Prerequisites: none

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 1, 7, 16, 21

This course provides an overview of the biological, cognitive, social, and affective domains of human growth and development from the prenatal period until death. The course emphasizes the relationship of growth and development to behavior through the life span. Major theories of human development, as well as research methods, are reviewed and contrasted. The course is especially constructed and taught to be of value to those entering the fields of social work, elementary or secondary education, or nursing and various allied health fields.

PSY 209: Psychology of Adjustment3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 16, 21

This course is a study of the processes involved in the adjustment of the individual to the problems of everyday living. Emphasis is given to the study of the development of techniques or adjustment to meet conflict situations in the social environment. It includes consideration of adjustment mechanisms of major societal institutions.

PSY 210: Behavior Modification3 credit hours

Prerequisites: HSW 100 or PSY 100

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 8, 9, 21

This course covers basic behavioral principles and their applications to individuals with mental illness, developmental disabilities, close head injuries, problems with aging, and problems of daily living. Students will learn to conduct psychosocial rehabilitation and psychoeducational groups. This course is required as part of the Human Service Worker program.

PSY 257: Abnormal Psychology3 credit hours

Prerequisites: PSY 100

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 15, 16, 21, 23

This is a course dealing with the abnormalities of certain types of personalities, their origin, symptoms, developments and treatment, short of psychiatric competence. Main topics include: simple maladjustment; disturbances of emotional nature, of perception, memory, judgment, thought, disorders of mobility, speech, etc.; early symptoms of schizophrenia.

PSY 260: Introduction to Human Sexuality ..3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 6, 7, 15, 16, 21, 23

This course provides a survey of the psychological research concerned with human sexuality. Areas presented include: research, anatomy, dysfunctions and their treatment, family planning methods, sexual communication, sexually transmitted diseases and sexual variation.

Quality Control Technology QCT

QCT 100: SPC Charting Techniques2 credit hours

Prerequisites: MTH 039
Corequisites: none
 30 lecture, 15 lab, 0 clinical, 0 other
Fulfills Core Elements:

This course is designed to assist machine operators in understanding statistical process control charting as it applied to production machining. Students will develop skills in control charting on X & R (BAR) charts for quality characteristics. Topics include sampling and elementary statistics.

QCT 101: Process Quality Control3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

The concepts of variation and methods of measuring, evaluating and interpreting industrial data are discussed. An in-depth working knowledge of process control is imparted through the use of capability analysis and statistical control charts. Industrial applications are presented and class participation is used extensively in workshops.

QCT 122: Sampling Quality Control3 credit hours

Prerequisites: MTH 169, or Consent
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course involves the theory of probability and basic concepts of statistical sampling; the development of sampling plans, the effect of sample size and acceptance number on the probability of acceptance, and the use of interpretation and of sampling acceptance plans are discussed. Military 105D, sequential and variable sampling are introduced and their effectiveness and industrial applications are analyzed.

QCT 201: Quality Of Service3 credit hours

Prerequisites: QCT 101, or Equivalent
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 6, 7, 8

The total quality control concept in planning, organizing and implementing a quality system for the service industry is the focus of this course. Topics include the application of the tools of quality to the business of service. This course examines the means for establishing a manageable quality system, improve customer satisfaction, reduce waste/cost and monitor improvement.

QCT 213: Quality Control by Statistical Methods....3 credit hours

Prerequisites: QCT 101, QCT 122
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is an introduction to statistical testing for differences in sample means, variability and fraction defectives. The concepts of linear correlation and regression analysis are introduced. Practical problems encountered in industrial quality control are solved in the classroom to illustrate the techniques presented.

QCT 224: Quality Control Problem Solving3 credit hours

Prerequisites: QCT 213, Algebra
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides students with a synopsis of the material presented in the previous three courses (Process, Sampling, and Statistical Methods). The material is developed with a minimal amount of mathematical jargon which often does more to confuse than clarify. Course work stresses how to perform specific studies or techniques and does not merely inform the student. Generally, it provides a simplified procedure for applying the statistical tools which are most often used by the quality control practitioner.

QCT 225: Quality Control Management3 credit hours

Prerequisites: QCT 101, or Consent
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

The total quality control concept in planning, organizing and implementing an effective system is the focus of this course. Details of how to plan a quality system, set up the organizational structure, integrate support activities, install controls and measure results are discussed. The work of quality information equipment engineering is outlined. The main jobs of quality control are defined in terms of design control, material control, product control and special studies such as GMP manual development and compliance.

QCT 226: Dimensional Metrology and Testing 3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is a general introduction to important aspects of precision measurement related to inspection and quality control. Included are the scientific techniques and instrument applications used in determining dimensional measurement as practiced by skilled tradesmen, inspectors and quality control technicians.

Radiography

RAD

RAD 100: Introduction to Radiography2 credit hours

Prerequisites: Admission to RAD program
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 9

This course includes the history of radiography, medical specialties, health care delivery, organizational structure of a radiology department, professional development and ethics. It is an introductory course for the beginning radiographer with emphasis on acquainting students with the goals, philosophies and organizations of the radiography program and radiology department.

RAD 101: Methods in Patient Care2 credit hours

Prerequisites: Admission to RAD Program
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is designed to teach the radiographer how to interact with the patient, to provide for his or her physical and emotional needs and how to assist in moving patients by using various transfer methods. Included is some lab

practice in basic techniques such as taking vital signs, blood pressure, venipuncture, and airway management.

RAD 110: Clinical Education2 credit hours

Prerequisites: Admission to RAD Program
Corequisites: RAD 112
 0 lecture, 0 lab, 240 clinical, 0 other
Fulfills Core Elements: 7

This course provides structured clinical experience in the application of knowledge and skills in positioning the upper extremity, chest and abdomen, trunk, spine and selected contrast studies, and the demonstration of knowledge in the design and operational characteristics of equipment and accessories in diagnostic radiography. This course is graded on a Pass/No Pass grading system.

RAD 111: Fundamentals of Radiography2 credit hours

Prerequisites: RAD 100
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 19

Imaging is the key to the primary responsibility of a radiographer. The intent of this course is to describe the various imaging modalities so that application of principles to produce optimum diagnostic radiographic images are understood.

RAD 112: Radiographic Positioning I2 credit hours

Prerequisites: none
Corequisites: RAD 110
 15 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course includes pertinent nomenclature for radiographic positioning, preliminary steps in radiography, operation of the radiographic control panel, processing the radiograph and positioning of the chest, abdomen and upper extremity.

RAD 113: Radiographic Processing2 credit hours

Prerequisites: RAD 111
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 18, 19

This course covers the principles of processing including discussion on darkroom design, radiographic film characteristics, processing chemistry, trouble shooting, maintenance, evaluation of radiographic films to determine diagnostic inadequacies resulting from artifacts and to correct or compensate for the cause.

RAD 120: Clinical Education2 credit hours

Prerequisites: RAD 110
 Corequisites: RAD 123
 0 lecture, 0 lab, 240 clinical, 0 other
 Fulfills Core Elements: 7

This course provides structured clinical experience in the application of knowledge and skills in positioning the upper and lower extremities, chest and abdomen, spinal column, contrast studies, and skull. Students demonstrate their knowledge in the design and operational characteristics of equipment and accessories in diagnostic radiography. This course is graded on a Pass/No Pass grading system.

RAD 123: Radiographic Positioning II2 credit hours

Prerequisites: RAD 112
 Corequisites: RAD 120
 15 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course covers proper positions for radiography of the lower extremity, trunk and spine. Critiques on positioning and the anatomical appearance of structures on the radiograph are an essential function of the course.

RAD 124: Principles of Radiographic Exposure.....3 credit hours

Prerequisites: Consent
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 4, 5, 7

This course includes a comprehensive study of radiographic exposure techniques, radiographic quality, the use of radiographic accessories and how to select and apply this equipment to various situations.

RAD 125: Radiographic Procedures and Related Anatomy3 credit hours

Prerequisites: BIO 111
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: none

This course covers radiographic procedures in which a contrast medium is used for demonstrating structures which are not well visualized on routine radiographs.

RAD 127: Principles of Radiographic Exposure Laboratory.....1 credit hour

Prerequisites: none
 Corequisites: RAD 124
 7.5 lecture, 22.5 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5

This course provides structured laboratory experience designed to illustrate film response to various exposure techniques. Emphasis is on evaluation of exposure techniques used in obtaining diagnostic information on x-ray film.

RAD 135: Pathology for Radiographers.....2 credit hours

Prerequisites: none
 Corequisites: RAD 200, RAD 225
 30 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 16

This course is a survey of basic pathology and includes a study of the disease process and how various diseases alter the appearance and function of human organisms, including infectious diseases, tumors, chemical injuries and the conditions of illness involving the systems of the body.

RAD 150: Clinical Education4 credit hours

Prerequisites: RAD 120
 Corequisites: none
 0 lecture, 0 lab, 360 clinical, 0 other
 Fulfills Core Elements: 7

This course provides structured clinical experience in the application of knowledge and skills in positioning the upper extremity, chest and abdomen, trunk, spine and selected contrast studies. Students demonstrate knowledge in the design and operational characteristics of equipment and accessories in general radiographic rooms. This course is graded on a Pass/No Pass grading system.

RAD 200: Physical Foundations of Radiography3 credit hours

Prerequisites: MTH 116
 Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
 Fulfills Core Elements: 15

This course covers the theoretical and practical application of radiation physics with an emphasis on electromagnetic radiation, electricity, magnetism, x-ray circuitry, radiation production, and radiation's interaction with matter.

RAD 215: Radiography of the Skull2 credit hours

Prerequisites: none
 Corequisites: RAD 217
 15 lecture, 30 lab, 0 clinical, 0 other
 Fulfills Core Elements: 7

Anatomy and radiography of the skull are studied so that students can correlate the relationship of external landmarks and positioning lines to specific internal structures. The course includes laboratory experience in skull positioning.

Radiography

RAD 217: Clinical Education3 credit hours

Prerequisites: RAD 150

Corequisites: RAD 215

0 lecture, 0 lab, 336 clinical, 0 other

Fulfills Core Elements: 7

This course provides structured clinical experience in the application of knowledge and skills in positioning the upper and lower extremities, chest, abdomen, spinal column, contrast studies, and skull. Students will demonstrate their knowledge in the design and operational characteristics of equipment and accessories in diagnostic radiography. Students will participate in surgical procedures that require diagnostic imaging and demonstrate competency in operating portable radiography units. This course is graded on a Pass/No Pass grading system.

RAD 218: Radiation Biology and Protection ..4 credit hours

Prerequisites: Admission to Program or Consent

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 17, 20

This course is designed to acquaint students with the effects of ionizing radiation on the cells which form human tissue. The interaction of radiation with matter and the effect of exposure factors on radiation dose, biological effects, unit of measurement, dose limiting recommendations and exposure monitoring are covered.

RAD 225: Clinical Education3 credit hours

Prerequisites: RAD 217

Corequisites: RAD 200

0 lecture, 0 lab, 360 clinical, 0 other

Fulfills Core Elements: 7

This course provides structured clinical experience in the application of knowledge and skills in positioning the upper and lower extremities, chest and abdomen, spinal column, contrast studies, and skull. Students demonstrate their knowledge in the design and operational characteristics of equipment and accessories in diagnostic radiography. This course is graded on a Pass/No Pass grading system.

RAD 240: Clinical Education2 credit hours

Prerequisites: RAD 225

Corequisites: none

0 lecture, 0 lab, 225 clinical, 0 other

Fulfills Core Elements: 7

Structured clinical experience is provided in all areas of radiography. Electives in specialized areas are explored (i.e., ultrasound, computed tomography, magnetic resonance imaging, radiation therapy, and nuclear medicine). This course is graded on a Pass/No Pass grading system.

RAD 260: CT Cross-sectional Anatomy3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, lab, clinical, other

Fulfills Core Elements: none

This course covers the study of cross-sectional anatomy of the pelvis, abdomen, thorax and great vessels, neck, maxillofacial region, brain and vertebral column. Related diseases, indications for CT imaging, patient preparation and scanning technique are discussed.

RAD 262: Principles of Computed

Tomography2 credit hours

Prerequisites: none

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course provides comprehensive coverage of the physical principles, clinical applications, and quality control concepts of Computed Tomography. This course is designed to lay the basic foundations necessary for the practical aspects of CT scanning.

RAD 280: Radiographic Critique2 credit hours

Prerequisites: RAD 112, RAD 123, RAD 124, RAD 127

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course identifies and examines the technical factors that contribute to the formation of the radiographic image. Through discussion and demonstration, student learn how to critically analyze a radiograph and to determine how to modify the technical factors used in order to improve the quality of the radiograph.

Real Estate

RES

RES 100: Real Estate Principles and Prelicensure..4 credit hours

Prerequisites: none

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 5, 11

This is an introductory survey course in real estate principles, practices, and concepts. Students see a broad overview of the real estate field including varieties of residential and commercial brokerage, property financing, appraisal, investment, property management, land planning, property description, legal documents and contracts, title insurance, construction, condominiums, fair housing, civil rights, Board of Realtor functions, and State licensure and regulation. The course can begin an academic foundation in real estate, provide information to home-

owners and investors, determine a career interest in real estate, or meet the State course prerequisite to taking the State of Michigan exam for a Real Estate Salesperson's license. This course is approved by the State of Michigan.

RES 120: Real Estate Finance3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7

This course covers methods of financing residential, commercial, and income properties. Includes sources of funds, affordability issues, applications for loans, lender processing and risk analysis, creative financing, government programs, tax considerations, and secondary marketing. This course can help satisfy the State of Michigan education requirements for Real Estate Brokers. It is recommended, but not required, that RES 100 be taken before RES 120.

RES 130: Real Estate Appraisal3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7

This course covers the nature of value, foundations of appraisal, valuation processes (including cost, market, income approaches, capitalization theory, and discounted cash flow). Also covered are appraisal ethics and reporting, and uses of the computer in residential and commercial appraising and valuation consulting. This course helps satisfy the State of Michigan course requirements for Real Estate Broker and Real Estate Appraiser licenses. It is recommended, but not required, that RES 100 be taken before RES 130.

RES 140: Real Estate Law3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 22

This course covers the laws and legal principles involved in residential and commercial real estate. Topics include evidence of title, deeds, financing, sale contracts, legal position of brokers, leases, zoning, fair housing and real estate taxes. This course helps satisfy the State of Michigan requirements for Real Estate Appraiser and Real Estate Broker licenses. It is recommended, but not required, that RES 100 be taken before RES 140.

RES 150: Real Estate Investment3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course covers investment in and development of land, homes, apartments, office buildings retail centers, warehouses and hotels. Examples from the community and other states are used to illustrate the course objectives. Topics include financing, taxation and exchanges. This course helps satisfy the State of Michigan Real Estate Broker education precicensure requirement. It is recommended, but not required, that RES 100 be taken before RES 150.

RES 160: Real Estate Property Management.....3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides an introduction to all the subfields of real estate property management including apartments, office, retail, and warehouse management. Materials used in this course are from the Institute for Real Estate Management (IREM), which is part of the National Association of Realtors (NAR) and other sources. This course helps satisfy the State of Michigan Real Estate Broker education precicensure requirement. It is recommended, but not required, that RES 100 be taken before RES 160.

RES 190: Real Estate Continuing Education0.5 credit hours

Prerequisites: none
Corequisites: none
7.5 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is the annual continuing education course required by the State of Michigan for Real Estate Brokers and Salespersons to renew their professional licenses. The course updates trends in real estate. Content changes each year based on topic selections assigned or approved by the State of Michigan. Completion on either credit or audit basis satisfies the State requirement for license renewal credit.

Respiratory Therapy

RTH

RTH 101: Electrocardiography.....1 credit hour

Prerequisites: Admission into any health program
Corequisites: none
 15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 18

This course is designed to introduce health career students to EKG. This will include basic cardiac anatomy, conductive system, and basic arrhythmia/ interpretation. This course is designed to provide basic knowledge of EKG, including lead placement and arrhythmia recognition. This basic course makes the student more marketable by providing knowledge of an additional modality. This course is graded on a Pass/No Pass grading system.

RTH 120: Introduction to Respiratory Therapy3 credit hours

Prerequisites: Admission to Program
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 15

This course is an introduction to health care delivery, professional development & ethics. Cardiopulmonary anatomy & physiology are also included.

RTH 121: Basic Equipment and Procedures.....4 credit hours

Prerequisites: Admission to Program
Corequisites: none
 45 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7

This lecture/lab course covers the theory of operation of basic equipment, indications, contraindications, advantages and disadvantages. Lab experiences consist of problem solving, clinical simulations and procedures used by respiratory therapists in setting up equipment. Oxygen therapy, humidity & aerosol therapy, IPPB and alternative therapy are covered.

RTH 122: Respiratory Physiology3 credit hours

Prerequisites: RTH 120, RTH 121
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 4, 5, 16

This lecture course is an in-depth study of the cardiopulmonary system. Anatomy, ventilation, pulmonary function, diffusion, pulmonary vascular system, hemodynamics, V/Q relationships, control of ventilation, renal function, electrolytes and the aging process on the lungs are covered.

RTH 123: Respiratory Pathophysiology3 credit hours

Prerequisites: RTH 120, RTH 121
Corequisites: RTH 122
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This lecture course covers the causes, treatment and assessment of common pulmonary disorders.

RTH 148: Respiratory Pharmacology2 credit hours

Prerequisites: BIO 111
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

The course provides a survey of drugs used to treat disease, with emphasis on drugs commonly used to treat cardiopulmonary disorders.

RTH 149: Respiratory Pathology2 credit hours

Prerequisites: RTH 120 and RTH 121
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 16

A survey of anatomical pathology including inflammation, infection, tumors, and cardiovascular disease.

RTH 198: General Clinical Practice I1.5 credit hours

Prerequisites: RTH 120, RTH 121, BIO 111, HSC 101
Corequisites: none
 0 lecture, 0 lab, 135 clinical, 0 other
Fulfills Core Elements: none

This course provides clinical experience in basic bedside respiratory therapy techniques and procedures. The class meets at a clinical affiliate for 2 eight hour sessions per week. Grading for this course is on a pass/no pass basis.

RTH 199: General Clinical Practice II3 credit hours

Prerequisites: 1st, 2nd, 3rd Semester courses
Corequisites: RTH 212
 0 lecture, 0 lab, 240 clinical, 0 other
Fulfills Core Elements: 1, 2, 7, 8, 9, 18, 19, 20

This course provides a continuation of bedside respiratory therapy techniques and procedures acquired in general clinical I and exposure to the ICU. There are two 8 hour sessions per week at a clinical affiliate. This course is graded on a Pass/No Pass grading system.

RTH 200: Advanced Clinical Practice.....4 credit hours

Prerequisites: HSC 220, RTH 199, RTH 212,
Qualifying Exam
Corequisites: none
0 lecture, 0 lab, 240 clinical, 0 other
Fulfills Core Elements: none

Structured, at-the bedside, practice of respiratory therapy techniques involved with the care of acutely ill patients and patients with chronic obstructive pulmonary disease is provided. Students are assigned to intensive care units of cooperating hospitals. Two eight-hour sessions per week are involved. Grading for this course is on a pass/no pass basis.

RTH 201: Specialty Clinical Practice2 credit hours

Prerequisites: RTH 200, RTH 214, RTH 219, RTH 222
Corequisites: none
0 lecture, 0 lab, 120 clinical, 0 other
Fulfills Core Elements: 7

In this course, students are to select an area of special interest in which to specialize such as pulmonary function testing, asthma camp, or experience in an extended ventilator care setting. Grading for this course is on a pass/no pass basis.

RTH 202: Pediatric Clinical Practice2 credit hours

Prerequisites: RTH 200, RTH 212, RTH 219
Corequisites: none
0 lecture, 0 lab, 120 clinical, 0 other
Fulfills Core Elements: 18

This course provides a continuation of bedside practice of respiratory therapy in the neonatal intensive care unit and pediatric units. Two 8 hour sessions per week at a clinical affiliate are required. Grading for this course is on a pass/no pass basis.

RTH 212: Ventilators5 credit hours

Prerequisites: RTH 122, RTH 123, RTH 148, RTH 198
Corequisites: RTH 199
60 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 9, 18, 19

This course gives an in-depth study of the use, classification, operation, advantages and disadvantages, modifications, troubleshooting, and clinical simulation case studies of managing a patient on a volume ventilator. Both adult and pediatric ventilators are taught in this class.

RTH 214: Cardiognostics3 credit hours

Prerequisites: HSC 220, RTH 199, RTH 212, or Consent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 16, 18, 19

An in-depth look at the cardiac profile, hemodynamic measurements, Swan-Ganz catheterization advantages and disadvantages, basic ECG interpretation and echocardiog-

raphy. This course is open to other students with permission of the instructor.

RTH 217: Seminar in Respiratory

Therapy2 credit hours
Prerequisites: Completion of all RTH courses
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 9

This course is designed to help students who are in their last semester prepare for the national exams required after graduation. Students are assessed on the Entry Level Exam, Written Registry Exam, and the Clinical Simulation Exam. Mock exam fees are approximately \$90 for this course.

RTH 219: Pediatric Respiratory Therapy3 credit hours

Prerequisites: RTH 200, ICU Qualifying Exam
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides an in-depth study of the anatomy and physiology of the newborn, diseases common to neonates, infants and the older pediatric patient, as well as the respiratory care management of these patients.

RTH 221: Pulmonary Rehabilitation1 credit hour

Prerequisites: RTH 212
Corequisites: none
15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is an overview of the pulmonary rehabilitation of people with chronic lung disease. Major topic areas to be addressed are pulmonary exercise testing, patient education, pulmonary rehabilitation techniques, organization of a pulmonary rehabilitation program, home oxygen, ventilator and infant respiratory care. In addition, several aspects of respiratory home care are reviewed. It is taken in the same semester as RTH 222.

RTH 222: Pulmonary Function Testing

and Rehabilitation2 credit hours
Prerequisites: Completion of first two semesters of RTH
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course presents principles of lung function testing, spirometry and diffusion studies as currently practiced in hospitals and clinics, and provides an understanding of the medical management of Pulmonary Rehab and Homecare programs.

Robotics

ROB

ROB 111: CIM Fundamentals4 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 5, 11, 12, 18, 19, 20

The purpose of this course is to provide an overview of the various components which make up CIM (Computer Integrated Manufacturing) systems. Students experience guided laboratory exercises in CNC (Computer Numerical Control), CAD (Computer Aided Design), CAM (Computer Aided Manufacturing), robotics, and simulation software. Topics of discussion also include manufacturing planning and processes.

ROB 121: Robotics I4 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 10, 18, 19

This is an elementary course exposing students to hands-on programming of industrial robots. Emphasis is placed on application of flexible automation, types of programming, sensors, and feedback devices. Field trips to local users or manufacturers of robotic equipment are an integral part of this course.

ROB 174: ROB Co-op Education I1-3 credit hours

Prerequisites: Consent
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two possible co-op experiences. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

ROB 212: Robotics II4 credit hours

Prerequisites: ROB 111, or ROB 121
Corequisites: none
 30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 11, 18, 19

This class concentrates on programming techniques. Students learn to program different types of robots incorporating inputs and outputs into their programs. The course is based on a series of student projects that, step by step, introduce each new command or concept. Students spend most of the class time in the lab and are expected to spend extra hours during scheduled open labs.

ROB 223: Robotics III4 credit hours

Prerequisites: ROB 212
Corequisites: none
 30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9, 11, 18

Students learn to work with peripheral devices in various robotic workcells. Experiments include part recognition, counting, distance measuring, sorting, and palletizing. Programmable controllers are interfaced with robots in an integrated manufacturing cell. The students are introduced to robotic simulation, vision systems, and bar coding.

ROB 224: Robotics IV4 credit hours

Prerequisites: ROB 223
Corequisites: none
 30 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 11, 12, 18, 19

This course involves advanced programming of robots and programmable controllers in an integrated workcell. Problems related to maintenance and trouble-shooting constitute a major segment of the course. A group project involving the design and construction of a workcell that simulates some industrial process is an enjoyable conclusion to this program.

ROB 274: ROB Co-op Education II1-3 credit hours

Prerequisites: ROB 174, Consent
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two Co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

Science

SCI

SCI 100: Introduction to Natural Sciences1 credit hour

Prerequisites: none

Corequisites: none

7.5 lecture, 22.5 lab, 0 clinical, 0 other

Fulfills Core Elements: 15, 16, 17, 18

This course is designed to allow students to acquire an appreciation of the importance of the Natural Sciences to everyday life, including facts and familiarity with general concepts of how science works. The focus is on physical and biological aspects of science. Students who take this course discover that scientists are people and that science can be fun. The course is designed primarily for students in technology programs and includes directed study in the experimental sciences.

SCI 101: The Nature of Science3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 15, 16, 17, 18

This course is designed to allow students to acquire an appreciation of the importance of the Natural Sciences to everyday life, including facts and familiarity with general concepts of how science works. The focus is on physical and biological aspects of science. Students who take this course discover that scientists are people and that science can be fun. The course is designed primarily for students in technology programs and includes directed study in the experimental sciences. The course is offered using Interactive Television.

Sociology

SOC

SOC 100: Principles of Sociology3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 6, 7, 10, 15, 20, 21, 23, 24

This course examines human interaction and the products of that interaction which include social structure and institutions, culture, social order, conflict and change. Emphasis is placed on the connection between self and society: that we think, feel and act as we do largely because of social forces that pressure us to conform or to deviate from social expectations. This course is also taught as a television course using the series "Sociology in a Changing World."

SOC 201: Medical Sociology3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 6, 7, 8, 9, 10, 15, 20, 21, 23, 24

This course examines social and behavioral factors that account for the social differences in getting sick, getting care, getting well and staying well. Emphasis is placed on the socio-cultural definitions and distributions of illness, lifestyle, stress and illness, taking the sick role, seeking and using health care services, socialization of health workers, consumer-provider interaction, organization and distribution of services. Some issues which are examined pertain to the cost of care and health insurance, prevention, self-help movement, underserved groups, bio-medical technology and the quality of life.

SOC 202: Criminology3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 8, 9, 21, 23

An examination is provided of the theories which attempt to explain criminal behavior. Punishment versus rehabilitation schools of thought is dealt with as well as capital punishment. Attention is also given to the functioning of police and court systems.

SOC 203: Aging & Society.....3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 6, 7, 8, 10, 21, 24

This course examines social and social-psychological principles, practices, and problems of the aging process. Topics include the social and personal attitudes toward aging, ageism, role changes in mid-life to later life, and adaptive challenges of retirement: needs and problems relevant to housing, health care, finances, social support systems, and community services. Other issues such as political activity and cross-cultural differences are addressed.

SOC 205: Race & Ethnic Relations3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 10, 21, 22

This course provides an examination of the basic concepts of racial and ethnic relations and the concept of race. It examines and analyzes the course of oppression and suppression, superiority and inferiority, and majorities and minorities in racial subgroups.

SOC 207: Social Problems3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 6, 7, 9, 10, 15, 21, 23, 24

This course examines how social forces can create and maintain or prevent major social problems that result from people's efforts to meet their growth and survival needs. Emphasis is placed on the structural, institutional, technological and social-psychological causes, consequences, and solutions of problems relevant to inequality, institutional crises, deviance and social control, population pressures and ecological problems.

SOC 230: Marriage and Family3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 8, 9, 10, 15, 20, 21, 23, 24

This course examines the principles, practices, and problems of mate selection, marriage, family and singleness. Emphasis is placed on how Socio-cultural changes are reshaping lifestyle, choices, parenting, communication building and maintaining relationships.

SOC 250: Juvenile Delinquency3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 21

The growing-up process of late childhood and adolescence from a sociological and cultural viewpoint is a focus of this class. Problems of the individual in his/her social environment, group forces which lead to maladjustment and sociological principles for working with youth from the viewpoint of parent, teacher, police and youth organization leader are analyzed.

SPN 111: First Year Spanish I4 credit hours

Prerequisites: none
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This is a beginning course in Spanish using the conversational approach. Spoken language is mastered through classroom and laboratory practice. Cultural aspects of Spain and Latin America are highlighted.

SPN 112: Spanish Laboratory I1 credit hour

Prerequisites: none
Corequisites: SPN 111
 0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This course is intended to augment SPN 111. Students work in a supervised language lab with taped materials which correlate to the lessons in their texts and work-books. Students are provided with supplemental listening aids that include both music and literature.

SPN 119: Spanish Language Adventures1-3 credits

Prerequisites: none
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This course of independent study can be undertaken during any of the college field trip "Adventures" to Spanish-speaking countries. Students live in the host country for the duration of the Adventure, visit and study first-hand the outstanding cultural attractions, and have the opportunity to practice Spanish throughout their stay.

SPN 120: Beginning Conversational Spanish - Level I2 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

Conversational in approach, this course assumes no previous knowledge of the language. It is designed for students who want to practice the fundamentals of spoken Spanish to enhance their travel enjoyment in Spain and Latin America. The course also promotes an appreciation of the Hispanic world. This course may be taken as a basic review of the first half of SPN 111.

SPN 121: Beginning Conversational Spanish - Level II2 credit hours

Prerequisites: SPN 120, or Equivalent
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

A continuation of SPN 120. This course is designed to further develop the skills acquired in Spanish 120. It is for students interested in expanding their speaking and comprehension skills, and their knowledge of Spanish grammar and Hispanic culture. Successful completion of this course satisfies the prerequisite for SPN 122. SPN 121 may be taken as a basic review of the second half of SPN 111.

SPN 122: First Year Spanish II4 credit hours

Prerequisites: SPN 111, or SPN 121
Corequisites: none
60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

A continuation of SPN 111. Emphasis is on the spoken form and on the cultures of Latin American countries and Spain.

SPN 123: Spanish Laboratory II1 credit hour

Prerequisites: none
Corequisites: SPN 122
0 lecture, 30 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This course is intended to augment SPN 122. Students work in a supervised language lab with taped materials which correlate

to the lessons in their texts and workbooks. Students are provided with supplemental listening aids that include both music and literature.

SPN 211: Intermediate Conversational Spanish2 credit hours

Prerequisites: SPN 121, or Equivalent
Corequisites: none
30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This flexibly-structured course provides vocabulary expansion and cultural insights through total student involvement in the conversation practice sessions.

SPN 213: Second Year Spanish I3 credit hours

Prerequisites: SPN 122, or Equivalent, or Consent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This is an intermediate course in Spanish that covers all of the basic grammar. Emphasis is on the written form through composition.

SPN 224: Second Year Spanish II3 credit hours

Prerequisites: SPN 213, or Equivalent, or Consent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 13, 14, 24

This is a continuation of SPN 213 with special attention to reading and translating modern Latin American short stories.

SPN 225: Introduction to Business

Spanish3 credit hours

Prerequisites: SPN 213, or Consent
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is designed to introduce students to business concepts and vocabulary through both written and oral forms. Students write business letters in Spanish and apply Spanish conversational skills to discussion of and participation in various business situations.

Student Services

STS

STS 100: Career Planning Seminar3 credit hours

Prerequisites: none
Corequisites: none
45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 9

This course is designed for persons undecided about a career goal or program of study or interested in making a career change. Students complete a self-assessment of interests, work values, skills, and abilities through exercises and vocational inventories. They also learn how to research careers and become more knowledgeable of careers; career alternatives, and employment trends. Other topics include decision-making skills, time management, and job hunting techniques (resumes, job interviews, job leads, correspondence). Students complete a personal career plan at the end of the course.

STS 102: Career Decision Making1 credit hour

Prerequisites: none
Corequisites: none
15 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This short course is designed for students who are undecided about career and life goals. Two day-long class sessions are held, usually on consecutive weekends, followed by outside assignments that students complete at their own pace. Through exercises, activities, and career tests, students clarify their goals, interests, values, and skills, and learn decision making skills. Students also research occupations.

STS 240: Career Practices Seminar2 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course covers career options available in the various fields; how to develop a career plan and a job hunting plan, hiring practices, resume preparation, interviewing skills, and human relations on the job. Students focus on their chosen career area. This course was previously offered as CIS 240, ELE 240, and ENG 245.

Surgical Technology

SUR

SUR 097: Sterile Processing and Distribution Theory4 credit hours

Prerequisites: minimum age of 18 years old
Corequisites: none
 60 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This lecture/lab course provides students with the knowledge and techniques used to complete the cycle from decontamination to sterility of instruments and equipment used within a medical facility. Students are taught basic anatomy, infection control practices, safety hazards, instrumentation, inventory control and distribution systems. Professional preparation is addressed with resume writing, interviewing skills, and career mobility.

SUR 098: Sterile Processing and Distribution Clinical2 credit hours

Prerequisites: minimum age of 18 years old
Corequisites: none
 0 lecture, 0 lab, 160 clinical, 0 other
Fulfills Core Elements: none

This course complements the theory course. Students are provided hands-on experience at the clinical site in the areas of decontamination, preparation and packaging, operation of specialized sterilization equipment, measuring chemicals, inventory control and supply distribution systems. This course is graded on a Pass/No Pass grading system.

SUR 100: Surgical Technology I Theory3 credit hours

Prerequisites: Admission to program, HS algebra with grade of C, HS chemistry with grade of C
Corequisites: SUR 105
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides the theoretical foundation for other surgical technology courses. The role of the surgical technologist, history of the profession, surgical services organization, preparation and maintenance of a sterile environment, case preparation, and ethical and legal issues are studied.

SUR 105: Surgical Technology I Lab1 credit hour

Prerequisites: Admission to program, HS algebra grade of C, HS chemistry grade of C
Corequisites: SUR 100
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course provides clinical simulation during a structured laboratory experience. The student practices and demonstrates skills in the areas of preparation and maintenance of a sterile field, scrubbing technique, patient care, and instrumentation. During the latter portion of the course, the student will be assigned to a local area operating room to observe and assist the surgical services personnel in a non-scrubbed role.

SUR 120: Surgical Technology II Theory3 credit hours

Prerequisites: Grade of C in SUR 100, SUR 105, BIO 237, Grade of C in BIO 102 or BIO 111, HSC 101
Corequisites: SUR 125, SUR 135
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: 7, 16

This course builds on the information covered in Surgical Technology I. Students become more familiar with the surgical technologist's role. Basic operative procedures, emergency situations, operating room records, communication skills, and specialized supplies and equipment are stressed.

SUR 125: Surgical Technology II Lab1 credit hour

Prerequisites: SUR 100, SUR 105, BIO 111 or BIO 102, BIO 237
Corequisites: SUR 120, SUR 135
 0 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course supplements the Surgical Technology II Theory course. It provides the student with structured laboratory practice that supports the lecture topics. The lab focus is on setting up basic cases, handling emergency situations, completing records, using specialized equipment and supplies, and communication in the OR environment.

SUR 135: Surgical Technology II Clinical ..2.5 credit hours

Prerequisites: SUR 100, SUR 105, BIO 237, and (BIO 111 or BIO 102)
Corequisites: SUR 120, SUR 125
 0 lecture, 0 lab, 225 clinical, 0 other
Fulfills Core Elements: 9, 16

This course complements the Surgical Technology II theory and lab courses. Students develop their technical skills through participation in a variety of basic surgical procedures at an assigned hospital operating room. This course is graded on a Pass/No Pass grading system.

SUR 140: Surgical Technology**Pharmacology2 credit hours****Prerequisites:** SUR 100, BIO 102 or 111, BIO 237**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 5

This course acquaints the surgical technology student with basic principles of pharmacology, allowing an understanding of the types, usage, and effects of various medications (agents) commonly used in the operating room environment. Measurement, terminology, proper handling, responsibility of the surgical technologist, preparation, and anesthesia will be covered.

SUR 150: Surgical Technology III Theory3 credit hours**Prerequisites:** SUR 120, SUR 125, SUR 135, SUR 140**Corequisites:** SUR 155, SUR 160**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 7, 16, 18

In this course, advanced principles of the surgical technologist's role are discussed. Students learn advanced surgical procedures. Also addressed are patients' rights and concerns; ethical, moral, and legal issues; job application; and graduate certification.

SUR 155: Surgical Technology III**Clinical Practice4 credit hours****Prerequisites:** SUR 120, SUR 125, SUR 135, SUR 140**Corequisites:** SUR 150, SUR 160**0 lecture, 0 lab, 360 clinical, 0 other****Fulfills Core Elements:** 9

This course complements the Surgical Technology III Theory course. Students gain experience in the surgical technologist role by practicing in the scrub capacity in hospitals on a variety of cases. All surgical specialties are addressed with mastery of general cases and familiarity with more complicated cases expected. This course is graded on a Pass/No Pass grading system.

SUR 160: Surgical Technology Seminar1 credit hour**Prerequisites:** SUR 120, SUR 125, SUR 135, SUR 140**Corequisites:** SUR 150, SUR 155**15 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course assists the student in planning for employment in the field of surgical technology. Current topics in surgical technology are covered and the mock national certification exam is administered.

Tax**TAX****TAX 101: Income Taxes for Individuals and Small****Businesses3 credit hours****Prerequisites:** MTH 163, or Consent**Corequisites:** none**45 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** 5, 7, 9, 11

This is a beginning course in Individual Tax Return preparation that covers both Federal and Michigan taxes that affect individuals. Students receive practical experience in preparation of an income tax return, both manually and using a tax return computer software package. The course is the beginning of a series of courses designed for those seeking employment as paraprofessionals in the tax field. However, individuals who simply wish to understand their own taxes can benefit from it. Student must be able to work with numbers and computer applications.

TAX 121: Business Income Tax Basics2 credit hours**Prerequisites:** ACC 091 or ACC 111**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course covers the theoretical foundation for tax issues affecting business. Students receive practical experience in preparation of Federal and Michigan tax returns (including the Michigan SBT) for the sole proprietor, both manually using a computer software program. The course is suited to business owners wishing to prepare their own tax returns or those seeking employment as paraprofessionals in the tax field. This course is taught in a self-paced format using the Internet.

TAX 123: Income Tax for Partnerships0.5 credit hours**Prerequisites:** ACC 091 or ACC 111**Corequisites:** none**7.5 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements:** none

This course covers basic Federal and Michigan income tax returns for partnerships. Students receive practical experience in the preparation of Federal and Michigan tax returns, both manually and using a computer software program. The course is suited for business owners wishing to prepare their own tax returns or those seeking employment as paraprofessionals in the tax field. This course is taught in a self-paced format using the Internet.

TAX 124: Income Tax for Corporations.....1 credit hour

Prerequisites: ACC 091 or ACC 111

Corequisites: TAX 121

15 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course covers basic Federal and Michigan income tax returns for corporations. Students receive practical experience in the preparation of Federal and Michigan tax returns, both manually and using a computer software program. The course is suited for business owners wishing to prepare their own tax returns or those seeking employment as paraprofessionals in the tax field. This course is taught in a self-paced format using the Internet.

TAX 125: Income Tax for Sub S**Corporations0.5 credit hours**

Prerequisites: ACC 091 or ACC 111

Corequisites: none

7.5 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course covers basic Federal and Michigan income tax returns for Sub S corporations. Students receive practical experience in the preparation of Federal and Michigan tax returns, both manually and using a computer software program. The course is suited for business owners wishing to prepare their own tax returns or those seeking employment as paraprofessionals in the tax field. This course is taught in a self-paced format using the Internet.

TAX 190: Tax Practice.....0.5 credit hours

Prerequisites: TAX 101, TAX 121, TAX 124, or Consent

Corequisites: TAX 123, TAX 125

7.5 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is designed for those intending to work as paraprofessionals in the tax field. The importance of maintaining a professional image with clients is explored as well as various issues that frequently occur in the audit of client returns. Students are given an opportunity to build a portfolio that will assist them in demonstrating their proficiency in preparing tax returns to prospective employers. This is a capstone course designed for students who will seek employment as a tax preparer.

TAX 210: Advanced Issues in**Individual Taxes0.5 credit hours**

Prerequisites: TAX 101, TAX 121, or Consent

Corequisites: none

7.5 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course covers advanced issues in individual taxation involving deferred income, fringe benefits, and employment related deductions. It also covers advanced issues involving portfolio and passive income, and itemized deductions. The course is best suited for the professional who is seeking advanced training.

TAX 220: The Michigan SBT0.5 credit hours

Prerequisites: TAX 109, or Consent

Corequisites: none

7.5 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course covers advanced issues in the Michigan Small Business Tax, including adjustments and apportionments. The course is best suited for the tax professional who is seeking advanced training.

Trade Related Instruction**TRI****TRI 092: Review for Apprentice Test4 credit hours**

Prerequisites: none

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is designed to help students pass the Apprentice test. Students must have a working knowledge of math skills necessary for normal function in the trades. Topics include how to convert from 3-dimension objects to 2-dimension pictures. Students get an understanding of machine workings and mechanical advantage. They learn easier ways of taking tests and hopefully lose any fears of test taking.

TRI 099: Skilled Trades Industrial**Safety2 credit hours**

Prerequisites: none

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is designed to provide the industrial skilled trades persons with knowledge of safety fundamentals and practices, accident causes, impact and prevention, safety organization in the plant, the need for safety rules, mechanical safeguards, and lockout procedures. Health and hygiene, industrial housekeeping and fire safety are included, as well as a study of hazards and safety rules associated with energy sources, hand, power and machine tools, ladders, scaffolds, hazardous materials, hoists, cranes, conveyors, ropes, chains, slings, and operation of powered trucks.

TRI 103: Sheet Metal Blueprint Reading and Layout3 credit hours

Prerequisites: none

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

Elementary sheet metal layout with emphasis placed on developing sheet metal patterns by standard short cut methods is the focus of this course. Hands-on experience

fabricating the patterns into actual sheet metal locks, seams, clips, connectors, ducts, elbows, tees and offsets takes place in the sheet metal shop.

TRI 105: Advanced Sheet Metal Layout3 credit hours

Prerequisites: none

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

Advanced sheet metal layout teaches the actual development of more difficult sheet metal fittings, triangulation and parallel line methods of development. The development and fabrication of the fittings most often needed in today's modern heating, ventilating and air conditioning systems is emphasized.

TRI 111: Introduction to Code Enforcement ..3 credit hours

Prerequisites: Consent

Corequisites: none

45 lecture, 30 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This lecture/discussion/lab course covers legal authority, codes format, code fundamentals, plan review, permit processing and inspection procedures.

TRI 115: Blueprint Facilities Maintenance ..3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

A basic course in reading engineering plans and drawings. Understanding electrical, mechanical, and fluid power systems through the use of schematic diagrams. Major units covered are elements of machine drawings, hydraulic and pneumatics, building drawings, electrical drawings, sheet metal drawings, piping drawings, and welding processes and symbols.

TRI 140: Millwright Theory2 credit hours

Prerequisites: none

Corequisites: none

30 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 7, 9

This course includes millwright practices encompassing major units such as millwright fundamentals, fiber and steel rope, hoisting, structural woods and steels, scaffolding, strengths of timber and metal beams, cranes and derricks, rigging, transporting heavy shop equipment, accident prevention, standards, laws and codes. Maintenance of bearings, belts, chain drives and conveyors is included.

TRI 174: TRI Co-op Education I1-3 credit hours

Prerequisites: 1st semester courses, Consent

Corequisites: none

0 lecture, 0 lab, 0 clinical, 120 other

Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the first of two co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

TRI 201: Plumbing and Pipefitting I.....3 credit hours

Prerequisites: MTH 039

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This is a practical study of plumbing and pipefitting fundamentals as well as the classifications and functions of boilers, steam and hot water heating systems. Heating code is included.

TRI 202: Plumbing and Pipefitting II4 credit hours

Prerequisites: TRI 201

Corequisites: none

60 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: none

This course is a continuation of TRI 201 involving the study of water supply, waste disposal, drainage, venting, unit sanitation equipment and plumbing codes.

TRI 220: Electrical Grounding3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 18, 19

In this class, the student will learn the basic concepts in electrical theory as it pertains to grounding. The purpose of this course is to teach the student how to install electrical grounding properly, and help the student understand why proper grounding is needed. Course content will include discussion related to the basic concepts of electricity, so the student will understand how, why, and where proper grounding should be used.

TRI 222: Electrical Wiring Industrial3 credit hours

Prerequisites: none

Corequisites: none

45 lecture, 0 lab, 0 clinical, 0 other

Fulfills Core Elements: 18, 19

This course will focus on concepts necessary for the student industrial electrician. The industrial electrician is responsible for the installation of electrical systems.

TRI 240: Plant Layout and Material Handling Systems.....4 credit hours
Prerequisites: ARC 099
Corequisites: none
 0 lecture, 60 lab, 0 clinical, 0 other
Fulfills Core Elements: 9

This class includes blueprint reading and simplified drawing of typical free and power type conveyor systems as well as plant layout drawing of machinery, foundations, exhaust systems, heat treat furnaces, hoists, cat-walks and platforms.

TRI 274: TRI Co-op Education II1-3 credit hours
Prerequisites: TRI 174
Corequisites: none
 0 lecture, 0 lab, 0 clinical, 120 other
Fulfills Core Elements: none

In this course, students gain skills from a new experience in an approved, compensated, industry-related position. Together with the instructor and employer, students set up work assignments and learning objectives to connect classroom learning with career-related work experience. This is the second of two co-op courses. A maximum of 12 accumulated credit hours for all co-op courses can be applied toward graduation.

United Association Supervision UAS

UAS 111: Introduction to Construction Supervision I.....3 credit hours
Prerequisites: Admission to Program
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course concentrates on the management and supervisory skills needed by new first-line supervisors. The course has practical applications taken from common workplace situations. Because employees generally are promoted to supervision based on their technical expertise, this course provides new management and people skills that add to these technical abilities.

UAS 122: Construction Supervision II.....3 credit hours
Prerequisites: Admission to Program
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This supervision course helps the student develop practical, operational management skills in the functional areas of planning, organizing, leading, and controlling construction projects.

UAS 211: Construction Supervision III3 credit hours
Prerequisites: Admission to Program
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course covers basic human resources activities applicable to the construction industry. It covers employment techniques, wages and hours, job evaluation, training, employee performance reviews, collective bargaining, employment counseling, and collateral benefits such as pensions and fringe benefits. The course also focuses on skills required to manage work habits and a career. It offers a system of goal management and tools for development, refining, and building interpersonal skills.

UAS 222: Project Management in the Construction Industry3 credit hours
Prerequisites: Admission to Program
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course examines the various stakeholders of the construction project and their relationship to each other, with an emphasis on the balance maintained among the competing needs of these parties. Students become familiar with the basic functions of a project and how the activities performed contribute to the overall profitability and health of the project as a whole. The course prepares students to handle conflict in the workplace. Emphasis is on the impact at work and how to choose and apply approaches for resolving conflict. The course examines problem solving techniques and methods.

United Association Training UAT

UAT 111: Apprentice Training I.....3 credit hours
Prerequisites: Admission to Industrial Training program
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course will focus on the principles of learning, the elements of trade teaching, and the methods of teaching an applied technical skill.

UAT 121: Apprentice Training II3 credit hours
Prerequisites: Admission to Industrial Training program
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This course is a continuation of UAT 111. The course focuses on developing instructional objectives, planning and presenting related information lessons, and the methods of teaching a second applied technical skill.

UAT 131: Apprentice Training III3 credit hours

Prerequisites: Admission to Industrial Training program
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is the third course in the Apprentice Training series. Students focus on the development of written tests, and will perform a third teaching demonstration in a technical skill area.

UAT 141: Apprentice Training IV3 credit hours

Prerequisites: Admission to Industrial Training program
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is the fourth course in the Apprentice Training series. Students focus on discussion and interaction techniques, and the teaching methods in a fourth technical skill area.

UAT 151: Apprentice Training V2 credit hours

Prerequisites: Admission to Industrial Training program
Corequisites: none
 45 lecture, 0 lab, 0 clinical, 0 other
Fulfills Core Elements: none

This is the final course in the Apprentice Training series. Students focus on innovations and problems in trade teaching, and methods of teaching in a fifth technical skill area.

Welding & Fabrication

WAF

WAF 100: Fundamentals of Welding2 credit hours

Prerequisites: none
Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 17, 18, 19

This is a basic combination welding course dealing with oxy-acetylene and arc welding designed to meet the needs of students enrolled in Auto Body Repair, Auto Mechanics, Detailer Draftsman, etc. Typical applications are made in a laboratory setting.

WAF 101: Acetylene Welding.....2 credit hours

Prerequisites: none
Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 18, 19

Designed for students who need a knowledge of oxy-acetylene welding and a degree of skill required by industry. Primarily for students whose occupations are associated with welding.

WAF 102: Basic ARC Welding2 credit hours

Prerequisites: none
Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 17, 18, 19

This introductory course in arc welding covers theory and practice, and proper procedures for various welding positions. Topics include A.C. and D.C. welding, electrode identification, classification and proper applications to typical operations.

WAF 103: Heli-ARC Welding2 credit hours

Prerequisites: none
Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 5, 7, 17, 18, 19

Instruction is given in tungsten, inert gas, and shielded arc welding. Manually operated torches are used on such metals as aluminum, stainless and mild steels; includes theory directly related to the composition and properties of these metals.

WAF 104: Soldering & Brazing2 credit hours

Prerequisites: none
Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 5, 7, 17, 18, 19

This course is designed to provide basic knowledge of soft soldering, brazing, silver soldering, copper tubing and fittings, brazing of steel, silver soldering of copper and stainless. Practical application included.

WAF 105: Welding for Art & Engineering2 credit hours

Prerequisites: none
Corequisites: none
 15 lecture, 45 lab, 0 clinical, 0 other
Fulfills Core Elements: 1, 5, 18, 19

This is a basic welding class. No welding experience is necessary. Oxyacetylene (welding and cutting), arc welding and soldering and brazing are explored with hands-on training provided. Students work on course competencies, at their own pace, beginning with safety practices and set-up in each area. The welding lab has individual work stations with no waiting to work and a safe atmosphere. Students are given personalized instruction on every objective to help with their mastery of the art of welding.

WAF 106: Blueprint Reading for Welders3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 15 lab, 0 clinical, 0 other
 Fulfills Core Elements: 4, 5

This course is designed for the welders who are responsible for properly locating weld on the weldment and determining weld size, contour, length, type of filler metal and any applicable welding procedures.

WAF 111: Welding I Oxy-Acetylene4 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 90 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 7, 17, 18, 19

This course focuses on the use of oxy-acetylene equipment to perform such operations as butt, lap, and fillet welds using filler rods; flame cutting, brazing and silver soldering. Safety procedures and practices of gas welding are emphasized.

WAF 112: Welding II Basic ARC4 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 90 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 17, 18, 19

This course involves the use of arc welding equipment both A.C. and D.C. to perform such operations as butt, lap and fillet welds using bare and shielded electrodes, all-purpose and special electrodes. Study of electrical welding, power supplies and electrodes is included. Safety procedures are stressed.

WAF 123: Welding III Advanced Oxy-Acetylene (OAW).....4 credit hours

Prerequisites: WAF 111
Corequisites: none
 30 lecture, 90 lab, 0 clinical, 0 other
 Fulfills Core Elements: 1, 5, 7, 18, 19

Advanced instruction is provided in oxy-acetylene welding with emphasis on out of position welded joints. Procedures are covered and put in practice for fabricated welded joints on steel plate and pipe. Related theory is included.

WAF 124: Welding IV Advanced ARC (SMAW) 4 credit hours

Prerequisites: WAF 112
Corequisites: none
 30 lecture, 90 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 7, 17, 18, 19

Advanced instruction is provided in arc welding using both A.C. and D.C. arc welding equipment. Emphasis is on out of position welded joints in mild steel, alloy steels and procedures covered for cutting, beveling and fabricating various welded joints. Related theory, codes and standards are included.

WAF 200: Layout Theory Welding3 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 45 lab, 0 clinical, 0 other
 Fulfills Core Elements: 4, 5, 18, 19

This course involves layout problem solving for the welder including techniques using layout die, combination squares, protractors, center heads, trammel points, dividers, and straightedges. Template making for pipe cutting and joining is emphasized. A basic math review and the properties of a circle such as radius, chords, and degrees of angularity for jobs done in the field are included.

WAF 210: Welding Metallurgy3 credit hours

Prerequisites: none
Corequisites: none
 45 lecture, 15 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 7, 18, 19

This course focuses on metal properties and identification properties through testing, effects of alloying element, specification use and application of mild steel, low steel alloys, stainless steels, principles of electricity as they apply to different welding applications' heat treatment of metals.

WAF 215: Welding V Advanced GTAW & GMAW4 credit hours

Prerequisites: none
Corequisites: none
 30 lecture, 90 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 18, 19

This course involves tungsten-inert gas shield arc welding with manually operated torch on such metals as aluminum, mild steel and stainless steel. Technical theory directly related to T.I.G. welding including the composition and properties of metals.

WAF 226: Specialized Welding Procedures4 credit hours

Prerequisites: Consent
Corequisites: none
 30 lecture, 90 lab, 0 clinical, 0 other
 Fulfills Core Elements: 5, 7, 18, 19

This course involves specialized oxy-acetylene welding, inert gas-shield arc and consumable carbon dioxide welding. Emphasis is given to aluminum, stainless steel, high alloy steels and cast iron. Procedures for welding of the exotic metals such as titanium, columbium, zirconium, and molybdenum are included.

WAF 227: Basic Fabrication3 credit hours**Prerequisites:** Consent**Corequisites:** none**30 lecture, 30 lab, 0 clinical, 0 other****Fulfills Core Elements: 4, 5, 7, 18, 19**

For advanced welders planning to use their welding skills in manufacturing, this class teaches the skills necessary to design, cut and fit pieces to be welded. Welders are trained in the use of modern machines for bending, punching, cutting and shaping. Each student takes a self-chosen project and carries it through from blueprints to actual assembly. Estimation of material and labor costs is included.

WAF 229: Shape Cutting Operations3 credit hours**Prerequisites:** Consent**Corequisites:** none**45 lecture, 15 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

Students learn the shape-cutting process with oxy-acetylene and plasma cutting torches. With the use of the optical eye and Burny IV N.C. control, students learn how to cut mild steel, aluminum and stainless steel parts.

WAF 289: MIG Welding (GMAW)4 credit hours**Prerequisites:** Consent**Corequisites:** none**45 lecture, 45 lab, 0 clinical, 0 other****Fulfills Core Elements: none**

Students will learn how to MIG weld aluminum mild steel plate stock in all positions with solid core and flux core wire.

Yoga**YOG****YOG 101: Introduction to Hatha Yoga2 credit hours****Prerequisites:** none**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 16**

This course provides an introduction to the philosophy and practice of Hatha Yoga.

YOG 102: Philosophy and Practice of Yoga ..2 credit hours**Prerequisites:** YOG 101**Corequisites:** none**30 lecture, 0 lab, 0 clinical, 0 other****Fulfills Core Elements: 14, 16, 21**

This course is a continuation of Yoga 101, Introduction to Hatha Yoga.

Curriculum Changes for Fall 2000

Course Changes: Code, Title, and Credit Changes

WAS			IS NOW		
Course	Title	Credit	Course	Title	Credit
ABR 113	Auto Body Service Fundamentals	2	ABR 113	Applied Body Welding and Estimating	4
ABR 219	Major Repair Procedures.....	4	ABR 219	Advanced Auto Body I: Major Repair	4
ABR 226	Unibody Structural Alignment	2	ABR 226	Adv. Auto Body III: Frame/Unibody/Alignment	4
ABR 230	Specialized Study	4	ABR 230	Adv. Auto Body V: Adv. Refinish Applications	4
ACC 091	Fundamentals of Accounting I.....	3	ACC 100	Fundamentals of Accounting I	3
ACC 092	Fundamentals of Accounting II	3	ACC 101	Fundamentals of Accounting II.....	3
ACC 131	Computerized Accounting	3	ACC 131	Computer Applications in Accounting	3
ACS 041	ESL Vocabulary & Comprehension Skills I	4	ENG 028	Beginning ESL Reading	4
ACS 046	ESL Vocabulary & Comprehension Skills II.....	4	ENG 033	Intermediate ESL Reading	4
BMG 155	Business on the Internet	2	BMG 155	Business on the Internet	3
BMG 230	First Line Management	3	BMG 230	Introduction to Supervision	3
BMG 273	Understanding the Organization	0.5	BMG 273	Managing Operations	3
BMG 292	Small Business Capstone	2	BMG 292	Operating a Small Business: An Experience.....	3
BOS 130	Business Machines	3	BOS 130	Office Financial Applications.....	3
BOS 151	Information Processing Principles & Applic	4	BOS 100	Information Processing I	4
BOS 157	Microsoft Word for Windows I	2	BOS 157	Word Processing Applications I	2
BOS 182	Introduction to Microsoft Access	2	BOS 182	Database Software Applications	2
BOS 183	Introduction to Excel	2	BOS 183	Spreadsheet Applications	2
BOS 206	Outlook and Netscape Office Applications.....	2	BOS 206	Scheduling and Internet Office Applications.....	2
BOS 207	Introduction to Powerpoint	2	BOS 207	Presentation Software Applications	2
BOS 225	Information Processing Systems & Procedures	3	BOS 225	Advanced Document Preparation	3
BOS 257	Microsoft Word for Windows II.....	2	BOS 257	Word Processing Applications II	2
CCP 100	The Exceptional Child	3	CCP 100	The Exceptional Child	2
CCP 103	Alternative Programs for Children	3	CCP 103	Establishing Programs for Children	2
CCP 107	Educational Experiences in Science & Math	3	CCP 107	Math & Science Activities for Children.....	3
CCP 108	Expressive Arts for Children	3	CCP 108	Expressive Arts for Children.....	2
CCP 109	Language and Communication	3	CCP 109	Language and Communication for Children	2
CCP 110	Social and Emotional Development.....	3	CCP 110	Social and Emotional Development	2
CCP 111	Administration of Child Care Programs.....	3	CCP 111	Management of Child Care Programs	2
CCP 200	Staff & Parent Interpersonal Relations	3	CCP 200	Working with Parents.....	3
CIS 100	Introduction to Computers	3	CIS 100	Introduction to Software Applications	3
CIS 110	Business Computer Systems.....	4	CIS 110	Introduction to Computer Information Systems.....	3
CIS 117	Windows Operating System II (Windows 95)	1	CIS 117	Windows Operating System II (Windows 95)	2
CIS 121	Beginning Unix	2	CIS 121	Linux/UNIX Fundamentals	3
CIS 160	Introduction to the Internet	2	INP 160	Internet II	2
CIS 165	Basic HTML.....	2	INP 165	Basic HTML	2
CIS 240	Career Practices Seminar	2	STS 240	Career Practices Seminar	2
CIS 287	Internet Security	3	INP 287	Web Server Security.....	3
CNT 211	Administering Microsoft Windows NT.....	3	CNT 211	Network Administration	3
CNT 221	Microsoft Windows NT Core Technologies	3	CNT 221	Server Technologies	3
CNT 255	Heterogeneous Networks	4	CNT 255	Advanced Routing Configuration	4
CNT 265	Network Design.....	4	CNT 265	Remote Access Networks.....	4
CON 112	Blueprint Reading for Construction-Commercial.....	2	CON 112	Blueprint Reading for Construction-Commercial	3

Course Changes (continued)

WAS			IS NOW		
Course	Title	Credit	Course	Title	Credit
CUL 111	Elementary Food Prep.	6	CUL 120	Culinary Skills	3
	(Changed to two courses)		CUL 121	Intro to Food Production Techniques	3
CUL 150	Food Service Management	6	CUL 150	Food Service Management	3
CUL 210	Garde Manger	4	CUL 210	Garde Manger	3
CUL 227	Advanced Culinary Techniques	4	CUL 227	Advanced Culinary Techniques	2
CUL 228	Layout and Equipment	4	CUL 228	Layout and Equipment	3
DRA 153	Acting for Theatre II	3	DRA 208	Acting for Theatre II	3
EET 100	DC Circuit Analysis and Measurements	3	EET 100	DC Circuit Analysis and Measurements	4
EET 110	Digital Electronics Design I	3	EET 110	Digital Electronics Design I	4
EET 200	AC Circuit Analysis	3	EET 200	AC Circuit Analysis	4
EET 201	Linear Electronics I	3	EET 201	Linear Electronics I	4
ELE 240	Career Practices Seminar	2	STS 240	Career Practices Seminar	2
ENG 208	Advanced Technical Writing	3	ENG 208	Advanced Technical Communication I	3
ENG 209	Award Winning Documents	3	ENG 209	Advanced Technical Communication II	3
ENG 245	Career Practices Seminar	2	STS 240	Career Practices Seminar	2
FLP 225	Fluid Power Motion Control	3	FLP 225	Fluid Power Motion Control	4
GDT 143	Imaging for the Web	3	INP 143	Imaging for the Web	3
GDT 200	Design and Publishing on the Internet	3	INP 200	Website Fundamentals	3
GEO 100	World Regional Geography	3	GEO 101	World Regional Geography	3
HSC 244	Health Care Ethics	2	PHL 244	Ethical and Legal Issues in Health Care	3
HSW 210	Behavior Modification	3	PSY 210	Behavior Modification	3
IND 107	Mechanisms	4	CAD 213	Mechanisms	4
IND 108	Industrial Blueprint Reading	3	IDD 111	Drafting Standards and Conventions	3
IND 112	Descriptive Geometry	4	CAD 115	Descriptive Geometry	4
IND 121	Theory of Jigs & Fixtures	2	IDD 211	Theory of Jigs & Fixtures	2
IND 123	Geometric Dimensioning & Tolerancing	3	CAD 215	Geometric Dimensioning & Tolerancing	3
IND 174	Co-op CAD Drafting I	1-3	CAD 174	Co-op CAD Drafting I	1-3
IND 212	Theory Of Dies	2	IDD 113	Theory Of Dies	2
IND 216	Introduction to CAD	2	CAD 101	Introduction to AutoCad	2
IND 217	Introduction to 3D CAD	2	CAD 103	CADKEY-Solid Based	2
IND 221	CAD Applications - Mech	4	CAD 211	Parametric Modeling	4
IND 251	Fundamentals of Electronic Drafting	2	IDD 251	Electrical CAD	2
IND 274	Co-Op CAD Drafting II	1-3	CAD 274	Co-Op CAD Drafting II	1-3
MTH 177	Triangle Trigonometry	3	MTH 107	Triangle Trigonometry	3
MTH 179	Precalculus	4	MTH 176	College Algebra	4
MTT 111	Machine Shop Theory and Practice	4	MTT 111	Machine Shop Theory and Practice	5
MTT 122	Machine Tool Operation & Set-Up I	4	MTT 202	Machine Tool Operation & Set-Up I	4
MTT 123	Machine Tool Operation & Set-Up II	4	MTT 203	Machine Tool Operation & Set-Up II	4
MTT 201	Machine Tool Technology I	4	MTT 210	Machine Tool Technology I	4
MUS 140	Basic Musicianship	3	MUS 140	Music Theory I	3
MUS 143	Theory and Arrangement	2	MUS 143	Music Composition and Arranging	2
MUS 204	Voice	2	MUS 204	Voice I	3
MUS 206	Vocal Performance	2	MUS 205	Voice II	3
MUS 210	Functional Piano	2	MUS 210	Functional Piano I	3

Course Changes: Code, Title, and Credit Changes

Course Changes (continued)

WAS			IS NOW		
Course	Title	Credit	Course	Title	Credit
MUS 213	Intermediate Piano	2	MUS 211	Functional Piano II	3
MUS 225	Beginning Jazz Drum.....	2	MUS 225	Drums: Beg. Jazz/Rock	2
NCT 112	Introduction to CNC Machining	3	NCT 112	Introduction to CNC Machining	5
NCT 121	Manual Programming & NC Tool Operation	4	NCT 121	Manual Programming & NC Tool Operation.....	5
NCT 122	Adv Manual Programming & NC Tool Oper.....	4	NCT 221	Adv Manual Programming & NC Tool Oper	5
NCT 236	CAM Machine Tool Preparation	4	NCT 236	SURFCAM 2-Axis CNC Programming.....	4
NCT 247	Advanced CAM Machine Tool Programming	4	NCT 247	SURFCAM 3-Axis NC Programming.....	4
NUR 205	Introduction to Nursing: Societal Dim	3	NUR 205	Nursing as a Societal and Interpersonal	4
				Profession	
PSY 130	Alcoholism: Effects, Impact, & Treatment	3	PSY 130	Alcoholism and Substance Abuse	3
QCT 100	Charting Techniques	2	QCT 100	SPC Charting Techniques	2
ROB 121	Robotics I	3	ROB 121	Robotics I.....	4
RTH 222	Pulmonary Function Testing	1	RTH 222	Pulmonary Function Testing and Rehabilitation	2
SUR 135	Surgical Technology II Clinical	2.5	SUR 135	Surgical Technology II Clinical	2
TAX 101	Fed Income Taxes for Ind. & Small Businesses	3	TAX 101	Income Taxes for Individuals	3

New Courses (Full Approval)

Course	Title	Credit	Course	Title	Credit
ABR 115	Classic Auto Restoration I.....	4	ENG 065	Advanced ESL Speaking and Listening	3
ABR 129	Automobile Restoration - Final Paint &	4	ENG 105	Bridge ESL Written Communication	8
	Assembly to Show		GLG 219	Field Studies in Geology	2
ARC 099	Basic Architectural CAD.....	2	HSC 200	Advanced Nursing Assistant Skills	5
ASV 112	Vintage Automobile Engine Rebuilding	4	HSC 210	Rehabilitation Assistant Skills	3
BMG 215	Planning an E-Commerce Site for Business	3	HST 220	The Civil War Era, 1845-1877	3
BMG 279	Performance Management	3	HST 240	The History of the Modern Middle East,	3
BMG 291	First Line Leadership Capstone	3		1798-Present	
BOS 111	Document Preparation & Word Processing I	5	INP 111	Web Searching	1
BOS 122	Document Preparation & Word Processing II	5	INP 143	Imaging for the Web	3
CIS 122	The Linux Operating System	3	INP 159	Internet I	1
CJT 160	Criminal Justice Constitutional Law	3	INP 174	Internet Professional Co-op I.....	1-3
CNT 200	Networking Fundamentals.....	4	INP 230	Advanced Web I	3
CUL 114	Baking I	3	INP 240	Advanced Imaging for the Web	3
CUL 115	Pastry I	3	INP 250	Audio and Video for the Web	3
CUL 120	Culinary Skills	3	INP 255	Animation on the Web.....	3
CUL 124	Baking II	3	INP 274	Internet Professional Co-op II	1-3
CUL 125	Pastry II.....	3	INP 283	Databases and the Web.....	3
CUL 130	Beginning Cake Decorating	1	MET 100	Presentation and Computer Aided Drawing.....	4
CUL 131	Wedding Cake Design	1	MET 296	Introduction to Internal Combustion Engine	3
CUL 140	Bakery Management and Merchandising.....	2		Theory	
CUL 151	Food Service Marketing.....	3	MTH 149	Functional Mathematics for Elementary School	4
DAN 111	Popular Dance Forms	1		Teachers II	
ENG 037	Intermediate ESL Writing	4	MTH 180	Precalculus with Trigonometry	5
			MUS 108	Musical Theatre Performance	1

New Courses (Full Approval) continued

Course	Title	Credit	Course	Title	Credit
PEA 104	Intermediate Golf.....	1	PSY 206	Life Span Developmental Psychology	4
PHL 102	History of Philosophy	3	SUR 097	Sterile Processing and Distribution Theory.....	4
PHO 228	Digital Photo Imaging II	4	SUR 098	Sterile Processing and Distribution Clinical.....	2

New Courses (Conditional Approval Only)

Course	Title	Credit	Course	Title	Credit
ABR 117	Classic Auto Restoration II	4	DRA 209	Acting for Musical Theatre	2
ABR 215	Classic Auto Restoration III.....	4	DRA 220	Playwriting	3
ABR 217	Classic Auto Restoration IV.....	4	FMA 101	Facility Management I	2
ABR 224	Adv. Auto Body II	4	FMA 103	Facility Management II	2
ABR 229	Adv. Auto Body IV	4	FMA 105	Facility Management III	2
ARC 218	3D Presentation/CAD.....	4	FMA 107	Facility Management IV	2
ASV 241	Engine Repair	2	FMA 109	Facilities Planning and Project Management.....	2
ASV 242	Automatic Transmissions	2	GDT 150	Design for the Internet	4
ASV 243	Manual Drive Trains and Axles	2	HSC 180	Simulated Scenarios in Health Care	1
ASV 244	Suspension and Steering.....	2	MET 278A	Finite Element Modeling Fundamentals.....	3
ASV 245	Brakes	2	MUS 207	Introduction to American Musical Theatre	2
ASV 246	Electrical Circuits.....	2	MUS 209	Musical Theatre Song Performance Seminar	1
ASV 247	Heating and Air Conditioning.....	2	MUS 285	Self Management for Working Artists	3
ASV 248	Engine Performance	2	MUS 290	Special Projects in Music	3
CAD 111	CAD I - Detailing	6	TRI 092A	Review for Apprenticeship Training Test	3
CAD 113	CAD II - Drafting and Layout.....	6	UAS 111	Introduction to Construction Supervision I.....	3
CAD 217	Mechanical Design	6	UAS 122	Construction Supervision II.....	3
CIS 266	Web Programming using Active Server Pages	4	UAS 211	Construction Supervision III	3
CIS 278	Advanced Java Programming	3	UAS 222	Project Mgmt in the Construction Industry.....	3
CIS 289	Project Leadership and Design Tools	3	UAT 111	Apprentice Training	3
CIS 294	Information Systems Planning	3	UAT 121	Apprentice Training II	3
CNT 275	Multi-Layer Switching	4	UAT 131	Apprentice Training III.....	3
CNT 285	Network Troubleshooting	4	UAT 141	Apprentice Training IV.....	3
CON 104A	Construction I	5	UAT 151	Apprentice Training V	3
CPS 273	Web Programming and Oracle Database	4	UAT 161	Technical Seminar	3
	Access		UAT 171	Professional Seminar	3
DAN 130	Dance for Musical Theatre.....	2			
DAN 200	Advanced Performance - Dance	2			

Discontinued Courses

Course	Title	Credit	Course	Title	Credit
ACS 104	Study Skills Short Course	2	CIS 116	Windows Operating System I (Windows 95)	1
ACS 105	Vocabulary and Spelling Power	3	CIS 125	Local Area Networks I	2
ACS 120	TOEFL For ESL Students	3	CIS 225	Local Area Networks II	2
ACS 174	Co-Op Education I	1-3	CIS 260	Web Site Management	2
ACS 179	Family Literacy	3	CNT 215	Structured Cabling Systems	4
ART 124	Imaginative Drawing I	2	CPS 191	Introduction to LISP Programming	3
ART 126	Imaginative Drawing II	2	DEN 116	Ergonomic Concepts of Four-Handed Dentistry	2
BMG 100	Investments	1	ELE 139A	Microprocessors A	2
BMG 101	Business Career Opportunities	3	ELE 260A	Telephone System Signaling	1
BMG 235	Women in Management	3	ELE 275	Switching Systems	4
BMG 242	Cultural Diversity in the Workplace	0.5	ENG 031	English as a Second Language V	3
BMG 244	Self Management for Personal Productivity in the Workplace	0.5	ENG 104	Special Topics Seminar for ESL Students	1
BMG 255	Marketing and Management Career Development	2	GDT 233	Print Estimating	2
BMG 280	Business Etiquette	0.5	HSC 113	Introduction to Medical Science	2
BMG 282	Feedback: Criticism & Praise for Effective Performance	0.5	HSC 174	HSC Co-op I	1-3
BMG 284	Effective Telephone Techniques	0.5	HST 200	Michigan History	3
BMG 285	Meeting Management	0.5	HUM 180	Understanding the Moving Image - Film Analysis	3
BMG 286	Business Presentations	0.5	IND 100	Technical Drawing	4
BMG 288	Listening Skills	0.5	IND 111	Industrial Drafting I	4
BMG 289	Team Building	0.5	IND 114	Industrial Drafting II	4
BMG 290	Independent Directed Study	2-8	IND 220	CAD Application-Electronic	4
BOS 101C	Keyboarding and Introductory Document Formatting	1	IND 222	Intro. to Electronic Design	4
BOS 101D	Keyboarding and Intermediate Document Formatting	1	IND 223	Intro. to Surfaces and Solids	4
BOS 107A	Records Management	1	IND 230	Advanced Product Drafting	4
BOS 107B	Editing and Proofreading	1	ITS 100	Technology and Society	2
BOS 107C	Payroll Preparation and Procedures	1	MTH 036	Math Anxiety	1
BOS 107D	Clerical Communications and Job Skills	1	MTH 038	Building Math Confidence	1
BOS 108	Software Tools	2	MTT 111B	Machine Shop Theory and Practice B	3
BOS 109	Database Software	2	NCT 112A	Introduction to CNC Machining A	2
BOS 110	Spreadsheet Software	2	PHO 115	Photo Retouching	3
BOS 152	Computerized Transcription	3	PSY 114	Learning to Learn	3
BOS 203	Keyboarding and Document Formatting III	3	RAD 220	Management of Radiological Environment	2
CCP 152	Parenting Your Preschooler	1	RAD 221	Ethics and Legal Issues in Radiography	2
CCP 153	Parenting Your School-Age Child	1	RUS 111	First Year Russian I	4
CCP 154	Parenting Your Teenager	1	RUS 120	Conversational Russian	2
CIS 113	MS Windows	3	RUS 121	Intermediate Conversational Russian	2
			RUS 122	First Year Russian II	4

New Programs for 2000

Automotive Mechanics Advanced Certificate (CVAMA)
 Classic Auto Restoration Certificate (CTCAR)
 Collision Repair Advanced Certificate (CVCOLR)
 Computer Aided Drafting Advanced Certificate (CVCADA)
 Computer Networking AAS Degree (APCNTM)
 E-Commerce Certificate (CTECOM)
 Fluid Power Advanced Certificate (CVFLPA)
 General Studies in Applied Sciences AAS Degree (APGSAS)
 General Studies in Liberal Arts AA Degree (AAGSLA)
 General Studies in the Math and Nat Sciences AS Degree ASGSMS)
 Graphic Design Certificate (CTGDTC)
 Industrial Training AAS Degree (APITRN)
 Journeyperson Industrial Certificate (CTJPIC)
 Liberal Arts Honors Transfer WCC-UM/LS&A AA Degree (AALAHT)
 Nursing Assistant Skills Certificate of Completion (CCNAST)
 Object Oriented Programming Certificate (CTOOPC)
 Oracle Developer Post-Associate Certificate (CPORAC)
 Robotics Certificate (CTROBC)
 Unix/Linux Systems Certificate (CTUNLN)
 Web Database Developer Post-Associate Certificate (CPWDD)
 Web Programming Tools Certificate (CTWPTC)
 Windows C++/Java Developer Post-Associate Cert. (CPWNCJ)
 Windows Visual Basic Developer Advanced Certificate (CVWNVB)

New Concentrations

Contemporary Jazz Concentration (CJAZ)
 Dance Concentration (DANC)
 Drama/Theatre Concentration (DRAM)
 International Studies Concentration (INTS)
 Musical Theatre Concentration (MUST)

Discontinued Programs for 2000

Automotive Spray Painting Mastery Certificate (ABRS)
 Automotive Spray Painting Achievement Certificate (ASPC)
 Automotive Mechanics Mastery Certificate (ASC)
 Business Management Degree AAS (BMG)
 Computer Aided Drafting-Electronic Option ATS Degree (CADE)
 Correctional Science Mastery Certificate (CORC)
 Digital Prepress Mastery Certificate (DPP)
 Electronics Technology ATS Degree (ELET)
 Fluid Power Technology ATS Degree (FLPT)
 General Studies-All 5 Concentrations AGS Degree
 Hotel-Restaurant Management AAS Degree (HRM)
 Human Services AAS Degree (HUMS)
 Machine Tool Operation Mastery Certificate (TOMO)
 Medical Administrative Assistant Technology AAS Degree (MATD)
 Photographic Technology-Marketing Option ATS Degree (PHOM)
 Pre-Engineering Transfer-Chemical & Materials AS (PECT)
 Quality Control Technology-Electronics Opt ATS Degree (QCTE)
 Quality Control Technology-Management Opt ATS Degree (QCTM)
 Quality Control Technology-Sci & Engineering ATS Degree (QCTS)
 Quality Control Technology-Specialty Option ATS Degree (QCTP)

Program Changes: changes in title, code, and degree/certificate awarded

This list does not include changes in program requirements.

WAS

Accounting AAS Degree (ACCT)
 Administrative Assistant Technology AAS Degree (AATD)
 Administrative Assistant Technology Mastery Certificate (AATC)
 Architectural Drafting ATS Degree (AD)
 Architectural Drafting Detailing Mastery Certificate (ADD)
 Automotive Body Repair Mastery Certificate (ABRC)
 Automotive Body Service ATS Degree (ABRD)
 Automotive Mechanics Mastery Certificate (ASC)
 Automotive Service Technology ATS degree (ASD)
 Baking and Pastry Mastery Certificate (BAKP)
 Business AS Degree (BAS)
 Business Computer Programming AAS Degree (BCP)
 Business Sales Mastery Certificate (BSLS)
 Child Care AAS Degree (CC)
 Child Development Achievement Certificate (CDA)
 Computer Aided Drafting-Mechanical Option ATS Degree (CADM)
 Computer Information Systems Transfer AS Degree (CIST)
 Computer Networking Technology I Advanced Certificate (CNT)
 Computer Networking Technology II Advanced Certificate (CNTA)
 Computerized Accounting Mastery Certificate (CAC)
 Computer Software Specialty Achievement Certificate (CSSC)
 Computer Systems Technology Mastery Certificate (CSTC)
 Construction Management AAS Degree (CON)
 Correctional Science AA Degree (COR)
 Criminal Justice AA Degree (CJ)
 Criminal Justice-Law Enforcement AAS Degree (CJLE)
 Culinary Arts AAS Degree (CUL)
 Dental Assisting Mastery Certificate (DAC)
 Drafting Detailing Mastery Certificate (DFTC)
 Electrical Engineering Technology AAS Degree (EETT)
 Electronics Technology Mastery Certificate (ELET)
 Facility Management Administration Achievement Certificate (FMA)
 First Line Management AAS Degree (FLMD)
 First Line Management Mastery Certificate (FLMC)
 Food Production Specialty Mastery Certificate (FPS)
 Graphic Design Technology-Design Option ATS Degree (GDTD)
 Graphic Design Technology-Illustration Option ATS Degree (GDTI)
 Heating Ventilation and Air Conditioning Achievement Certificate (HVAC)
 Human Resource Management Achievement Certificate (HRSC)
 Human Services Transfer AA Degree (HUST)
 Humanities and Social Sciences AA Degree (HSAA)
 Hydraulic Assembly Mastery Certificate (HYDA)
 Internet Professional AAS Degree (INPD)
 Internet Professional Mastery Certificate (INPC)
 Journeyperson Industrial ATS Degree (JPI)

IS NOW

Accounting AAS Degree (APACCT)
 Administrative Assistant Technology AAS Degree (APAATD)
 Administrative Assistant Technology Certificate (CTAATC)
 Architectural Drafting AAS Degree (APAD)
 Architectural Technology Certificate (CTARCT)
 Automotive Body Repair and Refinishing Certificate (CTABRC)
 Collision Repair AAS Degree (APCOLM)
 Automotive Technology Certificate (CTATC)
 Automotive Mechanics AAS Degree (APAUTM)
 Baking and Pastry Certificate (CTBAKP)
 Business Transfer AS Degree (ASBAS)
 Business Computer Programming AAS Degree (APBCP)
 Business Sales and Marketing Certificate (CTBSLM)
 Child Care AAS Degree (APCC)
 Child Development Certificate (CTCDA)
 Computer Aided Drafting & Design AAS Degree (APCADD)
 Computer Information Systems Transfer AA Degree (AACIST)
 Computer Networking Technology I Advanced Certificate (CVCNT)
 Computer Networking Technology II Advanced Certificate (CVCNTA)
 Accounting Certificate (CTCAC)
 Computer Software Applications Certificate (CTGSSC)
 Computer Systems Technology Certificate (CTCSTC)
 Construction Management AAS Degree (APCONM)
 Correctional Science AAS Degree (APCOR)
 Criminal Justice AA Degree (AACJ)
 Criminal Justice-Law Enforcement AAS Degree (APCJLE)
 Culinary and Hospitality Management AAS Degree (APCULD)
 Dental Assisting Certificate (CFDAC)
 Computer Aided Drafting Certificate (CTCADC)
 Electrical & Computer Engineering Technology AS Degree (ASECET)
 Electronics Technology Certificate (CTELET)
 Facility Management Administration Certificate (CTFMA)
 Management Supervision AAS Degree (APMGTM)
 Management Supervision Advanced Certificate (CVMGTA)
 Culinary Arts Certificate (CFCULC)
 Graphic Design Technology-Design Option AAS Degree (APGDTD)
 Graphic Design Technology-Illustration Option AAS Degree (APGDTI)
 Heating Ventilation and Air Conditioning Certificate (CTHVAC)
 Human Resource Management Certificate (CTHRSC)
 Human Services AA Degree (AAHUST)
 Humanities and Social Sciences AA Degree (AAHSAA)
 Fluid Power Technology Certificate (CTFLPC)
 Internet Professional AAS Degree (APINPD)
 Internet Professional Certificate (CFINPC)
 Journeyperson Industrial AAS Degree (APJPIM)

Program Changes Continued

This list does not include changes in program requirements.

WAS

Machine Operation Achievement Certificate (MOPC)
 Machine Tool Technology Advanced Certificate (MTTA)
 Machine Tool Technology ATS Degree (MTT)
 Math and Science AS Degree (MSAS)
 Mechanical Design Advanced Certificate (MDES)
 Mechanical/Manufacturing Engineering Technology AAS Degree (METT)
 Medical Administrative Assistant Technology Mastery Certificate (MATC)
 Medical Transcription Achievement Certificate (MTR)
 Numerical Control Programming Advanced Certificate (NCP)
 Numerical Control Technology ATS (NCTT)
 Nursing Transfer AS Degree (NURT)
 Pharmacy Technology Mastery Certificate (PHT)
 Photographic Assisting Certificate (PHOA)
 Photographic Technology ATS Degree (PHOT)
 Pre-Engineering Science-Transfer AS Degree (PET)
 Professional Office Systems Achievement Certificate (POSC)
 Radiography AAS Degree (RAD)
 Registered Nursing AAS Degree (NURS)
 Residential Construction Technology Achievement Certificate (RCT)
 Respiratory Therapy AAS Degree (RTH)
 Robotic Technology ATS Degree (ROB)
 Scientific and Technical Communication AAS Degree (STC)
 Skill Building Certificate of Completion (SKBC)
 Small Business and Entrepreneurship Achievement Certificate (SBEA)
 Sterile Processing and Distribution Achievement Certificate (SPDC)
 Surgical Technology Mastery Certificate (SURC)
 Welding Achievement Certificate (WLDC)
 Welding Maintenance Mechanics Mastery Certificate (WLDM)
 Welding Technology ATS Degree (WLDT)

IS NOW

Machine Operator Certificate (CTMOC)
 Machine Tool Technology Advanced Certificate (CVMTTA)
 Machine Tool Technology AAS Degree (APMTT)
 Math and Science AS Degree (ASMSAS)
 Mechanical Design Post Associate Certificate (CPMDES)
 Mechanical/Manufacturing Engineering Technology AAS Deg (APMETT)
 Medical Administrative Assistant Technology Certificate (CFMATC)
 Medical Transcription Certificate (CTMTR)
 Numerical Control Programming Advanced Certificate (CVNCP)
 Numerical Control Programming AAS Degree (APNCPM)
 Nursing Transfer AAS Degree (APNURT)
 Pharmacy Technology Certificate (CTPHT)
 Basic Photographic Imaging Certificate (CTBPHO)
 Photographic Technology AAS Degree (APPHOT)
 Pre-Engineering Science-Transfer AS Degree (ASPET)
 Professional Office Systems Certificate (CTPOSC)
 Radiography AAS Degree (APRAD)
 Registered Nursing AAS Degree (APNURS)
 Residential Construction Technology Certificate (CTRCT)
 Respiratory Therapy AAS Degree (APRTH)
 Robotic Technology AAS Degree (APROB)
 Scientific and Technical Communication AAS Degree (APSTC)
 Skill Building Certificate of Completion (CCSKBC)
 Small Business and Entrepreneurship Certificate (CTSBEA)
 Sterile Processing and Distribution Certificate of Completion (CCSPDC)
 Surgical Technology Certificate (CFSURC)
 Welding Certificate (CTWLDC)
 Welding Maintenance Mechanics Advanced Certificate (CVWLDA)
 Welding Technology AAS Degree (APWLDM)





Personnel



Personnel

■ Board of Trustees

Member	Term Expires
Richard W. Bailey, Chair	December 31, 2002
David Rutledge, Vice Chair	December 31, 2002
Diana McKnight-Morton, Secretary	December 31, 2000
Harry Korschuh, Treasurer	December 31, 2002
Mary Branch, Trustee	December 31, 2004
R. Griffith McDonald, Trustee	December 31, 2000
Mary Schroer, Trustee	December 31, 2004

■ Executive Officers

Whitworth, Larry L.1998
President

B.A. - Adrian College
 M.B.A. - Duquesne University
 Ed.D. - University of Pittsburgh

Altieri, Guy1987
Executive Vice President for Instruction

B.A. - Rowan University
 M.A. - Rowan University
 M.A. - West Chester University
 M.A. - Columbia University
 Ed.D. - Columbia University

Vacant

Vice President of Administration and Finance

Flowers, Damon1994
*Associate Vice President of Facilities
 Development / Operations*

B.S. - Lawrence Technological University
 M.S. - Central Michigan University

Stitt, Sarah J.1999
Associate Vice President: Human Resource Management

License - State of Texas
 License - State of Michigan
 B.A. - Rhodes College
 M.T.S. - Harvard University
 J.D. - Florida State College of Law

Williams, Calvin1969
Associate Vice President of Student Services

A.B. - Western Michigan University
 A.M. - The University of Michigan
 Ph.D. - The University of Michigan

■ Academic Deans

Bertoia, Roger R.1966
Dean of Technology

B.S.E. - The University of Michigan
 M.S. - The University of Michigan

Blain, Adella M.1975
Dean of Learning Resources

B.A. - The University of Michigan
 M.A.L.S. - The University of Michigan

Blakey, Linda S.1988
Dean of Enrollment Services

B.S. - The University of Michigan
 M.S. - The University of Nevada at Las Vegas
 M.A. - The University of Michigan

Dries, Cathie1989
Dean: Continuing Education and Community Services

A.A. - Delta Community College
 B.A. - Michigan State University
 M.A. - Central Michigan University

Galant, Richard L.1978

Dean of Humanities and Social Sciences
A.B. - The University of Michigan
A.M. - The University of Michigan
Ph.D. - The University of Michigan

Grzegorzczuk, Phyllis.....1978

Dean of Health and Public Services
B.S. - The University of Michigan
M.S. - The University of Michigan
S.A. - The University of Michigan
Ph.D. - The University of Michigan

Jacques, Edith N......1976

Dean of Evening, Extension and Learning Support Services
B.A. - D'Yonville College
M.A. - The University of Michigan
Ph.D. - The University of Michigan

Showalter, Martha.....1980

Interim Dean: Math and Natural Sciences
B.S. - Ohio State University
B.A. - Ohio State University
M.Ed. - University of Houston

Wilson, Rosemary1986

Interim Dean: Business
B.S. - Milligan College
M.B.A. - University of Notre Dame

■ Faculty and Professional Staff

Abella, Mohammed1999

Faculty: Mathematics
Ph.D. - University of Miami
M.S. - University of Miami
B.S. - University of Bradford, England

Abernethy, Bill1993

Faculty/Department Chair: English/Writing
B.A. - University of Oregon
M.A. - University of Oregon
Ph.D. - University of Wisconsin

Abrams, Terry1990

Faculty/Department Chair: Visual Arts
E.D.M. - Boston University
B.F.A. - Maryland Institute College of Art and Design
Certificate - Agfa-Gevaert

Adler, Sally1993

Faculty: Public Service Careers
B.S. - Pennsylvania State University
M.S. - Pennsylvania State University
Certificate - PA Dept of Education

Aeiltz, Larry1999

Associate Registrar
B.B.A. - Cleary College
M.S. - Walsh College

Allison, Lynn M.1988

Faculty: Business Office Systems
A.D. - Washtenaw Community College
B.B.A. - Eastern Michigan University
M.B.E. - Eastern Michigan University

Anders, Derek F......1999

Specialist: Information Systems
Certificate - Washtenaw Community College
A.D. - Livonia Career Center

Anderson, Laurice A.1998

Faculty: Performing Arts
B.A. - Butler University
M.F.A. - The University of Michigan

Andi, Kimberly M.1995

Coordinator: Health/Public Services Programs
A.D. - Washtenaw Community College
B.A. - Eastern Michigan University

Atkinson, John H.1997

Faculty: Public Service Training
B.A. - The University of Michigan
J.D. - Detroit College of Law
M.P.A. - Eastern Michigan University

Avinger, Charles1992

Faculty: English/Writing
B.S. - University of Alabama
M.A. - University of Alabama

Babcock, H. Lind1994

Faculty: Visual Arts Technology
B.F.A. - Michigan State University
M.A. - Central Michigan University
M.F.A. - Kent State University

Baker, Gerald A.1975

Faculty/Department Chair: Radiography
A.A.S. - Wayne County Community College
B.S. - Ferris State University
R.T. - The American Registry of Radiologic Technologists
M.Ed. - The University of Michigan

- Baker, Jennifer L.**1995
Faculty: Visual Arts Technology
 A.D. - Washtenaw Community College
 A.B. - The University of Michigan
 M.F.A. - Rhode Island School of Design
- Baker, Mark E.**1994
Firearms Range Master: Public Service Training
 A.D. - Henry Ford Community College
- Batell, Mark F.**1984
Faculty: Mathematics
 B.A. - Knox College
 M.A. - The University of Michigan
 M.A. - The University of Michigan
- Bayer, Deborah K.**1994
Faculty: English / Writing
 B.A. - Michigan State University
 M.A. - Michigan State University
- Beauchamp, Jillaine**1976
Faculty: Foods and Hospitality
 B.S. - Eastern Michigan University
 M.S. - The University of Michigan
- Bellers, Clifford**1968
Faculty / Department Chair: Accounting
 B.B.A. - Eastern Michigan University
 M.A. - Eastern Michigan University
- Bellers, Bob**1968
Laboratory Assistant: Electricity / Electronics
 A.D. - Washtenaw Community College
 License - Federal Communications Commission
 B.S. - Eastern Michigan University
- Benzshawel, Cynthia J.**2000
Director of Admissions
 M.B.A. - University of Wisconsin - Oshkosh
 B.B.A. - University of Wisconsin - Oshkosh
- Bhattacharyya, Nilotpal**1999
Unix Administrator
 B.M.S. - University of Gaubati
- Biederman, Rosalyn L.**1967
Faculty / Department Chair: Foreign Languages
 B.A. - Ohio State University
 M.A. - Ohio State University
- Bila, Dennis W.**1969
Faculty: Mathematics
 B.S. - Central Michigan University
 M.A. - Wayne State University
- Bogue, Robert A.**1984
Instructional Lab Assistant: Automotive Services
 A.D. - Washtenaw Community College
 Certificate - State of Michigan
 B.S.Ed. - The University of Michigan
 Certificate - A.S.E.
- Bracco, Patrick** 2000
 B.S.E. - The University of Michigan
 M.S.E. - The University of Michigan
- Brandenburg, Elaine M.**1997
Director: Contract Training Project
 B.S. - Michigan State University
- Bressler, Allan**1980
Computer Operator II: Information Services
- Brown, Bonita**1981
Technician: Security / EMT
 EMT Certificate - State of Michigan
- Brown, Kathie M.**1988
Specialist: Student Resources / Women's Center
 A.D. - Washtenaw Community College
- Bundra, Carol**1987
Coordinator: Open Computer Labs / Network
 A.D. - Washtenaw Community College
- Burgen, Clarence**1997
Manager: Mechanical Systems
- Butcher, Kathleen**1989
Faculty / Department Chair: Physical Science
 B.S. - St. Mary's College
 M.S. - Wayne State University
- Bylsma, Donald, Jr.**1966
Faculty: Behavioral Science
 B.S. - Wayne State University
 M.S. - Wayne State University
 Ph.D. - The University of Michigan
- Charlton, Eleanor**1966
Faculty: Business Office Systems
 B.S. - Central Michigan University
 M.A. - Central Michigan University
- Chisholm, Arnett**1988
Associate Counselor: Counseling, Career Planning and Placement
 B.S. - The University of Michigan
 M.A. - Eastern Michigan University

- Clark, Diana**1989
Counselor: Counseling, Career Planning and Placement
 A.D. - Washtenaw Community College
 B.S. - Eastern Michigan University
 M.A. - Eastern Michigan University
- Cleary, William T., Jr.**1983
Faculty: Electricity / Electronics
 A.S.E.E.T. - University of Maine
 B.E.E.T. - University of Maine
 M.B.A. - University of Maine
- Crean, Patricia K.**1996
Director: Continuing Education and Community Services
 M.A. - Michigan State University
 B.A. - Western Michigan University
- Crider-Pierce, Patricia**1997
Coordinator: Technical Education and Construction Institute
 A.D. - Washtenaw Community College
 J.M.N. - United States Department of Labor
 B.A. - Concordia College
- Croake, Edith M.**1966
Faculty: English / Writing
 B.A. - The University of Michigan
 M.A.T. - Northwestern University
 M.A. - Northwestern University
 D.A. - The University of Michigan
- Cullen, Kathy A.**1996
Director: Customized Training Projects
 B.A. - State University of New York, Albany
- Culver, Rosalyn**1989
Faculty: Business Office Systems
 B.S. - Michigan State University
 M.A. - Michigan State University
- Currie, Kathy**1989
Coordinator: Enrollment Services
 A.D. - Washtenaw Community College
- Cygnar, Patricia**1989
Director: Curriculum and Articulation Services
 B.F.A. - University of Illinois
 M.Ed. - University of Illinois
- Czinski, Margo**.....1999
Faculty: English / Writing
 B.A. - Michigan State University
 M.A. - The University of Michigan
- Daniels, Cheryl**.....1990
Employment Specialist: Human Resource Management
 A.A. - Schoolcraft College
- DeCamp, JoAnna**1996
Director: Cool Project
 M.S.W. - The University of Michigan
 B.A. - Brooklyn College
- Dedhia, Hiralal**1987
Clinical Instructor: Respiratory Therapy
 A.D. - Washtenaw Community College
 B.S. - University of Poona
 M.S. - Madonna College
- Deinzer, Carol**1999
Faculty: Foods & Hospitality
 A.C. - Monroe County Community College
- DeMerrill, Diane J.**1990
Coordinator, Eastern Extension Center: Adult Transitions
- Dick, Roger**1979
Faculty: Industrial Technology
 A.S. - Ferris State College
 B.S. - Western Michigan University
 M.A. - Eastern Michigan University
- Dixon, Barton**1995
Security Patrol Officer: Campus Security
 A.D. - Washtenaw Community College
- Donahey, Jeffrey**1984
Faculty: Industrial Technology
 B.S. - The University of Michigan
- Donia, Richard L.**1999
Faculty: Automotive Services
 B.S. - Western Michigan University
- Downen, Gary W.**1983
Faculty / Department Chair: Electricity / Electronics
 B.G.S. - The University of Michigan
 M.A. - Eastern Michigan University
- Downey, Patrick**1994
Specialist: Conference Services
- Eby, David**1999
Information Technology Support Specialist: Information Systems
 A.S. - Northwestern Michigan College
 B.S. - Lake Superior State University
- Egan, James**1989
Faculty: Mathematics
 B.A. - Case Western Reserve University
 B.S. - Case Western Reserve University
 M.S. - The University of Michigan
 M.S. - The University of Michigan

- Ellen, Kim**1998
Coordinator, Northern Extension Center: Regional Services
B.A. - Michigan State University
- Ennes, Steven M.**1987
Faculty: Business
A.A.S. - Macomb Community College
B.S. - Western Michigan University
- Everin, William J.**1997
Research Analyst: Institutional Research
B.S. - Northwestern University
M.S. - Purdue University
- Farrackand, Jamall**1997
Security Patrol Officer: Campus Security
A.D. - Washtenaw Community College
- Faulkner, Mary K.**1983
Administrative Assistant to the President
A.D. - Washtenaw Community College
- Fauri, Greta**1977
Student Services Advisor: Children's Center
B.A. - Adrian College
- Ferguson, Russell**2000
Faculty: Automotive Services
B.S.E. - Central Michigan University
- Ferguson, Steven D.**1997
Microcomputer Support Specialist: Business Division
A.D. - Washtenaw Community College
- Fielding, Elaine**2000
Statistical Analyst: Institutional Research
B.A. - Smith College
M.S. - University of Wisconsin
Ph.E. - University of Wisconsin
- Figg, William**1972
Faculty/Department Chair: Welding and Fabrication
A.D. - Washtenaw Community College
- Finkbeiner, Betty Ladley**1969
Faculty/Department Chair: Dental Assisting
A.A. - Grand Rapids Junior College
C.D.A. - Dental Assistance National Board
R.D.A. - Michigan Board of Dentistry
B.S. - The University of Michigan
M.S. - The University of Michigan
- Finkbeiner, Charles A.**1975
Faculty: Computer Information Systems
Department Chair: Business Office Systems
A.D. - Washtenaw Community College
B.S. - The University of Michigan
M.S. - The University of Michigan
- Fish, Judith R.**1991
Faculty: Physical Science
B.S. - State University of New York, Albany
M.S. - State University of New York, Albany
Ph.D. - Oakland University
- Fitzpatrick, David J.**1996
Faculty: Social Science
Ph.D. - The University of Michigan
A.M. - The University of Michigan
B.S. - United States Military Academy
- Flack Jr., Joseph L.**1990
Faculty: Business
B.A. - Eastern Michigan University
M.B.A. - University of Detroit
J.D. - Detroit College of Law
- Foster, Brenda**1997
Faculty: Mathematics
A.A. - Seattle Central Community College
B.A. - The University of Washington
M.A. - The University of California
- Foster, Connie S.**1990
Faculty: Radiography
A.D. - Washtenaw Community College
B.S. - Central Michigan University
M.A. - Eastern Michigan University
- Fracker, Ronald**1999
Music Instructor/Productions Director: Performing Arts
B.A. - The University of Michigan
M.A. - The University of Michigan
- Frye, Iota H.**1975
Counselor: Counseling, Career Planning and Placement
B.S. - Eastern Michigan University
M.A. - Eastern Michigan University
- Galea, Michael**1998
Faculty/Department Chair: Computer Information Systems
B.S. - Wayne State University
M.A. - Wayne State University
- Galvin, Ralph H.**1984
Director: Public Service Training
B.S. - Nazareth College
- Garrett, Don L.**1975
Faculty/Department Chair: Foods and Hospitality
A.D. - Washtenaw Community College
Certificate - American Culinary Federation
B.S. - Mercy College of Detroit

Gatewood, David1997

Budget Director: Financial Services
 B.A. - Oregon State University
 M.A. - Southern Methodist University
 M.B.A. - Southern Methodist University

Gerlitz, Frank1991

Faculty: Drafting
 B.S. - University of Wisconsin
 M.S. - University of Wisconsin
 Ph.D. - University of Wisconsin

Geyer, Philip1998

Faculty: Computer Information Systems
 B.S. - The University of Michigan
 M.S. - The University of Michigan

Ghrist, William1996

Manager: Maintenance
 A.D. - Washtenaw Community College

Gibson, Maxine1990

Faculty: English/ Writing
 B.S. - Eastern Michigan University
 M.A. - The University of Michigan

Gilgenbach, Catharine H.1998

Specialist: Student Resources/ Women's Center
 B.S. - Wisconsin State University
 M.A. - Eastern Michigan University

Glass, Michael K.1991

Student Services Advisor: Club Sports
 B.S. - Eastern Michigan University
 M.A. - Eastern Michigan University
 M.S. - Eastern Michigan University

Glowski, Susan K.1988

Faculty: English/ Writing
 B.A. - Beloit College
 M.A. - San Francisco State University

Glushyn, Diana R.1992

Supervisor: Clerical Services

Goldberg, David1977

Faculty: Mathematics
 B.S. - The University of Michigan

Golembieski, Thomas F.1997

Supervisor: Campus Security Services
 M.A. - Central Michigan University
 B.S. - Madonna College

Goodkin, Barbara H.....1975

Faculty: Nursing
 B.S.N. - The University of Michigan
 M.S. - The University of Michigan

Gracie, Cheryl D.1989

Faculty: Business
 B.B.A. - Eastern Michigan University
 M.B.A. - Eastern Michigan University
 J.D. - University of Oregon
 C.P.A. - The State of Michigan

Greashaber, Anne L.1997

Professional Services Instructor: Adult Transitions
 B.A. - The University of Michigan
 M.A. - The University of Michigan

Green, Celeste1999

Annual Fund Coordinator: WCC Foundation
 B.A. - North Central College

Grimes, William L.1991

Faculty: Business
 B.A. - University of Southern California
 M.A. - The University of Michigan
 M.B.A. - University of California - L.A.

Groce, Kimberly1999

Specialist: Student Resources/ Women's Center
 L.L. - State of Michigan
 B.S.W. - University of Detroit
 M.A. - Eastern Michigan University

Grossman, Esta1975

Faculty: Life Sciences
 B.A. - Pembroke College in Brown University
 M.A. - The City College of New York
 M.S.W. - The University of Michigan

Grotrian, Paulette1980

Faculty: Humanities
 B.A. - Valparaiso University
 M.A. - Valparaiso University
 M.A. - Eastern Michigan University

Guastella, C. Dennis1980

Faculty: Visual Arts Technology
 A.A. - Macomb County Community College
 B.F.A. - Wayne State University
 M.F.A. - Eastern Michigan University

Hackmann, Bruce1999

Faculty: Humanities
 Certificate - Pennsylvania Department of Education
 B.A. - Adrian College

- Hagen, Laura A.**1997
Facilities Planner: Facilities Management
 B.A.R.C.H. - Virginia Polytechnic Institute
 License - Board of Architects
- Hagood, Robert M.**1997
Faculty: Physical Science
 B.S. - Eastern Michigan University
 M.S. - Eastern Michigan University
- Hall, Clyde**1978
Faculty: Welding and Fabrication
 A.D. - Washtenaw Community College
 B.S. - The University of Michigan
 A.W.S. - Certified Welding Inspector
- Halliday, Geoffrey B.**1997
Microcomputer Hardware Support Specialist: Information Systems
 A.D. - Washtenaw Community College
- Hammond, Linda**1987
Director: Customized Training
 B.A. - The University of Michigan
 M.A. - The University of Michigan
- Hann, David F.**1986
Director of Accounting Services: Financial Services
 B.S. - Brigham Young University
 M.A. - Eastern Michigan University
- Harris, Sally D.**1981
Associate Counselor: Counseling/Career Planning
 A.D. - Washtenaw Community College
 B.A. - Concordia College
 M.A. - Eastern Michigan University
- Hasselbach, Clarence**2000
Faculty: Computer Information Systems
 B.W. - Michigan State University
 M.S. - University of South Carolina
 M.A. - University of California - Berkeley
- Hatcher, Ruth**1981
Faculty: English/Writing
 A.B. - Earlham College
 M.A. - The University of Michigan
- Hawkins, Janet L.**1977
Coordinator, Public Information: Promotional Services
 A.D. - Washtenaw Community College
 B.B.A. - Eastern Michigan University
- Heator, Martin G.**1985
Director: Promotional Services
 B.S. - Eastern Michigan University
 M. A. - Eastern Michigan University
- Heidebrink, Gregg S.**1995
Faculty: Social Science
 B.A. - Iowa State University
 M.A. - Southern Methodist University
- Heise, Anne E.**1993
Faculty: Life Sciences
 B.A. - Swarthmore College
 M.S. - University of Vermont
- Hemsteger, Thomas**1991
Faculty: Automotive Services
 A.A.S.- Ferris State University
 B.S. - Eastern Michigan University
 M.A. - Eastern Michigan University
- Hill, Birgitte**1986
Accountant for Cash Management: Financial Services
 B.A. - The University of Michigan
 CCM - Treasury Management Association
- Holmes, Nan**1995
Faculty: Behavioral Sciences
 A.B. - Bryn Mawr
 M.A. - Bryn Mawr
 Ph.D. - Bryn Mawr
- Hommel, Judith C.**1992
Executive Associate to the President
 A.A. - Cottey Junior College
 B.S. - University of Oklahoma
 B.F.A. - Eastern Michigan University
- Horne, Beth**1997
Laboratory Assistant: Foods & Hospitality
 A.A.B. - University of Toledo
 Certificate - University of Toledo
- Horowitz, Frederick A.**1968
Faculty: Humanities
 B.A. - Yale University
 B.F.A. - Yale University
 M.F.A. - The University of Michigan
- Hosier, Deborah**2000
Manager of Student Accounting: Financial Services
 B.B.A. - Cleary College
- Hoth, Bradley**1987
Student Advisor: Admissions
 A.A. - Henry Ford Community College
 B.A. - Michigan State University
 M.A. - Eastern Michigan University

- Hower, Guy W.**1966
Director: Financial Aid
 B.B.A. - The University of Michigan
 M.A. - The University of Michigan
- Hower, Laura**2000
Graphic Services Specialist: Promotional Services
 A.T. S. - Washtenaw Community College
- Hughes, Patrick**2000
Manager of Network/Communications: Information Systems
 A.S. - Henry Ford Community College
 B.S. - Madonna College
- Hunt, Barbara**1968
Faculty: English/Writing
 B.A. - University of Toledo
 M.A. - The University of Michigan
 D.A. - The University of Michigan
- Iler, Joanne L.**1994
Coordinator: Financial Aid
 A.A. - Concordia College
 B.A. - Concordia College
 M. Ed. - University of Toledo
- Jackson, Lawrence**1998
Laboratory Instructor: Public Service Training
 Certificate - State of Michigan
 B.S. - Wayne State University
- James, William E.**1994
Faculty: English/Writing
 B.A. - The University of Michigan
 M.A. - Wayne State University
- Jenkins, Joyce**1998
SCT End User Trainer: Information Systems
 B.S. - Michigan State University
- Jett, Sukanya J.**1992
International Student Specialist: Admissions
 A.A. - Cottey Junior College
 B.A. - Radford University
- Ji, Shiping**1999
Systems Analyst III: Information Systems
 B.S. - Eastern Michigan University
- Jindal, Usha R.**1982
Faculty: Internet Professional
 B.S. - Delhi University
 B.S. - Pennsylvania State University
 M.S. - Pennsylvania State University
- Johnson, Charles**1998
Faculty: Humanities
 B.A. - Oakland University
 M.A. - Michigan State University
 Ph.D. - Michigan State University
- Johnston, Mark**1990
Faculty: Accounting
 B.B.A. - Eastern Michigan University
 M.S. - Walsh College
- Jones, Katherine L.**1992
Director: Business Education Special Services
 B.F.A. - Denison University
- Jordan, Cole L.**1978
Associate Counselor: Counseling, Career Planning and Placement
 A.D. - Washtenaw Community College
 B.A. - Wayne State University
 M.A. - Eastern Michigan University
- Jordan, Lester**1979
Faculty: Automotive Services
 B.A. - Eastern Michigan University
 M.Ed. - Wayne State University
- Jozwik, Deborah L.**1998
Support Specialist: Information Systems
 A.D. - Washtenaw Community College
- Kalmbach, John**2000
Director of Media Services: Learning Technologies
 B.A. - University of Toledo
 M.Ed. - University of Toledo
 Ed.D. - University of Toledo
- Kapp, George**1970
Faculty: Physical Science
 A.D. - Washtenaw Community College
 B.S.E. - The University of Michigan
- Kasischke, Laura**1992
Faculty: English/Writing
 B.A. - The University of Michigan
 M.F.A. - The University of Michigan
- Kerans, Ellen**1991
Director of Development: WCC Foundation
 B.A. - The University of Michigan
- Kerr, John**1993
Faculty: Social Science
 B.S.Ed. - Central Michigan University
 M.A. - Western Michigan University
 M.A. - Western Michigan University

- Kibens, Maija**1976
Faculty: Humanities
 B.A. - Mount Holyoke College
 M.A. - The University of Michigan
 Ph.D. - The University of Michigan
- King, Linda**1998
Director: Adult Transitions
 A.B. - The University of Michigan
 A.M. - The University of Michigan
- King, Richard**1998
Regional Director: Michigan Small Business Development Center
 A.B. - Lawrence University
 M.B. A. - Dartmouth
- Kinney, Nancy**1995
Faculty: Social Science
 B.A. - University of Maine
 M.A. - University of Maine
 M.A. - The University of Michigan
- Kirkland, Robert W.**1988
Faculty: Humanities
 B.A. - The University of Michigan
 M.A. - The University of Michigan
- Kollen, Michael**1969
Faculty/ Department Chair: Behavioral Sciences
 B.A. - Knox College
 M.S. - New Mexico Highlands University
 M.A. - The University of Michigan
- Komarmy, Tracy L.**1993
Faculty/ Department Chair: Performing Arts
 B.S. - Eastern Michigan University
 M.A. - Eastern Michigan University
- Kotrba, Connie J.**1978
Project Manager: Customized Training
 B.S. Central Michigan University
 M.A. Eastern Michigan University
- Kramer, Lawrence**1977
Faculty: Electricity/ Electronics
 B.S.E.E. - The University of Michigan
- Krantz - Fischer, Carrie**1992
Faculty: English/ Writing
 B.S.- Edinboro University Pennsylvania
 M.A.- Bowling Green State University
- Krieg, Laurence J.**1983
Faculty/ Department Chair: Internet Professional
 B.A. - College of Wooster
 M.A. - The University of Michigan
 Ph.D. - The University of Michigan
- Ladha, Aminmohamed J.**1995
Executive Director of Information Technology: Information Systems
 B.S. - Eastern Michigan University
 M.L.S. - Eastern Michigan University
- LaHote, Randy**1992
Faculty/ Department Chair: Social Science
 B.A. - University of Toledo
 M.A. - University of Toledo
- Lee, Granville W.**1990
Faculty/ Department Chair: Business
 B.S. - New York University
 M.B.A. - University of Dayton
- Lee, Michael N.**1998
Coordinator of Computer Labs: Business Division
 A.A. - Washtenaw Community College
- Lee, Sherry S.**1994
Faculty: Nursing
 B.S.N. - The University of Michigan
 M.S.N. - Wayne State University
 D.I.P. - Henry Ford Hospital School of Nursing
- Leonard, Timothy R.**1998
Coordinator, Grants/ Resources: Grant/ Contracts Development Administration
 A.B. - The University of Michigan
 M.A. - The University of Michigan
 M.B.A. - The University of Michigan - Flint
- Levy, Mary L.**1981
Systems Development Manger: Information Systems
 B.A. - College of Wooster
 M.A. - The University of Michigan
- Lippens, Joan**1993
Faculty: Academic Skills
 B.A. - Queen's University, Kingston
 B. Ed - Queen's University, Kingston
 M.A. - Eastern Michigan University
- Little, Patrick J.**1986
Director: Campus Security Services
 A.D. - Washtenaw Community College
 B.A. - Concordia College
 License - State of Michigan
 Graduate - FBI National Academy
- Liu, Victor**1991
Director of Library Services: Learning Resources Center
 B.A. - University of South Carolina
 M.A. - Michigan State University
 M.I.L.S. - The University of Michigan

- Lockard, Jon M.**1970
Faculty: Humanities
- Longino, Charlene**1994
Director: Children's Center
B.A. - Northern Illinois University
M.A. - Eastern Michigan University
- Lu, Yin**1994
Faculty: Mathematics
B.S. - National Taiwan University
M.S. - National Taiwan Normal University
Ph.D. - State University of New York, Buffalo
- Lutz, Geoffrey A.**1986
Systems Analyst II: Information Systems
B.S. - The University of Michigan
- MacDonald, Janet G.**1967
Faculty: Mathematics
B.A. - The University of Michigan
M.A. - Cornell University
- Mann, John B.**1971
Faculty/Department Chair: Automotive Service
B.S. - Eastern Michigan University
M.A. - The University of Michigan
A.S.E. - National Auto Technical Certification
- Mansour, Khaled**2000
Faculty: Computer Information Systems
M.S. - Western Michigan University
B.S. - Yarmouk University
- Mattingly, Lenae D.**1997
Compensation/Benefits Analyst: Human Resource Management
B.A. - Michigan State University
- McCarthy, Sandra**1999
Associate Librarian: Learning Technologies
B.A. - Wayne State University
M.S. - Wayne State University
M.A. - Mercy College of Detroit
- McGraw, Michael**1993
Faculty: Drafting
A.D. - Washtenaw Community College
B.S. - Eastern Michigan University
M.S. - Eastern Michigan University
- McGuire, Belinda G.**1988
Faculty: Drafting
A.S. - Monroe County Community College
B.F.A. - Eastern Michigan University
M.Ed. - The University of Toledo
- McPherson, Paul D.**1990
Faculty: Foods and Hospitality
B.A. - Madonna College
M.S.A. - Central Michigan University
Certificate - American Culinary Federation
- Meade, Roland**1990
Faculty: Computer Information Systems
B.S. - Northern Michigan University
M.A. - Western Michigan University
Ph.D. - Western Michigan University
- Miin, Jong-Mann P.**1998
Database Analyst: Information Systems
B.S. - FuJen University
M.S. - Eastern Michigan University
- Miller, Jean**1989
Faculty: English/Writing
B.A. - Marygrove College
M.A. - University of Tulsa
- Minock, Daniel W.**1983
Faculty: English/Writing
A.B. - University of Detroit
M.A. - University of Detroit
Ph.D. - Ohio State University
- Morrison, Julie A.**1997
Director of Academic Assessment: Student Entry Assessment/Orientation
B.M. - The University of Michigan
M.M. - Northwestern University
Ph.D. - Northwestern University
- Moulton, Maxine**1989
Faculty: Nursing
B.S.N. - The University of Michigan
REGIS - State of Michigan
M.S.N. - Eastern Michigan University
- Mourad, Roger**1996
Director: Institutional Research
B.A. - The University of Michigan
J.D. - The University of Michigan
M.S. - The University of Michigan
Ph.D. - The University of Michigan
- Moy, William**1968
Faculty: Behavioral Sciences
B.A. - Valparaiso University
- Mullen, Marjorie**1980
Payroll Supervisor: Financial Services

- Murphy, Vivian A.1993**
Faculty/Department Chair: Pharmacy and Surgical Technology
 A.S. - Clark State College
 B.S. - Oakland University
- Naylor, Michael L.1994**
Faculty: Performing Arts
 B.M. - The University of Miami
 M.M. - The University of Michigan
 M.A. - The University of Michigan
 Ph.D. - The University of Michigan
- Nelson, William H.1992**
Clinical Instructor: Radiography
 A.D. - Washtenaw Community College
 B.S. - Western Michigan University
 M.A. - The University of Michigan
- Nestorak, Theresa1989**
Faculty: Nursing
 B.S.N. - The University of Michigan
 REGIS - State of Michigan
 M.S.N. - Eastern Michigan University
- Nevers, William B.1975**
Faculty: Life Sciences
 B.S. - Wayne State University
 D.D.S. - The University of Michigan School of Dentistry
- Niedson, Roberta2000**
Employment Manager/Recruiter: Human Resource Management
 A.A. - Henry Ford Community College
 B.S. - The University of Michigan
- Norwood, Mimi Y.1993**
Faculty/Department Chair: Respiratory Therapy
 A.D. - Washtenaw Community College
 B.S. - Wayne State University
 M.S.W. - The University of Michigan
 M.A. - Morehead State University
- Ong, Boon Neo Julianna.....1992**
Module Systems Analyst: Information Systems
 B.B.A. - Eastern Michigan University
 M.B.A. - Eastern Michigan University
- O'Rear, Katherine1988**
Faculty: English / Writing
 B.A. - Washington State University
 M.A. - Eastern Michigan University
- Ortega, Maria.....1992**
Faculty: Behavioral Sciences
 B.S. - Central Michigan University
 M.A. - Michigan State University
- Paas, Cecilia1998**
Associate Counselor: Counseling / Career Planning and Placement
 A.D. - Washtenaw Community College
 License - State of Michigan
 B.S. - Eastern Michigan University
 M.A. - Eastern Michigan University
- Palay, Roger M.....1975**
Faculty: Mathematics
 B.S. - University of Chicago
 M.S. - University of Wisconsin
- Parker, Karen J.1975**
Other Funds Accountant: Financial Services
 A.D. - Washtenaw Community College
 B.B.A. - Eastern Michigan University
- Pauris, Jr., Jean-Claude.....1997**
Security Patrol Officer: Campus Security Services
- Pawloski, Judith A.1994**
Faculty: Nursing
 B.S.N. - Wayne State University
 M.S.N. - Wayne State University
 D.I.P. - Mercy School of Nursing - Detroit
- Peck, Joshua P.....1996**
Hardware Network Specialist: Information Systems
 A.D. - Washtenaw Community College
 A.D. - Washtenaw Community College
- Perez, Laura1993**
Faculty: Mathematics
 B.S. - Bowling Green State University
 M.A. - Bowling Green State University
- Peterson, Michele L.1997**
Faculty: Social Science
 B.A - Washington and Jefferson College
 M.A. - The University of Pittsburgh
 Ph.D. - The University of Pittsburgh
- Petty, Dale1994**
Faculty: Electricity / Electronics
 B.S.E.E. - State University of New York at Buffalo
 M.S.C.E. - Case Western Reserve
- Phibbs, John1969**
Manager: Reprographics
 A.D. - Washtenaw Community College
 B.B.A. - Eastern Michigan University

- Phillips, Robert J.**.....1998
Information Technologies Support Specialist: Information Systems
 A.D. - Washtenaw Community College
- Pierce, Les**1984
Director: Technical Education
 A.A. - Polk Community College
 B.A. - University of Florida-Gainesville
 B.A.E. - University of Florida-Gainesville
 M.Ed. - University of Florida-Gainesville
- Pinchock, Sally**.....1996
Small Business Development Specialist: Washtenaw County Small Business Development Center
 M.A. - Siena Heights College
- Pinnamaneni, Jagadeesh**1999
Systems Analyst II: Information Systems
 B.A. - Nagarjuna University, India
 B.S. - The University of Michigan
- Pobursky, Joel E.**1993
Campus Safety Officer: Campus Security Services
 A.D. - Washtenaw Community College
- Pogliano, Michael F.**1969
Faculty/Department Chair: Drafting
 B. Arch. - The University of Michigan
- Popovich, James**1999
Faculty: Industrial Technology
 B.S. - LeTourneau College
 M.S. - Ferris State University
- Quail Michael E.**.....1994
Faculty/Department Chair: Mathematics
 B.A. - Wayne State University
 M.A. - Eastern Michigan University
 M.S.W. - The University of Michigan
- Quigley, Joseph**2000
Security Patrol: Campus Safety and Security
 B.S. - Regis University
- Rader, Rosemary**.....1994
Faculty: Physical Science
 B.S. - The University of Wisconsin-Oshkosh
 Ph.D. - Purdue University
- Redick, Martin**.....1978
Faculty: Respiratory Therapy
 B.S. - The University of Michigan
 M.S. - The University of Michigan
- Redondo, Juan C.**.....1994
Faculty: Humanities
 M.A. - University Complutense - Madrid
 M.A. - University of California at Berkeley
 M.A. - The University of Wisconsin
- Reiter, Susan**1991
Director: Teaching and Learning Support Services
 B.A. - The University of Michigan
 M.A. - University of Minnesota
 Ph.D. - The University of Michigan
- Remen, Janet M.**1982
Faculty: Mathematics
 B.Sc. - University of Durham
 M.S. - The University of Michigan
- Rice, Sheila J.**1997
Director of Access Services: Learning Resource Center
 A.M.L.S. - The University of Michigan
 B.A. - The University of Michigan
- Rinke, John**1992
Director: Counseling, Career Planning and Placement
 B.S.Ed. - Central Michigan University
 M.A. - Michigan State University
 Ed.S. - Central Michigan University
 Ed.D. - Western Michigan University
- Rinn, John**1980
Faculty: Computer Information Systems
 A.A. - Port Huron Junior College
 A.B. - The University of Michigan
 M.S. - The University of Michigan
- Ripepe, Suzette D.**1997
Faculty: Pharmacy Technology
 Regis - Board of Pharmacy
 B.S. - Ferris State University
 M.S. - Wayne State University
 J.D. - Wayne State University
- Robinson, Todd**.....1996
Manager: Custodial Services
 Certificate - U.S. Air Force
- Roof, Rex**2000
Unix Administrator: Information Systems
- Roome, Lori**1999
Specialist: Conference Services
 B.S. - Michigan State University
- Roque, Francisco**1999
Unix Administrator: Information Systems

- Salter, Vickie**1999
Faculty: Nursing
 B.S. - University of Phoenix
 A.D.N. - Monroe County Community College
 R.N. - State of Michigan
- Schultz, Gary L.**1984
Faculty/Department Chair: Industrial Technology
 A.D. - Washtenaw Community College
 B.S. - Eastern Michigan University
 M.S. - Eastern Michigan University
- Schuster, William**1989
Faculty: Automotive Services
 B.A. - Wayne State University
 M.A. - Eastern Michigan University
- Scott, Kathleen**1971
Librarian: Learning Resource Center
 B.A. - University of Iowa
 M.A. - University of Iowa
- Sherman, Dianne**1999
Specialist: Teaching and Learning Support Services
 B.A. - Central Michigan University
 Ph.D. - University of Minnesota
- Shier, David**1990
Faculty/Department Chair: Life Sciences
 B.S. - Cornell University
 Ph.D. - The University of Michigan
- Shoemaker, Jeffrey A.**1997
Public Safety Officer: Campus Security Services
 A.A.S. - Ferris State University
- Siehl, Chris**1995
Faculty: Behavioral Sciences
 B.A. - Wittenburg University
 M.A. - Northwestern University
 M.S.W. - Michigan State University
- Sinclair, Starlett**1992
Director of Compensation/Benefits: Human Resource Management
 B.S. - Wayne State University
- Stadtfeld, Kathleen A.**1982
Director: Educational Services
 B.S. - Eastern Michigan University
 M.A. - Eastern Michigan University
- Stanford, Adrian**1987
Student Services Advisor: Club Sports
 B.S. - Eastern Michigan University
- Straub, Cynthia A.**1993
Director: Student Resources/Women's Center
 B.A. - Ohio State University
 M.A. - Ohio State University
 Ph.D. - Ohio State University
- Strayer, Ross**1989
Faculty: Life Sciences
 B.S. - Eastern Michigan University
 M.S. - Eastern Michigan University
- Strnad, Kathleen B.**1998
Associate Counselor: Adult Transitions
 A.B. - Mercy College of Detroit
 M.A. - The Fielding Institute
 M.A. - Goddard College
- Susnick, Stuart B.**1969
Faculty/ Social Science
 B.A. - Brooklyn College, CUNY
- Swan, Barry**1994
Faculty: Drafting
 A.A.S. - Oakland Community College
 B.S. - Eastern Michigan University
 M.A. - Eastern Michigan University
- Swan, Judith**1989
Director: Extension Services and Distance Learning
 B.A. - Eastern Michigan University
 M.A. - Eastern Michigan University
- Talley, Dana L.**1993
Specialist: Human Resource Management
- Tanguay-Hoover, Julie**1994
Graphic Services Coordinator: Promotional Services
 B.A. - Center for Creative Studies
- Teevens, James**1989
Faculty: Drafting
 A.A.S. - Schoolcraft College
 B.Arch. - University of Detroit
 M.Ind.Ed. - Eastern Michigan University
- Tew, Bonnie E.**1994
Faculty: Humanities
 A.A. - Kellogg Community College
 B.S. - Eastern Michigan University
 M.A. - Eastern Michigan University
- Thoburn, Elisabeth**1995
Faculty/Department Chair: Humanities
 B.A. - The University of Michigan
 M.A. - The University of Michigan

- Thomas, David**.....1980
Faculty: Physical Sciences
A.S. - Macomb Community College
B.S. - Eastern Michigan University
M.S. - Eastern Michigan University
- Thomas, Martin**.....1995
Manager: Plant Services
- Thompson, Doreen**1975
Faculty: Behavioral Sciences
A.B. - Atlantic Union College
Licence es Lettres - University of Paris
M.Ph. - The University of Michigan
- Thompson, Dosye**.....1993
Faculty: Business Office Systems
B.S. - Wayne State University
M.B.E. - Eastern Michigan University
- Tom, Kimberly**1988
Manager, User Support Services: Information Systems
A.D. - Washtenaw Community College
B.A. - The University of Michigan
- Townsend, Henry**.....1991
Faculty: Public Service Careers
B.A. - The University of Michigan, Flint
M.A. - Eastern Michigan University
- Trame, John**1989
Faculty: Electricity / Electronics
B.S. - University of Houston
M.S. - University of Houston
Sp.A. - Eastern Michigan University
- Tran, Michael D.**.....1998
Information Technologies Support Specialist: Information Systems
B.B.A. - Eastern Michigan University
- Trapp, Lori J.**1996
Coordinator: Financial Aid
B.A. - Michigan State University
- Trosch, Diane J.**1979
Associate Counselor: Counseling, Career Planning and Placement
A.D. - Washtenaw Community College
B.A. - Concordia College
M.A. - Eastern Michigan University
- Turner, Spring J.**1997
Contract Training Associate: Extension Services Distance Learning
B.B.A. - Cleary College
M.A. - Marygrove College
- VanderVeen, Sister Judith**1976
Faculty: Nursing
S.A. - Wayne State University
S.A. - The University of Michigan
Diploma - Mercy Central School of Nursing
REGIS - State of Michigan
B.S.N. - Mercy College of Detroit
M.A. - The University of Michigan
- VanGenderen, Gary L.**1982
Faculty: Physical Sciences
B.S. - The University of Michigan
M.S. - Eastern Michigan University
- Veasey, Lisa K.**1999
Faculty: English / Writing
B.A. - Eastern Michigan University
M.L.S. - Eastern Michigan University
- Velarde, Gloria A.**1990
Faculty / Department Chair: Nursing
B.S.N. - Eastern Michigan University
M.S.N. - Wayne State University
- Wagner, Catherine W.**1992
Faculty: Electricity / Electronics
E.E.T. - USAF Cryptographic School
B.S. - The University of Michigan
M.S. - The University of Michigan
- Wagner, Robin L.**1995
Financial Systems Analyst: Financial Services
B.A. - Siena Heights College
- Wagner, Sandra L.**1997
Help Desk Specialist: Information Systems
Certificate - Washtenaw Community College
Certificate - Brockton Institute
- Walline, Cynthia**1987
Student Advisor: Orientation
B.A. - Eastern Michigan University
- Walsh, Ruth Anne**1987
Faculty / Department Chair: Public Service Careers
B.A. - University of Toledo
J.D. - University of Toledo
- Warner, Elizabeth**1988
Faculty / Department Chair: Academic Skills
B.A. - The University of Michigan
M.A. - San Francisco State University
- Warsinske, Thomas G.**1998
Database Analyst / Administrator: Information Systems
B.S. - The University of Michigan
B.S. - Eastern Michigan University

Webster, Brenda J.1987
Clinical Instructor: Nursing
 B.S. - The University of Michigan

Wegrzyn, Nancy D.1985
Purchasing Coordinator / Buyer: Purchasing / Auxiliary Services
 B.S. - Eastern Michigan University

Welch, Daniel J.1997
Director: Distance Learning: Learning Technologies
 B.A. - University of Detroit
 M.Ed - Wayne State University

Werthmann, Donald2000
Faculty: Visual Arts Technology
 B.F.A. - Wayne State University

Westcott, Richard1984
Manager: Grounds Maintenance

Westrick, James H.1997
Supervisor: Campus Security Services
 Certificate - Northwestern University

Wilkins, Barry L.1982
Director: Facilities Management
 A.D. - Washtenaw Community College

Willmann, Kristine1999
Faculty: Visual Arts Technology
 B.A. - Michigan State University

Wilson, Charles1997
Facilities Project Manager: Facilities Management
 A.D. - Washtenaw Community College

Woehlke, Laura A.1993
Director: Purchasing and Auxiliary Services
 A.D. - Davenport College of Business
 B.S. - Aquinas College
 M.S. - Ferris State University

Wojnowski, Judith L.1978
Controller: Financial Services
 B.S. - Canisius College
 C.P.A. - State of Michigan

Wood, John D.1984
Student Advisor: Career Development
 B.S. - Michigan State University

Worrell, Sandra M.1998
Associate Professional Services Faculty: Workplace Learning Center
 B.S. - New York State University
 M.Ed. - Northeastern University

Wurster, Allen J.1995
Technician: Testing Center
 A.D. - Washtenaw Community College

Young, Colette1987
Faculty: Business
 B.A. - Michigan State University
 M.A. - Michigan State University

Young, Mary Etta1975
Counselor: Counseling, Career Planning and Placement
 B.R.E. - Detroit Bible College
 B.A. - Eastern Kentucky University
 M.A. - Eastern Kentucky University

Zeeb, Ronald E.1968
Faculty: Business
 B.S. - Eastern Michigan University
 M.A. - Eastern Michigan University

The following is a list of retired WCC faculty who have been awarded emeritus teaching status and have taught during the last two years.

Emeritus Teaching Faculty 1997-00

Devereaux, William T. - Speech
 B.A. - Michigan State University
 M.A. - Michigan State University
 Ed.D. - Laurence University

Hanson, Charlotte - Speech
 A.B. - The University of Michigan
 M.A. - The University of Michigan

Mickelson Gaughan, Joan - Social Science
 B.A. - St. Theresa College
 M.A. - Eastern Michigan University
 Ph.D. - The University of Michigan

Program Advisory Committees

Working closely with the faculty to improve the curriculum, keeping instructors current on market trends, and providing advice for updating equipment and facilities are some of the major contributions of program advisory committees. Members of advisory committees, all local community volunteers, represent a wide and diverse spectrum of the business, industry, professional and educational agencies of the region. The College depends on the advice and assistance of these representatives to continually maintain the highest quality educational programs, courses, and services. Deans and department chairs are ex officio members of committees in their areas.

Program Advisory Committees 2000-2001

Academic Skills Advisory Committee

Pamela Bogart	Washtenaw Literacy
Dale Brethower	Western Michigan University
Margaret Collinge	Warde Medical Labs
Gil Gilden	Eastern Michigan University
Don Grogan	Defense Contract Audit Agency
Jane Heineken	Student, WCC
Geraldine Markel, Ph.D	University of Michigan
Joey Massengale	Pioneer High School
Rosemarie Nagel	Emeritus Faculty, WCC
Carol Peters	
Laurie Walker	Eastern Michigan University
Rowena Wilhelm, Ph.D	University of Michigan

Accounting

Crystal Davidson	Mechtron Engineering Company, Inc.
Steve Schneider	Weidmayer Schneider Raham & Bennet CPA
Judy Walker	Cleary College
Kathy Gram	Mechtron Engineering Company, Inc.
Alan Young	Alan Young & Associates

Architectural Drafting Advisory Committee

Glenn Brightman	Student, WCC
Brian Carter	U of M, College of Architecture
Larry Darling	International Masonry Institute
Terry Furst	Pioneer High School
Brian Winkle	Frye Associates
Lee Yaros	Henry Ford Community College
Ray Zawacki	Huron High School

Business

Amelia Chan	Eastern Michigan University
Colleen Holder	Washtenaw County Treasurer's Office
Richard King	Washtenaw Small Business Dev Center
Vicky Matthews	Reinhart Realtors
Jennie Needleman	Prism Performance Systems
Michael O'Rear	Ford Motor Company, Retired
Tom Peitras	Blue Cross Blue Shield
Joan Williams	Alcoa FujiKura-Ltd.

Business Office Systems Advisory Committee

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Carla Baumann	City of Ann Arbor
Susan Carlson	Manpower Temporary Services
Phyllis Carr	Parke-Davis Pharmaceutical Research
Ron Fulkert	Eastern Michigan University
Sandy Henkel	University of Michigan
Wendy Knutsen	Student, WCC
Barbara Tebbutt	Ann Arbor Public Schools
Sandy Worrell	WCC
Darcelle White	Eastern Michigan University
Jan Wiseman	Catherine McAuley Health System

Culinary and Hospitality Management Committee

David Balla	Gandy Dancer Restaurant
Patti Bell Kucera	Common Grill
Jim Bitzinger	Dalhmam Campus Inn
Sally Camisi	Alice Lloyd Residence Hall - U of M
Tony Cortez	Ypsilanti Marriott
Andy Dahlmann	Bell Tower Hotel
Jinan El-Khatib	Exotic Bakeries
Mike Gibbons	Main Street Ventures
Bob Hacker	Comfort Inn
Kim Hawkins	Crown Plaza Hotel
Kevin Hill	Howell High School
Dan Huntsbarger	The Moveable Feast
Mary Kerr	Ann Arbor Convention & Visitors Bureau
Virginia Kingsley	Ypsilanti Convention & Visitors Bureau
P.J. Moffet	Real Estate One
Judy Radant	Saline High School
Tom Recinella	University of Michigan, Stockwell Hall
Dave Rensi	Cousins Heritage Inn
Cindy Simonelli	Clarion Hotel

Program Advisory Committees

Gurv Singh
Scott Storbeck
Ann Tirapani

Clarion Hotel
Tecumseh Country Club
Regional Career Technical Center
Chelsea Community Hospital
Travis Pointe
Pioneer High School
Student, WCC
Wendy's Corp.
Ypsilanti Marriott

Dental Assistant Advisory Committee

Carola Gerigh, DDS
Jed Jacobson, DDS
Kimberly Rice, DDS
Thomas A. Slade, DDS, PC
Jan Sprague
Nancy Van Hofe

Private Practice
University of Michigan
Private Practice
Private Practice
Lenawee Voch Tech Center
U of M School of Dentistry

Graphic Design Advisory Committee

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Alex Dao
Catherine Juon
Doug Zeffer

Diamond Bullet Design
Logic Solutions, Inc.
Stretch Media
Enlighten

Human Services Advisory Committee

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Kathleen Reynolds
Kathy Walz
Cassandra Wallace
Sylvia Weinberg

Community Corrections
Community Mental Health Spectrum
EMU, Dept of Social Work

Industrial Technology Advisory Committee

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Jamie Nash
L. Scott McClelland
Nick Miller
Loren Morehouse
Tom Penird
Gus Stager
Chuck Wiley

General Motors
Len Industries, Inc.
R & B Machine Tool Co.
H.R. Carbide Tools
Deneb Robotics
Phillips Display Components
S-Three Engineering
Ford - Saline

Life Sciences Advisory Committee

Richard Dyer
Jamin Eisenbach
Lewis Kleinsmith
David Mastie
Kathy Rhodes

Parke-Davis Pharmaceutical Research
Eastern Michigan University
University of Michigan
Pioneer High School
University of Michigan

Nursing Advisory Committee

Ruth Churley-Strom, RN
Lisa Drager
Scott Eldridge, RN
Lynn Enos, RN
Denise Epp, RN
Kathleen Fischer, RN
Caron Hoyes, RN
Lindy Lorenz, RN
Claudia Moore, Ph.D.
Valerie Mossman, RN
Rachel Rush, RN, BSN
Joyce Sodergren, RN

St. Joseph Hospital
Saline Evangelical Home
Student, WCC
Saline Hospital
U of M Medical Center
Olsen-Kimberly Health Care
U of M School of Nursing
University of Michigan
Glacier Hills
Saline Hospital
VA Medical Center

Pharmacy Technology Advisory Committee

Cheryl Bengry
Jamie Curry
Dennis Delonay
Diane Gaul
Ron Lukasiewicz
Cari Marshall
Chuck Myers
James Schultz
Leza Taylor
Beth Weaver

VA Medical Center
McKesson Pharmacy Systems
VA Medical Center
U of M Pharmacy Services
Oakland Community College
U of M Pharmacy Services
McPherson Hospital
Home Med
U of M Hospital
McKesson Pharmacy Systems

Photography Program Advisory Committee

Jim Arnowski
Bob Foran
Ken Owen
Matt Strum

City Lights Studio
Commercial Photographer
Jobo Fototechnic, Inc.
Foto 1 Photographic & Digital Imaging

Police Academy Advisory Committee

George Basar
William Bess
Paul Bunten
Walter Lunsford
Brian Mackie
John Phillips
Lynn Reid
Ronald J. Schebil

Ypsilanti Police Department
University of Michigan
Saline Police Department
Ann Arbor Police Department
Washtenaw County
Pittsfield Township
Department of Public Safety
MCCOLES
Washtenaw County Sheriff's Department

Scientific & Technical Communication Advisory Committee

Beth Apple	ONE
Ruth Blough	Open Door Communications, Inc.
Jill Bornemeier	Cabletron Systems
Maryann Bowen	Independent Contractor
Ginny Collins-Llope	Collins Communication
Michael Dailey	Interchange Software Group
Karen Gilbert	Imageware/SDRC
Catherine Juon	Stretch Media
Laurie Kantner	Tec-Ed, Inc.
Heather Keeler	Skipping Stones
Theresa Laveck	Vector Research, Inc.
John Moreau	ArborComm, Inc.
Sally Paul	Creative Solutions, Inc.
Andrea Sayer	Creative Solutions, Inc.
Catherine Titta	ArborComm, Inc.

Surgical Technology Advisory Committee

Elaine Abbondanza, RN	Mott Children's Hospital
Janice Campbell	
Catherine Crane, RN	University of Michigan
Michelle Diepenhorst, RN	St. Joseph Mercy Hospital
Lottie Finnegan, RN	Herrick Memorial Hospital
Jane Gay, RN	VA Medical Center
Fiona Jubenville, RN	Henry Ford Hospital
Marlene Mason	Saline Community Hospital
Sara Stump	Program Graduate
Rebecca Trester	Program Graduate
Sue Weir, RN	McPherson Hospital







Glossary



Glossary of terms used at WCC

Academic Honors

Honors bestowed upon a student who has achieved a high level of academic success. Honors may be based upon performance over one or more semesters (Dean's Honor Roll) or for cumulative performance at the time of graduation (Graduation Honors).

Accreditation

Recognition that the College or a College program has met standards or requirements set up by an external organization.

Admission

Acceptance of an applicant for enrollment in the College.

Articulation

The process of arranging instructional programs so that students may progress from high school programs to WCC programs or from WCC to four-year college or university programs.

Assessment

The process of determining a student's interests or level of competence.

Associate Degree

A degree issued to a student who has completed a prescribed curriculum/program of courses totaling a minimum of 60 semester hours of credit.

Audit

To enroll in a College academic credit-bearing course on a non-credit basis. Such credits as the course normally carries are not included as part of the total credit load, however, tuition is assessed like a credit registration. An auditor ("AU") grade is issued and posted to the transcript.

College Certificate

A certificate issued to a student who has completed a prescribed curriculum/program of courses.

College Withdrawal

The process by which a student discontinues enrollment in all courses.

College Work-study

An award of employment (i.e., an opportunity to work for paid wages on the campus) given to a student based on financial need.

Continuing Education Units (CEU's)

A nationally recognized recording device for substantive non-credit learning experiences. One CEU is defined as ten contact hours of participation in an organized continuing education experience with responsible sponsorship, capable direction, and qualified instruction.

Co-requisite

An additional course or instructional experience which is required to be taken during the same semester with certain courses. For example, a section of Writing Lab is required with certain English courses.

Course Load/Overload

The total number of credit hours a student is officially registered for in a given semester. A Full-time Student is one who enrolls in 12 or more credit hours per semester; a Part-time Student is one who enrolls in less than 12 credit hours per semester; a Half-time Student is a Part-time student enrolled in at least 6 credit hours per semester. Students enrolling in more than 18 credit hours per semester are considered to be carrying a Course Overload.

Credit Hours

The number of hours of credit granted for a particular course. The number of credit hours is normally equal to the number of lecture hours that a class meets each week e.g., a 3 credit hour class will meet for 3 hours each week for a 15-week semester.

Cumulative Grade-Point Average

A measure of a student's scholastic success, which includes all coursework attempted at the College. The average is obtained by dividing the total grade points by semester hours of credit attempted.

Curriculum

A group of courses, sequences of subjects, or planned learning experiences.

Educational Goal

A student's statement of the goal he/she intends to achieve by attending WCC. Educational intents include the following: to obtain a College Certificate, to obtain an Associate Degree, to obtain an Associate Degree for transfer to a four-year institution, to obtain credit hours for transfer to a four-year institution; to attend classes for personal interest/development.

Elective Course

A course which a student may choose to take from a number of alternative courses in order to fulfill a program requirement (see Open Elective and Restricted Elective).

Emeritus Program

A program for county residents who are at least sixty-five years of age which offers tuition-free participation in WCC credit and credit-free courses, workshops and seminars.

Fees

Charges assessed to students other than tuition charges.

Financial Hold

Students are placed on financial hold when they have not met their financial obligations to the College. Students placed on financial hold are not allowed to register for courses, cannot receive their College Certificate, Associate Degree or transcript and are not eligible to receive College services of any kind.

Freshman/First Year Student

A student who has completed fewer than 31 credit hours.

GED Examination

The General Education Development examination is a comprehensive test used to appraise the educational development of adults who have not completed a high school education. By achieving satisfactory scores on the GED adults may earn a high school equivalency certificate.

General Education Requirements

A body of learning areas which are incorporated into every WCC degree program of study. At WCC these areas include writing, speech, mathematics, natural sciences, social and behavioral sciences, arts and humanities, and computer information literacy.

Grade Point Average

The number of grade points earned divided by the semester hours of credit attempted. The grade point scale is: A=4.0, A-=3.7, B+=3.3, B=3.0, B-=2.7, C+=2.3, C=2.0, C-=1.7, D+=1.3, D=1.0, D-=0.7, F=0.0

Grant

An award of money given to a student based on financial need. Grants do not need to be repaid.

Loan

An award of money given to a student based on financial need. Loans must be repaid once a student leaves the College or does not continue at the college on at least a half-time basis.

Open Elective

A course that may be chosen from any credit course offered at WCC and applied to a program of study. The credit hours for elective courses will be counted toward the total hours required for program or certificate completion.

Orientation

A presentation for new WCC students to acquaint them with College facilities, programs, services and procedures.

Post-secondary Education

Education beyond the high school level.

Prerequisite

Requirements that must be met or courses which must be successfully completed prior to enrolling in a specific course or program.

Program

A planned curriculum in a field of study which includes a list of specific requirements.

Program Advisory Committees

Working closely with the faculty to improve the curriculum, keeping instructors current on market trends, and providing advice for updating equipment and facilities are some of the major contributions of program advisory committees. Members of advisory committees, all local community volunteers, represent a wide and diverse spectrum of the business, industry, professional and educational agencies of the region. The College depends on the advice and assistance of these representatives to continually maintain the highest quality educational programs, courses, and services. Deans and department chairs are ex officio members of committees in their areas.

Registration

The process of officially enrolling in a course (or courses). Upon registration and payment, the course(s) are entered onto the student's permanent record.

Residency

The official home address of a student which is used to determine the tuition rate charged and, if applicable, program admission priority. Residency classifications are In-District, Out-District, Out-State, and Out-of-Country.

Restricted Elective

A course that must be chosen from a specific list or a specific discipline in order to fulfill program requirements. The credit hours for elective courses will be counted toward the total hours required for program or certificate completion.

Self-paced Instruction

Instruction using a workbook, textbook, or mechanical and/or electronic device, which helps the student attain a specified level of performance. Students proceed at their own pace through a series of steps, working with the instructor, as he/she finds necessary.

Scholarship

An award of money and/or special recognition given to a student for certain types of proficiency, such as academic, or because of financial need. Scholarship monies do not need to be repaid.

Sophomore/Second Year Student

A student who has completed 31 or more credit hours but has not received an Associate Degree or has not qualified for upper division classification in a four-year college or university.

Transfer Agreements

Written agreements between WCC and four-year institutions, which specify transferring of WCC earned credits to the specific four-year institution.

Transfer Credit

Credit that has been taken at another accredited academic institution that is accepted by the College for use toward a College Certificate or Associate Degree.

Transcript

A transcript lists all courses taken by a student, showing the final grade received for each course. The official transcript is housed in the Student Records Office.

Tuition

The monetary charge a student must pay at the time of registration for each semester hour of academic credit. The tuition rate is based on the student's residency classification.

Undergraduate

A student in a higher education institution who has not yet achieved the Bachelor's, or first professional, degree in a field of study.







Appendices and Index



Appendices

Appendix A

■ MACRAO Transfer Agreement

The Michigan Association of Collegiate Registrars and Admissions Officers has developed an agreement to facilitate transfer from Michigan community colleges to baccalaureate colleges and universities. The agreement provides for transfer of up to 30 semester credit hours to meet many (in some cases all) of the General Education Requirements at participating Michigan four-year colleges and universities. Students should check with the college to which they plan to transfer to determine if the MACRAO agreement is honored or if the college puts limitations or provisos on the agreement.

How the Agreement Works

The MACRAO Transfer Agreement stipulates that 30 semester credit hours of 100-level and above, compatible, college-level coursework completed at one Michigan college or university will “transfer” to another Michigan college or university and be applied toward meeting the student’s General Education Requirements at the “transferred to” institution. A complete listing of course and credit hour requirements are included under MACRAO Transfer Requirements below. Specific courses in each category are determined by the institution offering the courses. Once you have completed the course work requirements for meeting MACRAO, you must request that your transcript be posted “MACRAO Agreement Satisfied”. You can do this in the Office of Student Records before having your transcript sent to the college to which you are transferring.

MACRAO Transfer Requirements

I. English Composition (6 credits)

Composition (ENG)111, 122, 225

II. Social Science (8-9 credits in more than one subject area)

Anthropology (ANT).....201, 202
 Economics (ECO).....20, 211, 222, 280
 Geography (GEO).....101, 103
 History (HST).....121, 122, 123, 150, 160, 201, 202, 215, 216
 Political Science (PLS).....112, 150, 211
 Psychology (PSY)100, 107, 130, 200, 209, 210, 257, 260
 Sociology (SOC)100, 201, 202, 203, 205, 207, 230, 250

III. Science and Math (8-9 credits in more than one discipline, one must be a laboratory course)

Biology (BIO)101, 102, 103, 107, 200, 208, 215, 216, 220, 227, 228, 237
 Chemistry (CEM)105, 111, 122, 140, 211, 218, 222
 Geology (GLG).....100, 103, 109, 114, 125, 202
 Mathematics (MTH).....160, 169, 176, 178, 180, 181, 182, 191, 192, 197, 293, 295
 Physics (PHY)105, 111, 122, 211, 222

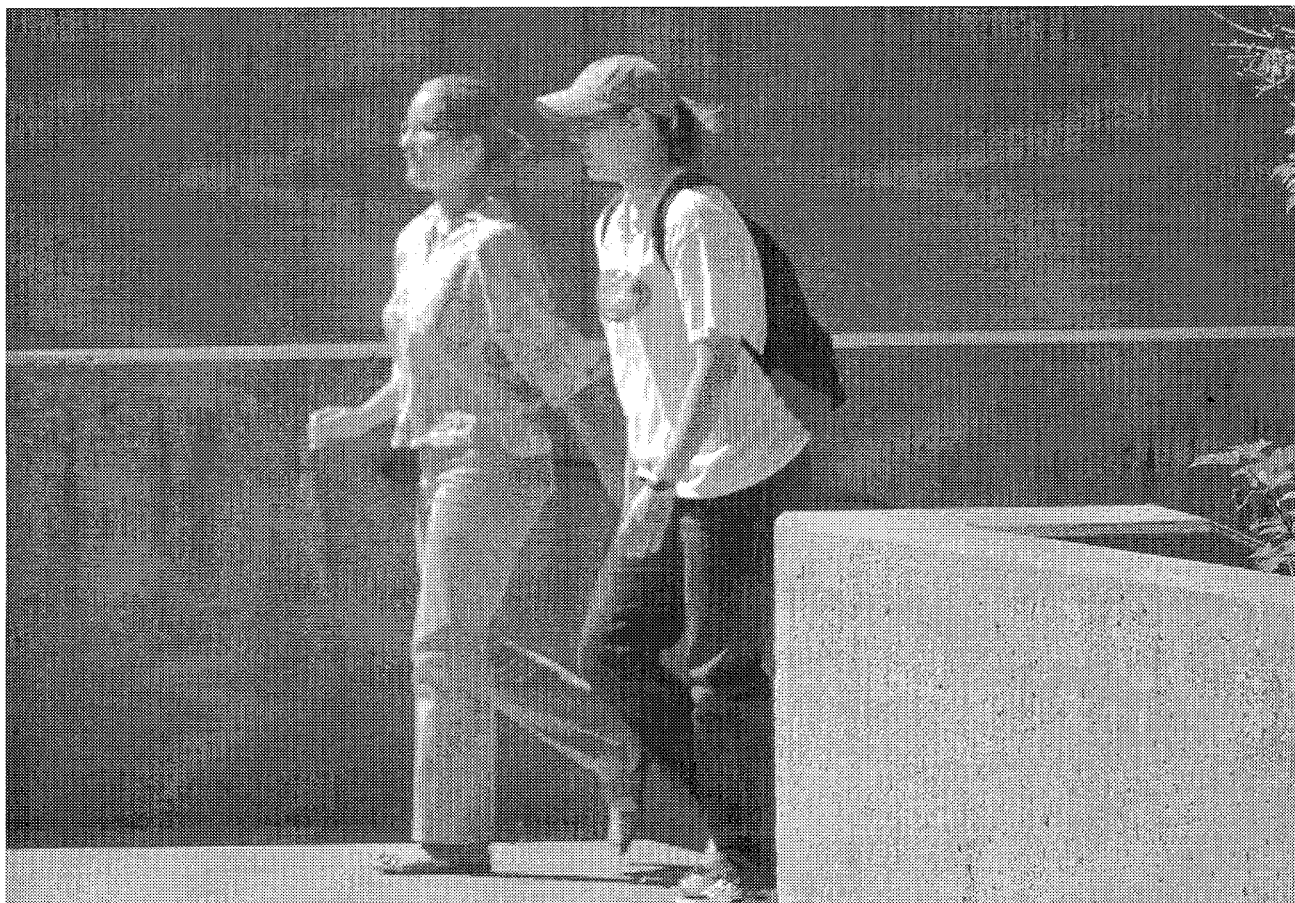
IV. Humanities (8-9 credits in more than one discipline)

Art (ART)101, 111, 112, 114, 120, 122, 125, 130, 143, 150
 Communication (COM)101, 102, 130, 142, 183, 200
 Drama (DRA)152, 208, 220
 French (FRN)111, 122, 213, 224
 German (GRM)111, 122
 Humanities (HUM).....101, 102, 145, 160
 Literature (ENG).....160, 170, 181, 200, 211, 212, 213, 214, 222, 223, 224
 Music (MUS)140, 142, 180
 Philosophy (PHL).....101, 102, 120, 123, 200, 205, 250
 Spanish (SPN)111, 122, 213, 224

Four-Year Colleges that accept MACRAO

Colleges marked with an * have limitations, exceptions, or provisos to the MACRAO Transfer Agreement. Check with your counselor and an admissions representative from the four-year college/university to learn about these exceptions before you begin selecting courses for your program. You can access home pages of many Michigan colleges at the MACRAO website (www.michigancollegemall.org).

Adrian College*	Ferris State University	Northern Michigan University*
Albion College	Grand Valley State University*	Northwood University
Alma College*	Great Lakes College	Oakland University*
Aquinas College	Hope College*	Olivet College
Baker College	Kalamazoo College *	Saginaw Valley State University*
Calvin College	Lake Superior State University*	Sienna Heights College*
Central Michigan University	Lawrence Technological University*	Spring Arbor College
Cleary College*	Madonna University*	St. Mary's College
Davenport College	Michigan Christian College	University of Detroit Mercy
Detroit College of Business	Michigan State University*	Wayne State University*
Eastern Michigan University*	Michigan Technological University*	Western Michigan University



Appendix B

■ Courses Meeting Core Elements 13 and 14

Throughout the listing of programs that were offered from Fall 1993 through Spring/Summer 2000, a frequent program requirement is to select a course that meets core elements 13 and 14. This is a list of courses that currently meet this requirement. You may choose any of these to fulfill core elements 13 and 14

Course Number	Course Title	Credit Hours	Course Number	Course Title	Credit Hours
ANT 201	Introduction to Cultural Anthropology	3	FRN 213	Second Year French I.....	3
ART 130	Art Appreciation.....	3	FRN 224	Second Year French II	3
ART 143	Art and Culture of Afro-America	3	GRM 111	First Year German I	4
ART 150	Monuments from Around the World	3	GRM 120	Conversational German	2
COM 142	Oral Interpretation of Literature	3	GRM 121	Intermediate Conversational German.....	2
DAN 110	Afro-American Dance I.....	1	GRM 122	First Year German II.....	4
DAN 180	Dance Appreciation: The World of Dance	3	HST 160	American Film	3
DAN 210	Afro-American Dance II	1	HUM 101	Humanities I-Ancient to Medieval Times	3
DRA 167	Theatre Production	2	HUM 102	Humanities II-Renaissance to Modern.....	3
DRA 170	Stratford Theatre Festival.....	2	HUM 140	Special Topics	3
ENG 140	Horror and Science Fiction	3	HUM 150	International Cinema	3
ENG 160	Intro to Literature: Poetry & Drama.....	3	HUM 160	American Film	3
ENG 170	Intro to Literature: Short Story & Novel	3	HUM 170	Montreal World Film Festival	2
ENG 181	African American Literature	3	MUS 180	Music Appreciation	3
ENG 200	Shakespeare.....	3	MUS 205	Voice II.....	3
ENG 211	American Literature I	3	PHL 120	Philosophy of Work	3
ENG 212	English Literature I	3	PHL 200	Existentialism.....	3
ENG 213	World Literature I.....	3	PHO 103	History of Photography	3
ENG 214	Literature of the Non-Western World.....	3	SPN 111	First Year Spanish I	4
ENG 222	American Literature II	3	SPN 112	Spanish Laboratory I	1
ENG 223	English Literature II	3	SPN 119	Spanish Language Adventures	Var
ENG 224	World Literature II	3	SPN 120	Beginning Conversational Spanish I	2
FRN 111	First Year French I	4	SPN 121	Beginning Conversational Spanish II	2
FRN 112	French Laboratory I	1	SPN 122	First Year Spanish II.....	4
FRN 120	Beginning Conversational French.....	2	SPN 123	Spanish Laboratory II	1
FRN 121	Intermediate Conversational French.....	2	SPN 211	Intermediate Conversational Spanish.....	2
FRN 122	First Year French II.....	4	SPN 213	Second Year Spanish I.....	3
FRN 123	French Laboratory II	1	SPN 224	Second Year Spanish II	3

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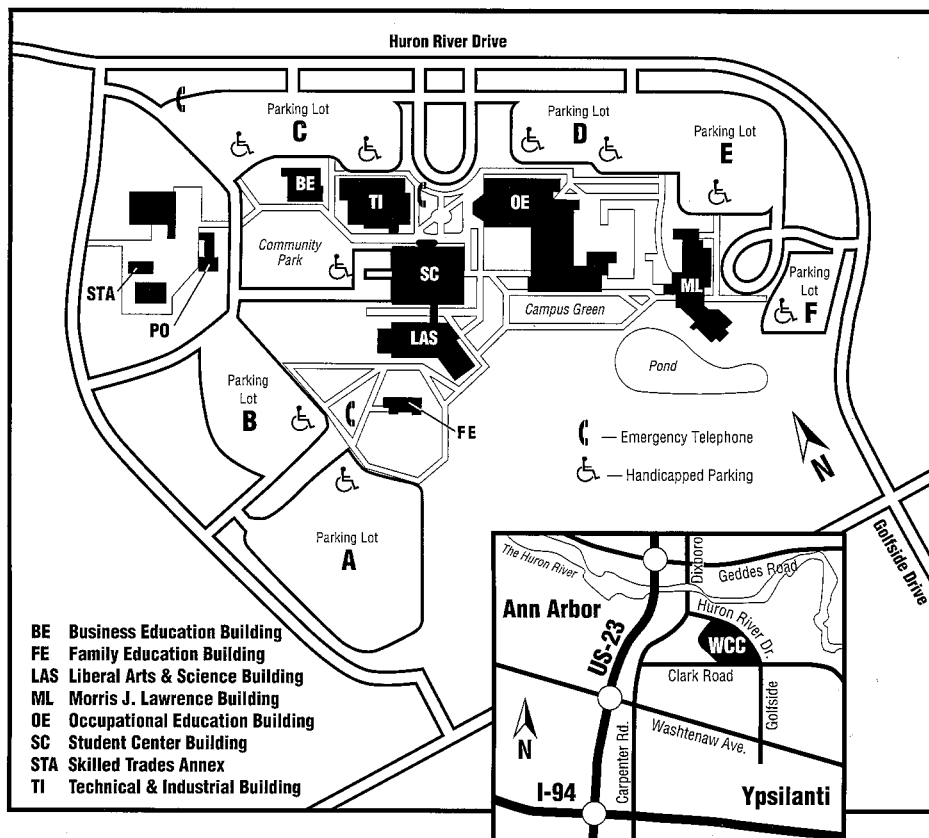
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Campus Map



- BE** Business Education Building
- FE** Family Education Building
- LAS** Liberal Arts & Science Building
- ML** Morris J. Lawrence Building
- OE** Occupational Education Building
- SC** Student Center Building
- STA** Skilled Trades Annex
- TI** Technical & Industrial Building

Disclaimers

- a. This document is for informational purposes only and is not to be construed as a binding offer or contract between the College and the student. This document was prepared in August, 2000 and is subject to change without prior notice.
- b. This document is intended to be used with the Academic Class Schedule, which provides the latest information on courses offered for each semester and academic calendars for future semester.

ADA/EEO/Title IX/Section 504 Compliance Statements

Washtenaw Community College does not discriminate on the basis of race, sex, color, religion, national origin, age, disability, height, weight, marital status, or veteran status in provision of its educational programs and services or in employment opportunities and benefits. WCC is committed to compliance in all of its activities and services with the requirements of Title IX of the Educational Amendments of 1972, Public Act 453, Section 504 of the Rehabilitation Act of 1973, Title VII of the Civil Rights Act of 1964 as amended, Public Act 220, and the Americans with Disabilities Act of 1990.

Title II Student Right to Know and Campus Security Act Compliance Statement

The Student Right to Know and Campus Security Act of 1990 is a federal law that mandates the disclosure by all institutions of higher education of the rates of graduation, the number of incidents of certain criminal offenses, and the default rate for student loans. The law also mandates that information be provided on the type of security provided on campus, the pertinent policies regarding security on campus, and policies that record and deal with alcohol and drug abuse. Washtenaw Community College is in full compliance with these provisions and provides the required information annually through college publications. Inquiries concerning the Student Right to Know and Campus Security Act should be directed to Washtenaw Community College, Office of the Dean of Student Services, Room 221B, Student Center Building, Ann Arbor, MI 48106 (telephone (734) 973-3536).

Inquiries concerning programs and services under Title IX and Section 504, and the Americans with Disabilities Act should be directed to the Office of the Dean of Student Services; Room 225A, Student Center Building, (734) 973-3536. Inquiries regarding compliance in employment should be directed to the College Affirmative Action Officer in the Office of Human Resource Management, Room 120, Business and Education Building, (734) 973-3497. Inquiries concerning access to facilities should be directed to the Director of Plant Operations, Plant Operations Building, (734) 677-5300.



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