



2011 - 2012 CATALOG

MONROE COUNTY COMMUNITY COLLEGE

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Education for the new economy.

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MONROE COUNTY
COMMUNITY COLLEGE

enriching lives

Main Campus
1555 South Raisinville Road
Monroe, Michigan 48161-9746
877-YES-MCCC

Whitman Center
7777 Lewis Avenue
Temperance, Michigan 48182
734-847-0559

www.monroecc.edu

A MESSAGE FROM THE PRESIDENT



Thank you for your interest in Monroe County Community College.

At MCCC, our mission is to provide a variety of higher education opportunities to enrich the lives of the residents of Monroe County, and our vision is to be our community's first choice for higher learning.

We are proud to be among America's "first responders" to the needs of those challenged by the global recession. As a community college teaching students how learning enriches their lives, we see opportunity during this difficult time; MCCC is firmly focused on helping the residents of Monroe County get the education they need for the new economy.

MCCC is dedicated to:

- Transformational learning. We provide hands-on, personal mentorship from faculty who understand the subtleties of effective student learning – both in and out of the classroom. The focus is on instructional excellence and the cultivation of informed, participating citizens.
- Being entrepreneurial and responsive to community needs. MCCC is a college built on ethical integrity that supplies the comprehensive educational offerings necessary to move Monroe County forward.
- Accessibility. Since its founding in 1964, MCCC has been here for students from all walks of life who want to reach their potential through a high-quality, affordable college education.
- Diversity and cultural enrichment. Through course offerings, campus and community events, and other initiatives, MCCC provides diverse and culturally enriching experiences for its students and the community.

Monroe County Community College is a true source of pride for the residents of Monroe County. I am joined by all faculty and staff in welcoming you to a college that is dedicated to enriching lives.

David E. Nixon, Ed.D.
President

A handwritten signature in black ink that reads "David E. Nixon". The signature is written in a cursive, flowing style.

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Every effort has been made to insure the information in this catalog is accurate at the time of publication. The college is a dynamic institution and strives to maintain currency in our changing world; therefore, the information in this catalog is subject to change. The programs, policies and procedures in this catalog may not be considered as an agreement or contract.



ABOUT MONROE COUNTY COMMUNITY COLLEGE

HISTORY

Monroe County Community College is a public, two-year institution supported by tax monies from Monroe County, educational funds from the state of Michigan and student tuition. The Monroe County Community College District was formed on June 29, 1964, by the electors of Monroe County. On July 3, 1964, the district was given statutory authority under the provisions of Michigan Act 188 of the Public Acts of 1955 to function as a community college.

The 210-acre Main Campus is centrally located in Monroe County with easy access to Detroit and Toledo. The Whitman Center in Bedford Township near the Michigan-Ohio border offers a wide selection of courses.

Monroe County, Michigan

French missionaries came to this territory as early as 1634. The river that flows through the center of the city of Monroe was named the River Aux Raisin because of the many grapes growing in the locality. A trading post and fort were established here in 1778. Francois Navarre was the first white settler in 1780. The first settlement was called Frenchtown, when about 100 French families came here from Detroit and

Canada. The American flag was first raised in Michigan in Monroe in 1796. In 1817, Frenchtown was renamed Monroe by Governor Lewis Cass in honor of President James Monroe. St. Antoine's Church on the banks of the River Raisin was the second church in the state.

Monroe County is located at the west end of Lake Erie and has a population of approximately 150,000. Parts of the county are industrialized, but much of it is also devoted to agriculture. The Port of Monroe is located on the St. Lawrence Seaway and could lead to increased business and industrial expansion. A modern hospital is located within the county. There are many opportunities to attend the church of one's choice.

Cultural and recreational facilities are available in the county and in nearby areas. The county is within easy driving distance of Detroit, Ann Arbor and Toledo. Other institutions of higher learning nearby include the University of Michigan (40 miles), Eastern Michigan University (35 miles), University of Toledo (20 miles), Wayne State University (35 miles) and the University of Detroit-Mercy (35 miles).

MISSION STATEMENT

Monroe County Community College provides a variety of higher education opportunities to enrich the lives of the residents of Monroe County.

VISION STATEMENT

Monroe County Community College aspires to be our community's first choice for higher learning.

CORE VALUES

Monroe County Community College is dedicated to these core values

- Comprehensive educational offerings
- Instructional excellence
- Transformational learning
- Cultivation of informed and participating citizens
- Entrepreneurial and responsive leadership to community needs
- Cultural enrichment
- Affordability
- Accessibility
- Valuing human diversity
- Ethical integrity
- Accountability to students and stakeholders
- To be a source of pride for the residents of Monroe County

EDUCATIONAL OBJECTIVES

MCCC provides higher educational opportunities to the community through

1. Offering freshman and sophomore college level programs in the liberal arts, sciences, and pre-professional fields for students who plan to transfer to four-year colleges and universities;
2. Offering one- and two-year occupational and/or career programs for students preparing for employment in technical, business, or health-related fields;
3. Providing general education courses and experiences integrated throughout the curriculum which will enable students to write and communicate effectively, utilize mathematics, and employ appropriate methods of critical thinking and problem solving;
4. Providing intellectual, cultural, and personal development for adults in a wide range of lifelong learning opportunities;

5. Working with governmental agencies and employers to develop training and retraining programs to meet the needs of an evolving economy;
6. Providing a strong complement of comprehensive support services to assist students in pursuit of their educational goals;
7. Collaborating with school systems, civic groups, educational institutions, individuals, employers, and other constituencies to offer educational services and opportunities.

ACCREDITATION

Monroe County Community College is accredited by the Higher Learning Commission and is a member of the North Central Association. Copies of documents regarding accreditation may be reviewed in the Office of the Vice President of Instruction.

North Central Association
230 South LaSalle Street, Suite 7-500
Chicago, Illinois 60604
www.ncahigherlearningcommission.org
1-800-621-7440

Program Accreditations

The following MCCC programs have earned specialized accreditation:

- Nursing
National League for Nursing
Accrediting Commission (NLNAC)
3343 Peachtree Road NE
Suite 500
Atlanta, Georgia 30326
Phone: 404-975-5000
Fax: 404-975-5020
- Respiratory Therapy
Committee on Accreditation
for Respiratory Care (COARC)
1248 Harwood Road
Bedford, Texas 76021-4244
817-283-2835

PHILOSOPHY

Monroe County Community College is dedicated to the philosophy that the nation's most precious resource resides in the diverse knowledge and abilities of its citizens. The college endeavors to provide educational opportunities to enhance this knowledge and refine these abilities.

The college offers its programs and services within a framework of ethical integrity in all relationships and practices.

The college believes that liberal admissions requirements are an essential part of its philosophy.

The college admissions policy affords equal opportunity for all qualified individuals for higher educational experiences.

ASSESSMENT PHILOSOPHY

Assessment at MCCC is a systematic and comprehensive examination of the college mission. Relevant academic and non-academic activities will be used to determine if the mission mandates continue to be met. Assessment illustrates that the college is committed to improving in all areas, particularly the central institutional mission: teaching and learning effectiveness.

Assessment at MCCC enables the institution to demonstrate concretely and convincingly that students are learning those skills, competencies and attributes necessary to successfully function as productive citizens. Assessment also provides our constituency with an ongoing reporting mechanism that indicates high-quality performance at an institution where public resources are effectively expended for the betterment of the MCCC district. The assessment process at MCCC provides an appropriate, self-determined accountability mechanism that provides assurances that MCCC continues to meet its institutional mission. It provides a clear avenue for reporting results to its accrediting organization and to the State of Michigan.

POLICY STATEMENT ON ILLEGAL DISCRIMINATION AND SEXUAL HARASSMENT

The Community College District of Monroe County, Michigan affirms its desire to create a work and study environment for all individuals that is fair and responsible. The college endeavors to support an environment that will support, nurture and reward career and educational goals on the basis of relevant factors such as ability and work performance.

The college believes that illegal discrimination and sexual harassment are inconsistent with a supportive environment, and as such, endorses all applicable state and federal legislation, which includes the Elliot-Larsen Civil Rights Act (Michigan) and the 1964 Civil Rights Act (Federal) involving prohibiting discrimination or harassment in employment and in the utilization of education facilities.

It is therefore the policy of the college that no employee or qualified person participating in a college-sponsored program, service or activity shall be discriminated against because of race, color, religion, national origin or ancestry, age, gender, marital status, disability, genetic information, sexual orientation, height, weight or veteran's status.

It is furthermore the policy of the college that any illegal acts of discrimination or sexual harassment of students or employees will be considered as unacceptable and impermissible conduct. Such acts will not be condoned or tolerated by the college.

The college will investigate any allegation of illegal discrimination or sexual harassment. If inappropriate behavior is found to have occurred, prompt remedial action will be taken. Any employee found to have engaged in prohibited discrimination or sexual harassment is subject to immediate discipline up to and including termination, and any student found to have engaged in prohibited discrimination or sexual harassment is subject to immediate discipline, up to and including expulsion.

No employee or student will be disciplined or retaliated against for making a good faith complaint or request for investigation pursuant to this policy. The college's equal opportunity officer and Title IX and Section 504/ADA coordinator and compliance officer for discrimination and sexual harassment is the director of human resources, Monroe County Community College, 1555 South Raisinville Road, Monroe, Michigan 48161, phone (734) 384-4245.

For procedural information, please go to www.monroecc.edu.

POLICY STATEMENT ON SOCIAL SECURITY NUMBER PRIVACY

The State of Michigan Public Act 454 of 2004 establishes regulations to help ensure the privacy of student Social Security numbers. This includes the proper use, disclosure and disposal of student Social Security numbers.

The Community College District of Monroe County Michigan will follow procedures to ensure that these requirements are met.

For procedural information, please see the Web site at www.monroecc.edu.

MAIN CAMPUS

The Monroe County Community College campus, located on South Raisinville Road, opened for students in October, 1967. The campus buildings are related to one another by an attractively landscaped center mall. Each building is both functionally and esthetically designed.

The Campbell Learning Resources Center is the focal point of the campus. This two-story building contains classrooms, faculty offices and the necessary space to house library facilities for a collection of over 46,000 volumes and over 300 current subscriptions, as well as electronic access to thousands of magazines and journals.

The Audrey M. Warrick Student Services/Administration Building, across the mall from the Campbell Learning Resources Center, provides dining facilities, a recreation area and a bookstore for the student body. In addition, this facility houses four community-use conference rooms, a student lounge, an art room, the Cuisine 1300 restaurant and a beautiful courtyard. Student Government conducts its activities from this center. The counseling, admissions, administrative and general offices are also located in this building.

The technology buildings are two separate units connected by a covered walkway. The East Technology Building contains an art studio, drafting area and business education rooms. The West Technology Building houses the Regional Computer Technology Center, classrooms, offices and laboratories related to the industrial technology curricula. A lab annex for automotive engineering technology and construction management technology was added in support of these two programs in 2002.

The Life Sciences Building, located across the mall from the technology buildings, contains offices, the student newspaper, and laboratories and classrooms related to the physical and natural sciences. The building also contains two auditorium-type lecture halls and a climate-controlled greenhouse.

The Gerald Welch Health Education Building, located on the north end of campus, houses the nursing, respiratory therapy and physical education program classrooms and laboratories, a day-care center, a multi-purpose room, a dance-aerobics room and a fitness center.

In the latter part of 2004, the college opened the La-Z-Boy Center and Meyer Theater. This 52,000-square foot building combines facilities equipped for education and training with a performing arts venue. The La-Z-Boy Center also houses the Corporate and Community Services Division offices.

LEARNING RESOURCES CENTER

The Learning Resources Center (LRC) provides students and faculty with services, print materials and online resources selected to support the college curricula and promote independent research and lifelong learning. Located on the first floor of the Campbell Learning Resources Center, the Library includes areas for quiet and group study, workstations for Internet access, on-line databases, reserve class materials, wireless access and magazine articles in both print and online format. Learning Resources Center faculty and support staff are available to assist students and faculty in all phases of library services. Reference librarians provide both individual reference help and research education sessions for specific classes.

Classrooms, faculty offices and the Learning Assistance Lab (LAL) are located on the second floor of the Campbell Learning Resources Center. The Little Theatre, Educational Media Services office, Information Systems and additional classrooms are located on the lower level.

LEARNING ASSISTANCE LAB (LAL)

The LAL provides academic support services as well as services to students with disabilities. The goal of the LAL is to help students improve their classroom performance and achieve academic success. All LAL services are free to MCCC students. The LAL is located in room C-218. Appointments can be made in person or by calling (734) 384-4167.

Tutoring

Tutoring is available for many MCCC courses. Most tutoring is done one-on-one, but group tutoring is sometimes scheduled when students request it. Although walk-ins are accepted, appointments should be made to ensure a time is reserved for you. Tutoring is also available to help students improve their study strategies.

Writing Center

Student Writing Fellows assist with all stages of the writing process from pre-writing to revision and editing. The Writing Fellows are students who have demonstrated writing ability in English 254, Advanced Composition. Many courses at MCCC are assigned a Writing Fellow; however, assistance on any writing project is also available by appointment in the LAL.

Supplemental Instruction

Group study sessions are led by a trained student leader for selected courses. The leader attends class, takes notes, reads the assigned materials and conducts two study sessions per week. The scheduled group study sessions are informal and have proven helpful to students who attend.

First Steps for Classroom Success Workshop

This workshop highlights study skills and other “success strategies.” Some of the topics covered are Organizing for Effective Study, Taking Lecture Notes, Proven Learning Tools and Surviving the First Day of Class. These free workshops are offered a few days before the Fall and Winter semesters begin, and are available to anyone interested in improving their classroom performance.

DISABILITY SERVICES

Students with documented disabilities may be eligible for classroom and test accommodations, as well as access to all college facilities and programs. Accommodations are intended to “level the playing field” as much as possible, so the student with a documented disability has an equal opportunity to succeed. Access is provided while maintaining high academic standards.

Disability counselors are available to assist students with disabilities in all aspects of their educational planning. Students may schedule an appointment with a disability counselor in the LAL to request accommodations, plan their schedule, obtain career and transfer information and provide collaboration with outside agencies.

Process for Requesting Accommodations for Students with Disabilities

1. Under the Americans with Disabilities Act Amendments Act of 2008 or the Rehabilitation Act of 1973, an individual with a disability includes any person who has a physical, learning, emotional, behavioral or mental impairment which substantially limits one or more major life activities.
2. At least ten business days prior to the first class session, it is the responsibility of the student with a disability to schedule an appointment with a Disability Services counselor/coordinator to begin the accommodation process. (Room C-218 of the Campbell Learning Resources Center, phone 734-384-4167).
3. Before making an accommodation plan, it is Disability Services' responsibility to gather all necessary information from the instructor/dean about the course, its content, physical conditions and testing policies. The instructor will then be notified by Disability Services as to the specific accommodation(s) to be provided. If a special request is received after the course/semester begins, a decision regarding the type and extent of the accommodation will be communicated to the instructor with implementation to follow within a reasonable amount of time. (Testing accommodations are made on a week-

by-week basis and require at least one week notice for special arrangements to be made.)

4. Within 30 calendar days of an accommodation request or by the first meeting of class (whichever comes first), acceptable documentation substantiating any accommodation request must be provided to the Learning Assistance Lab. (For guidelines regarding acceptable documentation, contact the LAL at 734-384-4167.) If documentation is not received within this time frame, any future accommodations may be in jeopardy.
5. A student who receives an accommodation must:
 - A. Notify or leave a message for a counselor when he/she will not be in class. (Non-credit students must notify or leave a message with the Corporate and Community Services Division by calling 734-384-4127.)
 - B. Use the same procedure to notify the LAL if he/she has difficulty with any accommodations (note taker, scribe, interpreter, etc.).
 - C. (Credit students only) Keep in regular contact with the Learning Assistance Lab (734-384-4167).
6. No charge will be made to the student, although cooperative arrangements with third-party agencies (i.e. Michigan Rehabilitation Services, Commission for Blind, etc.) will be considered.
7. Any loaned equipment or materials must be returned to the LAL within seven working days after termination of services. Failure to return equipment will result in a financial hold on student records.
8. Accommodations are made on a case-by-case basis each semester. Before the start of each semester, all credit students with a disability must meet with a Disability Counselor to complete an intake to be eligible to receive accommodations. Non-credit students must do an intake each time they register for a class.

Reasonable attempts will be made to accommodate individual needs. However, this is not a guarantee that services will be provided as requested.

BOOKSTORE

Located in the Audrey M. Warrick Student Services/Administration Building, the Bookstore is a one-stop place for all school supplies. The Bookstore provides new and used books, book bags, school supplies, Scantron sheets, clothing, gift items, greetings cards and snack foods.

Please do not open packages or write in books until you are certain there is no need to return them. Books must be in original condition with all unused components as packaged. A full refund is given within the first week of class. The cash register receipt **MUST** accompany books. Check the Bookstore for refund and exchange policies.

There will be a new process for Whitman Center students to obtain textbooks prior to the beginning of classes. Students on financial aid or wishing to pay by cash or check must pre-order their books to ensure delivery at the Whitman Center during designated days and times at the beginning of each semester. Information for pre-ordering is located on the college Web site under the Whitman Center Quick Link. For students paying by credit card, books can be ordered online in the usual manner. Before each semester begins, you can access the required list of textbooks from the college Web site. You have the option of having the order shipped directly to your home or picking it up on Main Campus or the Whitman Center.

The Bookstore will buy back used books depending on the requirements for the next semester. Typically, the Bookstore will pay 50 percent of the current new book price. A used book warehouse representative may buy back additional books that have market value during "Book Buy Back," which is held during the last three days of Fall, Winter and Spring semesters. Information on upcoming Buy Backs, including dates and times, is available by calling the Bookstore or checking the college Web site at: www.monroecc.edu/bookstore.

CORPORATE AND COMMUNITY SERVICES DIVISION

The basic mission of the Corporate and Community Services (CCS) Division is to provide a variety of educational opportunities to adults within the college service area. Courses and programs are designed in response to education and training needs expressed by individuals, community groups and business and industry, as well as demands for enrichment and recreational activities.

The CCS Division of Monroe County Community College is a comprehensive educational provider to many segments of the community. The diverse offerings and services touch a wide variety of citizens and organizations.

Community service programs and activities are an ongoing part of the division. The CCS Division manages room usage of the college by on- and off-campus organizations for over 100,000 people annually. Community service programs include the annual Business and Industry Luncheon and other programs that reflect the diverse interests of the community. For more information regarding the services available through the CCS Division, visit our Web site at www.monroecc.edu/ccs/corporate.htm.

Campus and Community Events

The college sponsors a wide array of cultural, educational and recreational events throughout the year for students and the entire community. A monthly calendar of exhibits, demonstrations, lectures, slide shows, concerts, plays, athletic and seasonal events is available, spotlighting well-known regional and national artists. Many events are free, and all are open to the public. For more information, to view the calendar of events, or to purchase tickets online, visit our Web site at www.monroecc.edu/theater.

Customized Training

The CCS Division plays a significant role in economic development activities throughout Monroe County by providing training programs designed to maintain a competitive work force. Through contract education with area business and industry, specific training programs may be offered on site at the workplace. CCS personnel are regularly involved in county-wide programs with the Chamber of Commerce, Industrial Development Corporation and a variety of local and state agencies and organizations dedicated to economic development activities. The college is also active in the Michigan Economic Development Corporation's Economic Development Job Training Program, the Incumbent Worker Training Program, and the Michigan New Jobs Training Program, which provide funding to area employers for workforce training.

For information on specific training programs available, or to view a current schedule of training classes, visit the CCS Division Web site at www.monroecc.edu/ccs/training.htm.

Fitness Center

The Fitness Center is available to all MCCC students and staff free of charge. MCCC Alumni Association members also have access to the facility for a modest annual fee. Located in the Gerald Welch Health Education Building on the north end of the campus, the Fitness Center is equipped with a full range of exercise equipment for cardiovascular workouts and strength training. Lockers and shower facilities for men and women are also available. Visitors must present a photo ID and complete an orientation session to utilize the exercise equipment. For more information and hours of operation, visit our Web site at www.monroeccc.edu/ccs/fc/fitnesscenter.htm.

Lifelong Learning

The Lifelong Learning Office provides educational opportunities for adults in a wide range of non-credit, non-degree programs. Through the Lifelong Learning schedule of classes, published twice a year, a variety of classes and programs are offered for professional development in business, computers, construction/real estate, industrial technology, medical skill training and professional relicensure. Personal interest, crafts/hobby, sports/recreation and health/wellness classes are also offered for individuals seeking personal development and leisure activities.

Evening office hours, evening and weekend class offerings, one-night classes, one-day workshops and an easy registration process that includes Web registration are just some of the many advantages that Lifelong Learning offers to the adult student at MCCC.

For specific class information or to receive a current schedule of classes, contact the Lifelong Learning Office, located within the Corporate and Community Services Division office (Room 286 of the La-Z-Boy Center) at (734) 384-4127, or visit the CCS Division Web site at www.monroeccc.edu/ccs/lifelong.htm.

Workforce Development

The Workforce Development Office assists current and former Monroe County Community College students, as well as alumni and county residents, in locating job opportunities in the surrounding employment area. The Workforce Development Office provides information regarding available part-time, full-time, permanent and temporary positions in a wide variety of occupational areas. Student assistant positions in all areas of the college are also available through the Workforce Development Office.

Upon registration with the Workforce Development Office, students and job seekers can obtain job information, post resumes, and contact potential employers. They also have access to a variety of job seeking skills seminars and reference materials.

Area employers use MCCC's Workforce Development Office free of charge to post available jobs and access qualified candidates registered with the office.

If you would like more information about registering for employment opportunities or posting a job, contact the Workforce Development Office at 734-384-4124 or visit our Web site at www.collegecentral.com/monroeccc.

WHITMAN CENTER

The Whitman Center, located in a picturesque setting on Lewis Avenue in Bedford Township, is administered by the CCS Division and exemplifies the community service commitment of the college. Opened in the fall of 1991, the Whitman Center is designed to serve the residents of Southeast Michigan and Northwest Ohio and offers a wide range of credit courses applicable toward an associate degree, or transfer to a four-year institution. The center also offers Lifelong Learning classes, customized training and a variety of unique programs and exhibits for the community. Students are able to complete all registration functions at this site as well as purchase books at the beginning of the semester. The center has a Business Learning Lab staffed by computer technicians and a student lounge provides an opportunity to relax or work in groups.

For more information on Whitman Center office hours, available classes, counseling appointments, etc., visit the CCS Division Web site at www.monroeccc.edu/ccs/whitman.htm.

STUDENT ORGANIZATIONS AND ACTIVITIES

Monroe County Community College supports student organizations and activities. It is believed that such programs contribute to the overall intellectual, social and emotional development of students. Participation in campus-sponsored activities can be a source of opportunity for 1) leadership development, 2) cultivation of broader interests, 3) recognition of achievements, 4) encouragement of social skills, and 5) practice in the skills of citizenship.

Opportunities are available for individuals to participate in extracurricular, student-sponsored organizations and activities and to help organize new programs or direct existing ones. Much of the responsibility for the types of student programs and their management rests with the student body. However, all organizations and activities must have the support of a staff adviser. The following list represents some of the extracurricular student-administered activities that are available at Monroe County Community College:

- Student government
- Student clubs:
 - Academic interest groups
 - Special interest groups
- Vocal and instrumental music

GIFTS AND BEQUESTS - THE FOUNDATION AT MONROE COUNTY COMMUNITY COLLEGE

Established in 1998, The Foundation at Monroe County Community College is a non-profit corporation designated by the college's Board of Trustees as the development and enrichment organization for the college. The Foundation receives and administers private gifts, bequests and donations to benefit Monroe County Community College. The Foundation, through its fund raising activities and financial awards, seeks to enhance the educational, cultural and financial strength of the college.

A board of directors, comprised of distinguished business and community leaders as well as MCCC faculty and staff, develops The Foundation's policies and activities. Each member brings to the board a unique combination of experiences, skills and perspectives that assist The Foundation in meeting its goal of providing a vehicle for contributions to support college programs and activities.

A portfolio of giving opportunities is available. Each giving opportunity is within a framework that respects the wishes and charitable choices of the donor. The giving programs enable the donor to receive maximum tax benefits under existing tax laws. Donations may be cash, securities, gifts made through a will or trust, insurance and/or real estate and personal property. The donation may be awarded for specific purposes or given without restrictions to the general fund. Gifts are provided for scholarship, program enrichment, special purchases, faculty/staff mini-grants, special events, physical facilities and other projects that augment high-quality education at Monroe County Community College.

For more information about The Foundation at Monroe County Community College, contact the MCCC Office of Institutional Advancement at (734) 384-4206 or visit The Foundation at MCCC Web site at www.monroeccc.edu/foundation.

ADMISSIONS

ADMISSIONS POLICY

Monroe County Community College believes that liberal admissions requirements are an essential part of its philosophy. The college Admissions Policy affords equal opportunity for all qualified individuals for higher education experiences. The policy is based on the student's ability to benefit and does not discriminate on the basis of race, color, religion, national origin or ancestry, age, gender, marital status, disability, genetic information, sexual orientation, height, weight or veteran's status. Any exception to this policy must be approved by the vice president of student and information services or his/her designee.

All applicants must be high school graduates or have successfully completed the General Education Development (G.E.D.) test for admission to Monroe County Community College (for exceptions, see Special Admission). High school students may be admitted (dual enrollment) pursuant to State of Michigan law, or on a concurrent enrollment basis.

Individuals seeking admission to the college must submit a completed application along with official high school transcripts. All applicants who desire advanced standing consideration must provide an official transcript for all colleges attended or official certification of other educational experiences. Graduates of regionally accredited two-year and four-year colleges need not provide a high school transcript.

Falsification of any admissions information may be grounds for admission denial or dismissal from the college.

All new students, as defined in Procedure 3.00(b), must participate in an assessment program.*

** Information on location and times of testing is available in the Admissions and Guidance Office, located in the Student Services/Administration Building, 1555 South Raisinville Road, Monroe, Michigan 48161.*

Main Campus: (734) 384-4104
Within 313, 419 and 734 area codes: 1-877-YES-MCCC
Whitman Center: (734) 847-0559

ADMISSIONS STATUS

The admission status of an applicant to Monroe County Community College is determined by records of his/her previous educational performance. Admission is based on the following:

1. Regular Admission

In Fall and Winter semesters, students may carry a maximum of 17 credit hours per semester. During the shorter Spring and Summer sessions, students may carry a maximum of seven credit hours. Approval of the vice president of instruction, vice president of student and information services or their designees is required to exceed either limit.

2. Special Admission

Applicants who have not graduated from high school may receive special admission status if five years or more have elapsed since the date their high school class would have graduated. For their first semester, these individuals may be admitted to no more than seven credit hours of course work during either the Fall or Winter semester or four credit hours for either the Spring or Summer session. Admission will be based upon an evaluation of the applicant's background, experience and assessment scores. The vice president of student and information services or his/her administrative designee will make the final decision for admission. Students entering the college as a special admission must maintain a minimum 1.8 grade point average. Specially admitted students must comply with all other admissions policies and procedures.

3. Restricted Admission

Any student who enrolls at this institution with an assessment score at or below the minimum level in writing, reading or math will have a limited enrollment status. Restrictions are described in Procedure 3.00(b) – Procedures on Student Assessment.

Fall Semester 2011

Students who score below specified minimums on the English portion of an assessment must successfully complete English 090 prior to enrolling in a 100-level or higher English course. Students who score below specified minimums on the math portion of an assessment must successfully complete Math 090 prior to enrolling in a 100-level or higher math course. Students who score below specified minimums on the reading portion of an assessment must successfully complete Reading 090 within the first 15 attempted credit hours.

Students who score below specified minimums for reading, writing and/or mathematics are strongly encouraged to enroll in COLL 145 College Skills.

Effective Winter Semester 2012*

Minimum Competencies in Reading

Students who score below specified minimums on the reading portion of an assessment must successfully improve their reading skills to achieve the minimum score required for placement into Reading 090. Students who place into Reading 090 must successfully pass the course prior to enrolling in most other 100-level or higher college course.

Minimum Competencies in Writing

Students who score below specified minimums on the English portion of an assessment must successfully improve their writing skills to achieve the minimum score required for placement into English 090. Students who place into English 090 must successfully pass the course prior to enrolling in 100-level or higher English course.

Minimum Competencies in Mathematics

Students who score below specified minimums on the math portion of an assessment must successfully complete Math 090 prior to enrolling in a 100-level or higher math course.

Any student who scores below the minimums on COMPASS reading should consult with a counselor or an academic advisor to begin planning the steps necessary to improve their reading and/or writing skills.

Students who score below specified minimums for reading, writing and/or mathematics are strongly encouraged to enroll in COLL 145 College Skills.

Effective Fall Semester 2012*

Minimum Competencies in Reading

Students who score below specified minimums on the reading portion of an assessment must successfully improve their reading skills to achieve the minimum score required for placement into Reading 090. Students who place into Reading 090 must successfully pass the course prior to enrolling in most other 100-level or higher college course.

Minimum Competencies in Writing

Students who score below specified minimums on the English portion of an assessment must successfully improve their writing skills to achieve the minimum score required for placement into English 090. Students who place into English 090 must successfully pass the course prior to enrolling in most other 100-level or higher college course.

Minimum Competencies in Mathematics

Students who score below specified minimums on the math portion of an assessment must successfully complete Math 090 prior to enrolling in any other math course.

Any student who scores below the minimums on COMPASS reading should consult with a counselor or an academic advisor to begin planning the steps necessary to improve their reading and/or writing skills.

Students who score below specified minimums for reading, writing and/or mathematics are strongly encouraged to enroll in COLL 145 College Skills.

4. Programs with Selective Admission

The following programs have selective admission:

- a. Nursing
- b. Respiratory therapy
- c. Culinary skills and management
- d. Licensed practical nursing

Criteria used in selecting students for these programs are stated in Procedure 3.00(a).

5. Guest Student Admission

Guest students must present a completed MCCC Application for Admission and a Guest Application form. The form is available in the Admissions and Guidance Office and must be completed by the student and the registrar and/or dean's office of the college or university that he/she is currently attending. This form is required each semester the student enrolls at MCCC.

6. Dual Enrollment/High School Student Admission

High school students may be admitted on the basis of dual or concurrent enrollment upon completion of the following:

- a. Submission of an MCCC Application for Admission.
- b. All new students, as defined in Procedure 3.00(b), must meet assessment requirements. The admission decision, in part, will be based upon assessment results.
- c. The MCCC High School Approval Form must be completed and signed by the high school superintendent or his/her designated representative prior to each semester of attendance.
- d. Official high school transcripts are required prior to admission.
- e. Approval by the vice president of student and information services or his/her designee is required for enrollment. A high school student is typically limited to one class.

7. International Student Admission

Monroe County Community College is authorized under Federal law to enroll non-immigrant alien students.

International student applicants must be sponsored by a family residing in the college district. Sponsorship requires that the student will live with the family, who will assume responsibility for his/her support. The sponsor must certify this by signing an International Student Sponsorship Form, having the form notarized and returning it to the Admissions and Guidance Office.

Prospective international students whose native language is not English are required to demonstrate proficiency in the English language. This can be accomplished in one of two ways: scoring 80 percent or higher on the University of Michigan Language Institute's English Proficiency Examination (MELAB) or scoring 79-80 or more on the Test of English as a Foreign Language (TOEFL). Certification of English as the native language must be approved by the vice president of student and information services or his/her designee.

Once these requirements are met, the international applicant must complete the regular admissions process. A copy of his/her high school and college transcripts (in English) must be sent to the Admissions and Guidance Office.

8. Advanced Standing

Students admitted to the college may be granted advanced standing according to the procedures noted in MCCC's Procedure 3.00(c), Advanced Standing--Awarding of Credit.

ADMISSIONS/GUIDANCE SERVICES

Orientation

Prior to the first session of classes, new students are introduced to the college through an orientation program. During this program, students are acquainted with the philosophy of the college, its physical facilities, educational opportunities, administrative procedures, student services and co-curricular activities. All students attending MCCC for the first time are encouraged to attend a new student orientation program.

Counseling

Monroe County Community College admits students with a variety of backgrounds to its diverse instructional programs. The purpose of counseling is to help students become better decision makers, formulate realistic educational and vocational goals and develop more effective personal skills.

The college supports a counseling program that is comprehensive in its service and is staffed by professional counselors. These services are available to all students whether enrolled on a full-time or part-time basis.

Students are not assigned to a specific college counselor. If students wish to avail themselves of the counseling services, they should make an appointment in the Admissions and Guidance Office. Students enrolled at the Whitman Center can make an appointment at the Whitman Center.

Educational Counseling

Help may be needed in dealing with issues that interfere with college studies. An objective listener can often help unscramble ideas which need to be brought into clear focus. Whether a student is simply in need of information or whether he or she needs to gain better self-understanding, a counselor can assist.

Career Counseling

The professional counselors in the Admissions and Guidance Office can help you to obtain the decision-making skills necessary to organize the knowledge of values, interests and opportunities necessary to select a career.

Testing Services

Many decisions require objective data. Career inventories can often assist in the process of acquiring this data. MCCC offers, free of charge, various career inventories to students (and other members of the community). Inventories are available that measure personality characteristics and career interests.

Career Advising

Career packets containing occupational information are sent upon request. Resume and job interview resources are available. Computerized career guidance systems assist with assessing occupational goals, searching for the right college and writing an effective resume. Students who are interested in college transfer information will find a collection of catalogs from colleges in Michigan and Northwest Ohio, as well as applications for admission and program transfer guides. Transfer guides are also available on the MCCC Web page at www.monroecc.edu/academicadv-transfer/transindex.htm.

Advising

During an initial counseling interview, a program of study for a certificate, associate degree or the first two years of a four-year degree will be developed with the assistance of a college counselor in the Admissions and Guidance Office or the Whitman Center. Prior to the second semester of study, a faculty advisor will be assigned to each new student based on the student's declared major. Each student is encouraged to meet with the faculty advisor to discuss educational goals and course scheduling.

ADVANCED STANDING

TRANSFER CREDITS

Credits from other regionally accredited colleges and universities which are earned with a grade of C- or better and are applicable to the student's declared MCCC program will be accepted in transfer and appear on the student's permanent record. Requests for awarding of credit for work at unaccredited institutions or for non-collegiate educational experiences will be evaluated by the registrar in consultation with the respective division deans. To be considered official, transcripts must be sent directly from your previous college to the Registrar's Office at Monroe County Community College. Grades and grade point average are not transferred. A student's grade point average will be computed only for the courses earned at Monroe County Community College.

CREDIT BY EXAMINATION

Credit by examination can be obtained by three methods at MCCC. Testing can be in the form of the College-Level Examination Program (CLEP), the Advanced Placement Program (AP) (through the College Board) or the MCCC credit by exam process. The CLEP and AP options are tests given by outside testing services and cover primarily subjects designated as transfer.

Advanced Placement Program (AP)

Credit may be granted to students who have participated in the College Entrance Board's Advanced Placement Program in their high schools. A score of 3 or better is required to earn academic credit. Students planning to attend Monroe County Community College should arrange to have their advanced placement examination records sent to the Registrar's Office.

College Level Examination Program (CLEP)

Credit may be granted to students who have participated in the College Entrance Examination Board's College Level Examination Program. To earn credit, a student must score in at least the fiftieth percentile in the sophomore norms. Students planning to attend Monroe County Community College should arrange to have their CLEP scores sent directly to the Registrar's Office.

CLEP credit is not available in cases where a student has earned credit in the same course previously. For additional information regarding which tests are accepted and how credit will be awarded, please contact the Registrar's Office.

MCCC Credit by Examination

The third option for credit by examination available to Monroe County Community College students is divisional testing for other courses, primarily occupational and technical. This opportunity is limited to courses identified by the division deans and faculty. By passing a comprehensive examination with a grade of "C" or better, students can earn this credit.

Students may obtain applications for such examinations in the appropriate division office. There is a non-refundable fee for credit by examination. Upon successful completion of the examination, the registrar will be notified by the division dean of the grade, and credit for the course will be entered on the student's academic record.

A student is limited to a single attempt per course for credit by examination as certified by the division dean. Credit by examination is not available as a vehicle for repeating a course. Advanced placement is not available in cases where a student has earned credit in the same college course previously. Attainment of a "C" or better grade in a course that requires a prerequisite disqualifies the student from gaining credit in the prerequisite course(s) via credit by examination (e.g., a student may not receive credit by examination for Math 151 if he or she attained a grade of "C" or better in Math 157).

TECH PREP

The Monroe County Tech Prep Consortium is a community-wide partnership among K-12 school districts, community colleges and business/labor, which provides the counseling and curriculum cooperation that will produce qualified graduates for the work force.

While in high school, students can earn college credit in occupational programs that may lead to a college certificate, associate degree and, in some programs, a bachelor's degree. Any student interested in earning Tech Prep credit should work with his/her high school counselor, contact the Monroe County Community College Admissions and Guidance Office or visit www.monroecc.edu/techprep.

CREDIT FOR MILITARY SERVICE EXPERIENCE

Credit for service experience may occur in two forms. Use of this credit is based on its appropriateness to the student's program at Monroe County Community College.

1. A student presenting the Registrar's Office with a DD-214 form showing a minimum of one year of service with the character of discharge being either "honorable" or "general under honorable conditions" will be awarded two semester hours of general elective credit.
2. Service personnel, having successfully completed certain approved training courses, may be awarded a limited amount of academic credit once proof of this training has been provided to the Registrar's Office. MCCC follows the American Council on Education Guide to the evaluation of educational experience in the armed services.

DEFINITION OF CLASS STANDING

A freshman at Monroe County Community College is one who has earned 29 or fewer semester hours, including semester hours transferred from other institutions.

A sophomore is one who has earned 30 or more semester hours, including approved semester hours transferred from other institutions.

REGISTRATION INFORMATION

SCHEDULE OF CLASSES

Prior to the registration period for each semester, a schedule of classes is published and posted on the MCCC Web site containing the classes offered and information on registration procedures.

Fall and Winter Semesters

Each Fall and Winter semester consists of approximately 15 weeks. The maximum full-time load is 17 credits. A student desiring to carry more than 17 must obtain the approval of the vice president of instruction, the vice president of student and information services or their designated representative.

Students may be required to limit their course load to fewer credits per semester if on academic probation or if placement test scores indicate that such limitation is desirable. Such students may also be required to take specified courses.

Spring and Summer Sessions

As part of the regular academic calendar, the college schedules a six-week Spring and a six-week summer session from early May through the first week of August.

The maximum number of credits allowed without official approval in either Spring or Summer session is seven hours.

FULL-TIME STUDENT DEFINITION

The minimum course load required to be considered a full-time student is 12 credits for the Fall and Winter semesters, and six credits for Spring and Summer sessions. Audited courses do not count toward determining course load.

LATE REGISTRATION/ ADDING A COURSE

Courses may be registered for or added prior to the second scheduled meeting of the class. Short courses – Spring, Summer, or evening and Saturday classes that meet only once a week – may not be entered once the class has met for the first time.

Online classes may not be entered once orientation has been held, or the date to e-mail the instructor has passed, or after the start of the semester.

DROPPING/ADDING CLASSES

Adds and drops may be processed via WebPal or by completing an add/drop form and returning it to the Registrar's Office on Main Campus or the Whitman Center.

Course Drops and Withdrawals

Student-initiated Drop from Class or Classes

Upon official voluntary withdrawal from class or classes, a "W" (indicator of withdrawal) is assigned as follows:

1. If a drop is made by the end of the first week of a full semester (15 weeks) class, no "W" will be recorded.
2. After week one but before the end of the 12th week of a full semester class (prorated for classes less than the full semester), the "W" (withdrawal) is automatically recorded.
3. After the 12th week of a full semester class (prorated for classes less than the full semester), no withdrawals will be processed. Properly documented exceptions, including health and medical emergencies or an error in processing, may be considered.
4. The "W" (indicator of withdrawal) is not assigned by instructor. After the semester (Fall, Winter, Spring/Summer) has ended, no grade may be changed to "W." Properly documented exceptions, including medical emergencies or an error in processing, may be considered.
5. Spring, Summer and courses shorter than a semester in length will have the appropriate dates for drop and withdrawal prorated as necessary.

Instructor-initiated Withdrawal from Class or Classes

A faculty member may request that a student be withdrawn from class during the first 10 weeks of the Fall and Winter semesters. Dates are prorated for Spring and Summer semesters and any nonstandard length course. The procedure is as follows:

1. The faculty member submits a Faculty-initiated Withdrawal Form to the Registrar's Office.
2. The registrar notifies the student that the instructor recommended the student be withdrawn from class and assigned the indicator of "W" (withdrawal).
3. If the student does not respond within seven calendar days, the withdrawal form is processed and a "W" will be recorded.

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- The “W” (indicator of withdrawal) is not assigned by instructor. After the semester (Fall, Winter, Spring or Summer) has ended, no grade may be changed to “W.”

WITHDRAWAL

Students may withdraw from a full semester course via WebPal or in person up to and including the 12th week of the class. No withdrawals will be processed after that date. The withdrawal deadline is prorated for any course less (or more) than the full semester. Properly documented exceptions, including medical emergencies or an error in processing, may be considered.

PASS/FAIL OPTION

Students are strongly encouraged to investigate carefully the pass/fail option as it relates to restrictions on programs, as well as the effect upon the future employment and transferability to senior institutions. Students must also investigate the effect of a pass/fail when applying to the various graduate schools.

- The pass/fail option will be available to all students once the required form is completed and submitted to the Registrar’s Office.
- All courses that appear on the schedule will be made available to students on a pass/fail basis.
- The “P” (pass) grade shall be equivalent to A, B and C.
- The deadline for changing from the pass/fail option to the traditional grading system, and vice versa, will be no later than the mid-point of any course.
- Courses elected on the pass/fail option will count toward graduation. However, a student shall not exceed 12 hours of “P” (pass) in a degree program and/or one course during any semester.
- The “P” (pass) and “F” (fail) will appear on the transcript but will not be used in the computation of the honor point average.

STUDENT LEARNING DEFINITIONS

Face-to-Face: Courses require students to come to the MCCC campus on prescribed days and times. These courses may utilize a Web-based component as a supplement to the instructor’s face-to-face classroom instruction.

Blended: Courses blend face-to-face classroom instruction with a significant amount of Web-based instruction. The class schedule in these courses will require the student to come to MCCC campus as established by the instructor.

Online: Courses deliver instruction in an entirely Web-based format. Some exams and assignments may be required at authorized locations as established by the instructor.

AUDITING COURSES

A student wishing to enroll in a class as an auditor may do so by completing and submitting the necessary form to the Registrar’s Office by the mid-point of the course. Auditors are charged the same as students taking the course for credit. There is no credit earned for courses taken as audit. Auditors are not required to take exams, but are expected to attend class on a reasonable basis.

A student may not change to or from audit after the midpoint of the course.

SENIOR CITIZEN SCHOLARSHIPS

Monroe County residents who are age 60 or older qualify for a waiver for 50 percent of tuition. Registration, special fees, technology and lab fees will be charged. Credit by exam fees are not subject to waiver.

INCOMPLETE COURSE WORK

A student whose semester work is incomplete in a minor way may, upon presentation of reasons satisfactory to his or her instructor, be granted the privilege of completing the work by the end of the 12th week of the next regular semester. If granted this privilege, a grade of “I” will be recorded. The instructor will file with the registrar the Student Request for Incomplete Form which includes the grade to be given if the work is not completed. Failure on the part of the student to make up the incomplete work within the specified period of time will result in the grade indicated becoming the grade of record. It is the student’s responsibility to complete the work within the specified time limits. An “I” will not revert to a “W.” In extenuating circumstances, an extension beyond the normal period may be obtained by the completion of an incomplete extension request by the student, endorsed by the instructor.

REPEATING COURSES

Students are allowed to attempt the same course no more than three times. Each course in which the student has received a grade, pass/fail credit, or audit will count as one attempt. Regardless of the student’s current best grade in a course, if the student has not reached the limit of three attempts, he or she may repeat the course. When repeating a course, the most recent grade earned is the “grade of record” for

earning credit and computing the grade point average. All other attempts where a grade has been received, however, will remain on the transcript and are identified as repeats. After students have received a grade of "C" or better in a course which requires a prerequisite, they may not enroll for credit in the prerequisite course.

Deviations from the repeat procedure may only be made with appropriate approval of the dean of the division offering the course. If the appropriate dean is not available, the vice president of instruction or a designee may grant approval.

SEQUENTIAL COURSE LIMITATIONS

After students have received a grade of "C" or better in a course which requires a prerequisite, they may not enroll for credit in the prerequisite course.

CREDIT FOR INDEPENDENT STUDY

Independent study in a variety of academic disciplines is possible and encouraged for those students who desire the opportunity and challenge of investigating a particular body of knowledge outside of the structured classroom setting. Credit of one to four semester hours is available upon successful completion of an approved independent study plan. For further information, contact the appropriate division dean.

VETERANS' BENEFITS

Monroe County Community College welcomes and provides information, guidance and counseling to those eligible for educational benefits under applicable public laws. All students who are eligible for and elect to receive education and training benefits while attending Monroe County Community College may address inquiries for information to the Registrar's Office at 1555 S. Raisinville Road, Monroe, MI 48161.

A student whose Monroe County Community College cumulative GPA drops below 1.800 may be certified for a maximum of two additional semesters. If, after these two semesters, he or she does not raise the cumulative GPA to a 1.800, no additional certifications will be submitted on behalf of the veteran, and the Veterans Administration will be notified that the student is on VA probation. Should the veteran raise his or her cumulative GPA to a 1.800 in subsequent semesters, the college can retroactively certify the veteran one full year.

Audited courses are not eligible for the GI Bill.

Applications and information regarding the Veterans Benefits post 9/11 GI Bill, the Montgomery GI Bill, Survivors and Dependents or Selected Reserves may be obtained from the Registrar's Office.

For information regarding VA Tuition Assistance, Vocational Rehabilitation and VA scholarships, please contact the Financial Aid Office.

ATTENDANCE

Regular class attendance is necessary if a student is to receive maximum benefits from his or her work. Students are expected to attend all the sessions of class for which they are registered. Penalties may be imposed at the discretion of the individual instructor when he or she feels that the quality of the student's work has been affected by absence or tardiness.

As a matter of courtesy, students should explain the reason for absence to their instructors.

Excused absences for participation in authorized campus activities shall in no way lessen student responsibilities for meeting the requirements of the class. Instructors will be notified of students participating in authorized campus activities. Students anticipating absences for these activities should notify the instructor.

RELEASE OF INFORMATION

Monroe County Community College is in compliance with the 1974 Family Educational Rights and Privacy Act. Students are encouraged to stop in the Registrar's Office to learn more about their rights and privileges under this law. Essentially, it allows students to view the contents of most of their records currently on file at the college.

Also, under the provisions of the Family Educational Rights and Privacy Act of 1974, as amended, the college is allowed to release directory information on a student. MCCC has defined directory information as: name, address, e-mail address, terms of attendance, enrollment status, degrees and awards received and most recent previous educational institution attended. No other information will be released without written authorization from the student.

If a student wishes the college to withhold this information, the student must so inform the registrar, in writing, each semester. MCCC does not sell or otherwise provide mailing lists to companies or individuals outside the college other than required by state or federal regulations.

RECORDS RETENTION

Registration and drop/add forms are normally retained by the college for a period of three years. Students with inquiries regarding their academic records are expected to contact the Registrar's Office within that time period.

TUITION AND FEES

Fundamental to the community college philosophy is the concept that quality education be available at low cost.

The method used to calculate the cost of instruction at Monroe County Community College is based on billable contact hours.

See the current schedule of classes for a listing of tuition and fees.

PAYMENT OF TUITION AND FEES

Tuition and fees are due and payable at the time of registration. A Deferred Payment Plan is available for students. The formulation of regulations regarding payment of tuition and fees and granting of refunds is the responsibility of the vice president of administration.

RESIDENCE STATUS

Tuition will be assessed and collected according to the residence status of the student on the first day of the semester, or the first day the student is officially enrolled after the first day of the semester.

Resident rates will be assessed in cases where:

1. The student, or parents of a dependent student, own either property or a business that is located within Monroe County (Michigan).
2. The student's tuition is paid by his or her employer and either the student or the employer is considered a county resident. (An employer is considered a county resident if that employer operates a business, or branch thereof, within Monroe County (Michigan).

3. The student is considered a resident as defined below:

- If a student is a minor and his or her parent or legal guardian is a resident of Monroe County.
- A person may qualify as a resident by residing: 1) six months within the state of Michigan, and 2) 30 days within a Monroe County (Michigan) precinct. If a person moves to another precinct within the county, he or she is still considered a resident of the county.
- A person on active duty in the Armed Services of the United States, who has met the residency requirements as stated above, may register as a resident of the district.

In cases where the residency of a student is considered in doubt, the student may be asked to provide proof in the form of: 1) a Michigan driver's license, 2) a vehicle registration form (preprinted by the Secretary of State), 3) an up-to-date voter registration card, 4) an official communication from a municipal official indicating how long the student has resided in the county.

Questions concerning individual cases in regard to these regulations should be directed to the registrar.

REFUND OF TUITION AND FEES

The following is the policy established by the college for refunds of tuition and fees and covers individual class drops, class withdrawals and complete withdrawals from the college.

A student is considered enrolled in a class until a signed drop form is submitted to the Registrar's Office or until the student successfully processes a drop via WebPAL. Non-attendance is not considered an official notice of withdrawal.

The tuition refund computation is not based on the amount paid, but rather on the total amount of tuition and fees assessed. No tuition refunds will be made after the end of the second week of classes and no exceptions to the policy will be made for students who enter late. Exceptional circumstances such as military service, death in immediate family, serious illness or hospitalization will be taken into consideration. A written request for exception to the refund policy must be submitted to the Registrar's Office within 10 days of last attendance in class.

Fall and Winter Full Semester Courses

During the first week of the semester – 100 percent refund on any or all classes dropped.

During the second week of the semester – 50 percent refund on any or all classes dropped; however, lab fees are not refundable.

Spring, Summer and Courses Less than One Semester in Length

If a course is completed within 1-13 calendar days, the 100 percent refund will apply when withdrawing prior to the day of the first class meeting. No refund will be issued after this time.

If a course is completed within 14-63 calendar days, the 100 percent refund will apply when withdrawing on the first or second business day of the semester. If withdrawing on the third or fourth business day of the semester, students will receive a 50 percent refund; however, lab fees are not refundable. No refunds will be issued after this time.

REFUNDS FOR STUDENTS RECEIVING FINANCIAL AID

No refunds will be made to students receiving assistance through the MCCC Financial Aid Office, Michigan Bureau of Rehabilitation, Michigan Office of Services for the Blind or Michigan Veterans Trust Fund until the amount of the financial assistance is recovered.

All students who wish to withdraw must follow MCCC's official withdrawal policy. If you officially withdraw or stop attending all your classes, you may be required to repay all or part of the financial aid disbursed to you in the term you withdraw.

Students receiving federal funds may be required to repay aid determined to be "unearned." The earned/unearned calculation is based on the percentage of days attended during the term in which you withdrew. The amount of aid earned is determined on a pro-rata basis. That is, if you completed 30 percent of the term in which you withdrew, you earn 30 percent of the federal aid you received. Once you have completed 60 percent of the term, you are considered to have earned all of your aid for that semester.

The difference between your earned federal aid and 100 percent equal the percent of unearned federal funds that are subject to repayment. Federal regulations require Title IV aid to be refunded in the following order: Federal Unsubsidized Stafford Loan, Federal Stafford Loan, Federal PLUS Loan, Federal Pell Grant and Federal Supplemental Education Opportunity Grant.

TUITION RECIPROcity AGREEMENT

Monroe County Community College and Owens Community College

Monroe County Community College agrees to accept, at out-of-district rates, residents of Ohio wishing to enroll at Monroe County Community College. Out-of-district rates shall only apply to students enrolled in those programs at Monroe County Community College which are not offered at Owens Community College. Any students so admitted must meet all regular admission requirements of Monroe County Community College, including those for the specific program for which admission is sought.

Programs at Monroe County Community College that are part of this reciprocal agreement will vary each year. Please contact the Office of Admissions or the Registrar's Office for more information.

To apply for this agreement, an application is available at both the Main Campus and Whitman Center. The application for reciprocity must be submitted prior to the first day of class for the semester it is requested. Once approved by the registrar or designated representative, residents of Ohio will be entitled to pay out-of-district tuition at Monroe County Community College.

The reciprocity agreement is reviewed annually and is subject to change by the states of Michigan and Ohio.

FINANCIAL AID

MCCC, in conjunction with the federal and state governments and private and civic organizations, offers a variety of scholarship, grant, loan and employment opportunities to assist students in financing their education.

Approximately 60 percent of all MCCC students receive some form of assistance from these sources. The purpose of financial aid is to ensure the college continues to make it possible for students of all degrees of financial capability, special talent or high scholastic merit to attend MCCC.

No student should hesitate to apply for admission because of financial circumstances. It is the college's goal to offer financial assistance to all candidates accepted for admission who demonstrate financial need.

The following information is provided to inform prospective and continuing undergraduate students of the various alternatives available.

FINANCIAL AID ELIGIBILITY – GENERAL REQUIREMENTS

Applying for Financial Aid

To be eligible for MCCC, federal and state assistance, a student must:

- Have financial need, except for some loans and scholarships
- Have a high school diploma, General Education Development (GED) certificate or pass an independently administered test approved by the U.S. Department of Education
- Be enrolled as a regular student in an eligible program
- Be a U.S. citizen or eligible noncitizen
- Have a Social Security number
- Not be incarcerated
- Make satisfactory academic progress
- Sign a statement of educational purpose/certification statement on refunds and default
- Sign a statement of updated information
- Register with the Selective Service, if required
- Have completed the admissions process at MCCC

The Application Process

Students can apply for federal and state aid by filling out the "Free Application for Federal Student Aid" (FAFSA) available from their high school or the Financial Aid Office located in the Audrey M. Warrick Student Services/Administration Building, Room 159.

You may submit a FAFSA:

- Through the Internet by using FAFSA on the Web
- By mailing a paper FAFSA

You must reapply each school year.

FAFSA on the Web is a free U.S. Department of Education Web site where you can complete a FAFSA online and submit it via the Internet. You can use FAFSA on the Web on a personal computer (PC) or a Macintosh that is equipped with certain U.S. versions of Netscape. The address is www.fafsa.ed.gov.

To be considered for non-federal aid such as institutional and/or state aid, students may have to complete an additional application. Check with the Financial Aid Office to see which non-federal application to complete, if any. Remember, there's no charge to apply for federal student aid.

For the Federal Family Education loan programs, there are some additional steps students must take to apply.

When completing the FAFSA, pay special attention to any questions on income. This area is where most mistakes are made. Also, in Section H of the FAFSA, fill out carefully the name(s) of the school(s) you're interested in attending. If any of these schools participate in at least one of the programs mentioned in the Federal Student Guide, it will have a "Title IV Institution Code." You can get a list of Title IV codes from the Financial Aid Office, your high school or your local public library and on the Internet at www.fafsa.ed.gov.

Apply as soon as possible AFTER January 1st. If not applying electronically, mail the completed FAFSA in the envelope found in the application package. It will take approximately four weeks for the federal application to be processed. When you apply, you should have certain records on hand. These records are listed on the application. You should save all records and all other materials used in completing the application. You may need them later to prove the information you reported is correct. This process is called verification.

The Financial Aid Office reserves the right to request income and asset verification of financial statements be submitted for need-based aid. Failure to provide the requested information will result in cancellation of award action. Falsification of income information submitted for the purpose of receiving financial assistance will result in cancellation of all future assistance and repayment of all prior assistance received falsely. If federal and/or state funds are involved, notification of the false information will be provided to the proper agencies (U.S. Department of Education and/or Michigan Higher Education Assistance Authority) for their further disposition.

All MCCC awards are made for a period of one academic year only. Reapplication must be made for each year. Copies of the required forms may be obtained from the Financial Aid Office.

Financial aid awards for the prospective student are not approved before the student has attained regular admission status through the Admissions and Guidance Office. Financial aid funds are limited, and late applicants may be either denied assistance, given loan and job aid only, or receive lower than normal scholarship awards when funds are limited or exhausted.

Financial Aid Deadlines

Fall - July 1

Winter - November 1

Spring/Summer - April 1

Files completed after the deadline date may not receive funding before tuition is due.

Financial Need

Aid from most financial aid programs is awarded based on financial need. (Exceptions are the Federal Loan Programs. It's possible to receive a Federal Stafford Loan regardless of income.)

The information reported when applying for aid is used in a formula, established by Congress, that calculates your Expected Family Contribution, an amount families are expected to pay toward education. For the Federal Pell Grant Program, if the EFC is below a certain number, students are eligible for a Pell Grant.

$$\begin{aligned} & \text{Cost of Attendance} \\ - & \text{Expected Family Contribution} \\ = & \text{Financial Need} \end{aligned}$$

The financial aid administrator takes the cost of attendance for the college and subtracts the amount you and your family are expected to pay toward that cost. If there's anything left over, students are considered to have financial need. For a complete list of budget components and cost of attendance figures, please see:
www.monroecc.edu/financialaid/costsatmccc.htm.

Dependency Status

Certain questions answered when applying for financial aid will determine whether students are considered dependent on their parents and must report their income and assets as well as their own, or independent and report only their own income and assets (and those of a spouse). Income and asset information are used in determining your eligibility for federal student aid.

Students are classified as dependent or independent because federal student aid programs are based on the idea that students' parents have the primary responsibility of paying for their children's education. Students who have access to parental support (dependent students) should not receive federal funds at the expense of students who don't have that access (independent students).

An independent student is one of the following:

- Someone born before January 1, 1988
- Married
- A graduate or professional student
- Someone with legal dependents other than a spouse
- An orphan or ward of the court
- Veteran of U.S. armed forces
- Active duty of U.S. armed forces
- An emancipated minor
- Are or were in legal guardianship
- Homeless determined by HUD or high school

If you claim to be an independent student, the school will ask for proof before awarding any federal student aid. If you think you have unusual circumstances that would make you independent even though you normally would be considered dependent, talk to the financial aid administrator. The aid administrator can change your status to independent if he or she thinks your circumstances warrant it. Remember, the financial aid administrator won't automatically do this. That decision is based on his or her judgment, and is final – you cannot appeal it to the U.S. Department of Education.

NOTE: Independence criteria are determined annually by the Federal Government and are subject to change.

THE STUDENT'S FINANCIAL AID PACKAGE

Usually a combination of gift (scholarship and grant) and self-help (job and loan) aid is offered to the student. The proportion is determined annually.

Where Pell Grant, Michigan Competitive Scholarship or Stafford Student Loan estimates appear, students are responsible for obtaining and completing necessary application forms to secure this aid.

Changes in the Award

The Financial Aid Office anticipates that students will receive the aid package described in their award announcement. It may, however, be necessary for the college either to increase or decrease the award if changes occur in enrollment status, family financial status or the student's own financial resources or expenses.

Changes in enrollment status include changing majors, taking fewer than 12 credit hours per semester or withdrawal before the end of the semester. Reductions in credit hours below 12 credits in a semester without approval from the Financial Aid Office may result in a cancellation of assistance for that semester. Students should consult the Financial Aid Office before making a change of this type.

Special Circumstances

Although the process of determining a student's eligibility for federal student aid is basically the same for all applicants, there is some flexibility. For instance, if the financial aid administrator believes it is appropriate, based on the documentation you provided, he or she can change your status from dependent to independent.

In some cases, the financial aid administrator may adjust your cost of attendance or the information used to calculate your Expected Family Contribution to take into account circumstances that might affect the amount you and your family are expected to contribute toward your education. These circumstances could include a family's unusual medical or dental expenses or tuition expenses for children attending a private elementary or secondary school. Also, an adjustment may be made if you, your spouse or either of your parents (if applicable) have been recently unemployed. If conditions such as these apply to you or your family, contact the financial aid administrator. Check with the financial aid administrator if you feel you have any other special circumstances that might affect the amount you and your family are expected to contribute. But remember, there must be very good reasons for the financial aid administrator to make any adjustments, and you'll have to provide adequate proof to support those adjustments. Also, remember that the financial aid administrator's decision is final and cannot be appealed to the U.S. Department of Education.

Award Revision

Overpayments resulting from full or partial cancellation of aid will normally result in a debt on the student's account and must be paid back according to normal repayment policies of the college. It is the student's responsibility to verify the accuracy of billing charges, aid credits and stipend checks.

Award Disbursement

Scholarships and Pell Grants are usually divided in half and credited directly toward the semester bill. When possible, awards are applied to the first bill in each semester; however, late awards or award revisions will be applied throughout each semester. When FFEL Stafford Student Loan funds are received by the college, they will be released as soon as regulations permit.

Bookstore authorizations are usually available nine days before classes begin each semester. However, should federal or state money not be received, students should plan to have sufficient funds for books and other expenses until funds are available. Stipend checks will be mailed approximately mid-semester.

STATEMENT OF STUDENT FINANCIAL AID RIGHTS AND RESPONSIBILITIES

1. Students have the right to be informed of, and to apply for, all financial aid programs for which they are eligible. The responsibility to apply by program deadlines and to acquaint themselves with the application procedure resides with the student.
2. Students have the right to know how financial need and award packages will be determined, and to request a review of the financial aid package should circumstances change to affect negatively the family's ability to meet costs of attendance, and the responsibility to notify the college should new resources become available to the student that were not originally considered.
3. Students who borrow to attend the college have a right to full disclosure of the terms and provisions of loan programs, including typical repayment schedules and the responsibility to attend exit interviews before leaving college. They must repay loans on a timely basis and keep the college informed of their current address.
4. Students have the right to be informed of financial aid policies and have the responsibility to be aware of all published financial aid policies and to comply with these policies.
5. Students have the responsibility to submit accurate information on all college documents relating to the financial aid application process.
6. Students must continue to make satisfactory academic progress in the program in which enrolled. Students must not owe any refunds on Pell Grants or other awards or be in default on repayment of any student loan.

EDUCATION TAX BENEFITS

If out of pocket tuition payments are made, you may qualify for the Hope Credit, Lifelong Learning Credit and/or the higher-education tuition and fees deduction. For more information, see IRS Publication 970 at www.irs.gov.

STANDARDS OF SATISFACTORY PROGRESS FOR FINANCIAL AID RECIPIENTS

The Financial Aid Office must monitor Satisfactory Academic Progress (SAP) for all financial aid recipients. Several types of monitoring are required; completion rate, GPA, maximum time frame and time limit. All criteria must be met and will be monitored each award period (Fall, Winter and Summer). *The SAP Policy as described below is effective beginning the Summer 2011 award period.*

Completion Rate

Students must complete 67 percent of the attempted cumulative credit hours. Attempted cumulative credits are defined as any credits the student is enrolled in after the 100 percent tuition refund period, as well as transfer credits MCCC has accepted.

Consequences of failure to meet this requirement:

Students who fail to complete 67 percent of their attempted credit hours will be placed on warning for one semester. Failure to complete 67 percent of cumulative credit hours in the next enrolled semester will result in financial aid denial until the cumulative completion rate is brought above 67 percent. Semesters of non-attendance are not counted in this calculation. Dropped courses are counted as courses the student has failed to complete.

GPA Requirements

Students must have a cumulative grade point average (GPA) sufficient to meet graduation requirements. You must maintain at least a 2.00 cumulative GPA. Courses that are dropped do not have an effect on grade point average.

Consequences of failure to meet this requirement:

Students with a cumulative GPA below a 2.0 will be placed on warning. If the cumulative GPA is still below the standard at the end of the next term of enrollment, the student is denied financial aid until he or she regains the required cumulative minimum GPA.

Maximum Time Frame

Maximum time frame measures the quantitative component in which a student must complete his or her educational program. This timeframe must be no longer than 150 percent of the published length of the educational program measured in credit hours attempted. The maximum limit applies to all attempted credit and transfer hours (whether or not the student receives financial aid). After the student has attempted beyond the 150 percent time frame, he or she is no longer eligible for federal aid at MCCC. Courses that are dropped will count as attempted and affect the maximum timeframe calculation.

Time Limit

Students cannot receive federal financial aid for more than 18 full-time semesters (or the part-time equivalent of 18 full-time semesters) in the undergraduate program. This will be tracked by the Department of Education starting July 2008.

Financial Aid Statuses

Students who fail to meet satisfactory academic progress standards in one semester will receive one subsequent term of aid while on **Financial Aid Warning** status. At the end of the warning period, a student who still has not met the standards is changed to **Financial Aid Denial (Loss)** status. The student's financial aid is terminated at this point and is not reinstated unless the student subsequently meets the required standards.

If the student files a successful appeal, the status will be changed to **Financial Aid Probation** and the student will be required to follow an academic plan. The student will be monitored at the end of each semester within the appeal period. If the student follows the plan as outlined, the **Financial Aid Probation** status will continue until the appeal period ends. If the student does not follow the stated academic plan, the status will revert to **Financial Aid Denial (Loss)**.

Programs Affected

- Federal aid (Pell Grant, SEOG, College Work-Study, Direct Loan Program and Parent PLUS Loan)
- State Aid (TIP & Michigan Competitive Scholarship)
- Any MCCC scholarship with a GPA or SAP requirements. These may differ depending on scholarship. You will receive information regarding eligibility criteria when you are awarded a scholarship.
- Any private scholarship or sponsored billings with GPA or SAP requirements

Appeal Process

Students who have faced extraordinary circumstances may appeal the denial of financial aid. Supporting documentation of circumstances is required. Students must explain in writing their failure to meet SAP, what has changed to allow them now to regain SAP, and must also submit documentation supporting the appeal. An academic plan should be agreed to by the student and Financial Aid Office.

The SAP appeal form is available on the college's Web site or in the Financial Aid Office.

The SAP appeal decision made by the Financial Aid Director is final. Students should be prepared to seek other options if the appeal is not approved.

Other Considerations

Repeated courses will count toward determination of enrollment status and attempted credit hours. Financial aid may be used to pay for repeated courses once for classes for which you have previously earned credit for and for courses that need to be repeated for which credit has not been earned. Please see the college's Repeating Courses Policy for further details.

Incomplete courses do not earn credit or influence grade point in the semester in which the course is incomplete, however, they are counted once the final grade is posted. SAP will be recalculated once the grades are posted for incomplete courses.

Federal grants can only be received at one school per semester.

SOURCES OF STATE AND FEDERAL FINANCIAL AID

Pell Grants

Students may apply for a Pell Grant by filing the Free Application for Federal Student Aid.

The completed application should be submitted for processing according to the directions included on it. A calculated Student Aid Report will be sent to the applicant. The applicant's award is then determined by MCCC based upon enrollment and submission of a Student Aid Report to the Financial Aid Office. Funds will be credited to the student's institutional account when all documentation is submitted to the Financial Aid Office.

The Pell Grant Program is an entitlement program based on financial need. The applicant must be enrolled as a student in an approved postsecondary institution and must need financial assistance to continue his or her education.

Financial need is determined by a formula applied to all applicants and the student eligibility index is calculated by this formula.

Awards are available for up to the period of time taken to receive the first baccalaureate degree. Students must reapply every year.

Awards range from \$550 to \$5,550, but may not exceed one-half the total cost of attendance. The amount of the award will be affected by costs of attendance and enrollment status after the 100 percent refund period.

Supplemental Educational Opportunity Grants (SEOG)

These are federal grants awarded by MCCC to undergraduate students who are U.S. citizens or permanent residents demonstrating financial need. The grants must be at least \$100 and not more than \$2,000 per year. Students must be making satisfactory progress to continue receiving the grant and meet all other conditions outlined in the Financial Eligibility section of this catalog.

Michigan Competitive Scholarship Program

These scholarships offer tuition and fees to Michigan residents of 12 months who qualify through a competitive examination and show financial need. Recipients must be attending MCCC full-time. Awards may be renewed annually for a maximum of 10 semesters, as long as need, a 2.0 grade point average and satisfactory academic progress are maintained.

More information is available from high school counselors and by calling the State of Michigan Office of Scholarships and Grants at 1-888-447-2687.

Michigan Bureau of Rehabilitation

The Bureau of Rehabilitation is an arm of the Michigan Department of Education designed to provide rehabilitative services to vocationally disabled or impaired individuals.

A student who feels that vocational rehabilitation services are needed may make inquiry and application for assistance by contacting the office of the State of Michigan Bureau of Rehabilitation serving the student's home area.

Bureau of Indian Affairs

Grants for qualified students of at least one-quarter American Indian descent are available through the U.S. Department of the Interior, Bureau of Indian Affairs. Information can be obtained by contacting the B.I.A. – Tribal Operations, 2901.5 I-75 Business Spur, Sault Ste. Marie, MI 49783-3519, (906) 632-6809.

Public Act 174 Michigan Indian Tuition Waiver

This program currently provides free tuition at MCCC for North American Indians. Information can be obtained by contacting the Michigan Department of Civil Rights at 1-800-482-3604.

EMPLOYMENT PROGRAMS

Job opportunities on campus are available to MCCC students, regardless of financial need, who are enrolled at least half-time. Employment in moderation can be beneficial to a student's educational experience, and earnings can often reduce or eliminate the necessity to borrow. Federal regulations prevent recipients of federal aid programs (i.e., College Work Study, Supplemental Educational Opportunity Grants) from obtaining campus job earnings that, when combined with other aid resources, would exceed their financial need as outlined on the award letter. Therefore, students receiving aid from these programs are not able to work on campus without authorization from the Financial Aid Office.

Federal College Work Study Program

The college participates in the federally funded College Work Study (FCWS) Program. Students must be U.S. citizens or permanent residents and meet all other requirements included in the Financial Aid Eligibility section. Employment extends to most areas of college activity. Every effort is made to refer students to positions compatible with their interests and qualifications, although such opportunities are not always available. Pay rates are commensurate with federal minimum wage guidelines. Jobs for all student employees are obtained through the Workforce Development Office, and can be accessed at www.collegecentral.com/monroeccc.

Once students have earned the amount for which they are eligible, they will be terminated from the program and will be unable to continue College Work Study employment.

College Employment

Other student jobs are available on campus in addition to those described under the College Work Study Program.

Applications for student assistant positions on campus are processed through the Corporate and Community Services Division, Room Z-286, and can be completed online at www.collegecentral.com/monroeccc.

Off-campus Employment

Businesses throughout Monroe County and the surrounding areas utilize the Workforce Development Office to advertise available full- and part-time positions through up-to-date job postings. Qualified students, alumni and county residents are eligible to utilize this service. Information on summer employment is also posted and includes local, state, national and international opportunities. Contact the Workforce Development Office at 734-384-4270, or register online with the Workforce Development Office and search for jobs by visiting www.collegecentral.com/monroeccc.

LOAN PROGRAMS

Several loan programs are available. A student is not required to accept a loan in order to receive other types of aid. Students should discuss the possibility of replacing part of the value of a loan with a job.

Students accepting student loans are committing themselves to a serious legal and moral obligation: loans must be repaid. Repayment may take as long as 10 years after leaving college. Students are urged to consider their ability to repay a loan, their future credit rating and their potential indebtedness before accepting a loan. The staff of the Financial Aid Office is willing to discuss the implications of loans on students' future financial situations.

William D. Ford Federal Direct Loans

What loans are available?

Direct Loans are either subsidized or unsubsidized. A subsidized loan is awarded on the basis of financial need. The federal government pays interest on the loan ("subsidizes" the loan) until the student begins repayment and during authorized periods of deferment.

An unsubsidized loan is not awarded on the basis of need. Students are charged interest from the time the loan is disbursed until it is paid in full. If you allow the interest to accumulate, it will be capitalized. The interest will be added to the principal amount of your loan and will increase the amount you have to repay. If you choose to pay the interest as it accumulates, you'll repay less in the long run.

Students may receive a subsidized Direct Loan and an unsubsidized Direct Loan for the same enrollment period.

Who can get a Family Direct Loan?

If you're a regular student enrolled in an eligible program of study at least half-time, you may receive a Direct Loan. Students must also meet other general eligibility requirements.

How much can I borrow?

A dependent undergraduate student can borrow up to:

- \$5,500 if you're a first-year student enrolled in a program of study that is at least a full academic year;
- \$6,500 if you've completed your first year of study, and the remainder of your program is at least a full academic year

An independent undergraduate student or a dependent student whose parents are unable to get a PLUS Loan, can borrow up to:

- \$9,500 if you're a first-year student enrolled in a program of study that is at least a full academic year (at least \$4,000 of this amount must be in unsubsidized loans);
- \$10,500 if you've completed your first year of study and the remainder of your program is at least a full academic year (at least \$4,000 of this amount must be in unsubsidized loans).

The total outstanding debt from all Direct Loans combined cannot exceed:

- \$31,000 as a dependent undergraduate student;
- \$57,500 as an independent undergraduate student (no more than \$23,000 of this amount may be in subsidized loans); or
- \$138,500 as a graduate or professional student (no more than \$65,500 of this amount may be in subsidized loans). The graduate debt limit includes any Stafford Loans received for undergraduate study.

NOTE: The college can refuse to certify your loan application or can certify a loan for an amount less than you would otherwise be eligible for if the school documents the reason for its action and explains the reason to you in writing. The school's decision is final and cannot be appealed to the U.S. Department of Education.

NOTE: The preceding amounts are the maximum yearly amounts you can borrow in both subsidized and unsubsidized Stafford Loans. You may receive less than these yearly maximum amounts if you receive other financial aid that is used to cover a portion of your cost of attendance.

What's the interest rate charged on these loans?

Subsidized Direct loans certified on or after July 1, 2010 will have a fixed interest rate of 4.5 percent. Unsubsidized loans remain at a fixed rate of 6.8 percent.

On subsidized loans, the federal government pays the interest while you're enrolled in school at least half time, during a grace period or during authorized periods of deferment. Interest will begin to accrue when you enter repayment.

For unsubsidized loans, you'll be charged interest from the day the loan is disbursed until it is repaid in full, including in-school, grace and deferment periods. You may choose to pay the interest during these periods or it can be capitalized.

Is there a charge for these loans?

The U.S. Department of Education will deduct fees from the approved amount of your loan before the funds are sent to MCCC. There is a 1.0% origination fee with a 0.5% up-front interest rebate.

When do I pay back these loans?

After you graduate, leave school or drop below half-time enrollment, you have six months before you begin repayment. This is called a "grace period."

During the grace period on a subsidized loan, you don't have to pay any principal and no interest will be charged. During the grace period on an unsubsidized loan, you don't have to pay any principal, but interest will be charged. You can either pay the interest or allow it to accumulate.

After you leave school or drop below half-time enrollment, you'll receive information about repayment and will be notified of the date repayment begins. However, you're responsible for beginning repayment on time even if you don't receive this information.

Direct PLUS Loan

Direct PLUS Loans enable parents who do not have adverse credit histories to borrow money to pay the education expenses of each child who is a dependent undergraduate student enrolled at least half-time. The yearly limit on a PLUS Loan is equal to the student's cost of attendance. The interest rate on a PLUS Loan is a fixed rate of 7.9 percent.

Online Scholarship Applications

STARS Online™ (Scholarship Tracking and Review System) is the program MCCC uses to help you search and apply for scholarships. You can complete the application process entirely online. Funds are limited and will be awarded on a first-come, first-served basis until exhausted. Apply as early as possible. Remember, you must apply for admission to qualify for Monroe County Community College scholarships! Visit our Web site at www.monroecc.edu/stars.

Short-Term Loans

Short term loans are available to help pay for books and supplies. To qualify, students must have a cumulative GPA of at least a 2.0, and tuition and fees must be paid in full. A short term loan must be repaid by the end of the semester for which the loan is made. Application forms are available at the Financial Aid Office.

Endowed Scholarships

Dr. Florence Ames Fine Art Scholarship

Donor: Dr. Florence Ames
Eligibility: Full-time second year art concentration, minimum 3.0 GPA, artistic merit

William J. and Jennie E. Bacarella Scholarship

Donor: William J. and Jennie E. Bacarella
Eligibility: Business-related curriculum major; preference given to non-traditional age student; Monroe County resident, enrolled for a minimum of six credit hours, preference given to St. Mary Catholic Central High School graduate

Beach Culinary Scholarship

Donor: Mrs. Eugene W. Beach
Eligibility: Culinary Skills and Management Program student

Helen M. and Eugene W. Beach Scholarship

Donor: Mrs. Eugene W. Beach
Eligibility: Second-year nursing or respiratory therapy student, financial need

Hallie H. Billmire Scholarship

Donor: Hallie H. Billmire Estate
Eligibility: Monroe County, Michigan resident

William J. and Hildreth C. Braunlich Scholarship

Donor: Family and Friends
Eligibility: St. Mary Catholic Central graduate, academic achievement

Sonya Kay Brett Business and Computer Information Systems Endowed Memorial Scholarship

Donor: Donna J. Brett and the estate of Sonya K. Brett
Eligibility: Full-time second year student in the business or computer information systems program, Monroe County, Michigan resident and a United States citizen, minimum GPA 2.8

Sonya Kay Brett Memorial Endowed Nursing Scholarship

Donor: Donna J. Brett and the estate of Sonya K. Brett
Eligibility: Second-year student in the registered nursing program, Monroe County, Michigan resident and a United States citizen, enrolled for a minimum of nine credit hours per semester

Elizabeth and Samuel Campbell Memorial Scholarship

Donor: Various Citizens
Eligibility: Financial need and academic excellence

Joyce Hoagland Eby Scholarship

Donor: Ralph H. Eby
Eligibility: Minimum of nine (9) credit hours per semester, minimum GPA 2.5, financial need, academic promise and desire to obtain an education to assist them in changing their lives

Education Plus Credit Union Scholarship

Donor: Education Plus Credit Union
Eligibility: Member of Education Plus Credit Union, enrolled for minimum of six (6) credit hours, no other financial assistance

Former Bedford Rotarians and Friends Scholarship

Donor: Members and friends
Eligibility: Current year graduate of Bedford High School in Temperance, Michigan, first year MCCC student, enrolled for a minimum of twelve (12) credit hours, minimum GPA 2.5, demonstrated financial need, community service involvement

Guire Scholarship Fund

Donor: Iva Mennig Trust
Eligibility: Math or science major, financial need, scholastic achievement

Richard H. Hicks and Bernice Hicks Nursing Education Scholarship Fund

Donor: Richard H. Hicks
Eligibility: Student enrolled in the registered nursing program, preference given to veterans or those who have immediate family members who are veterans

Dr. Gerald L. Howe Scholarship

Donor: Dr. Gerald L. Howe
Eligibility: Full-time student enrolled in health-related curriculum, Monroe County resident, graduated in top 25 percent of high school class in college prep curriculum, academic promise, involved in community service

Philip J. Iott Memorial Scholarship

Donor: Pennie M. Iott, Family and Friends
Eligibility: Participant in Balanced and Restorative Justice (BARJ) system or an MCCC Upward Bound Program participant who at time of graduation was in good standing with the program, enrolled for a minimum of six (6) credit hours per semester, preference given to a former resident of the Monroe County Youth Center, financial need may be considered

Gwendolyn M. Jacob Memorial Scholarship

Donor: C. S. and Marion F. McIntyre Foundation
Eligibility: Graduate of Monroe High School with preference given to a student who has also attended Lincoln Elementary School in Monroe (at least one year), full-time student enrolled in transfer program, financial need

Karen Karau-Collins Memorial Scholarship

Donor: Jane Karau and Family and Friends
Eligibility: Computer science student, at least six (6) hours per semester, minimum 3.0 GPA

Thomas K. and Marie (Cousineau) Keegan Memorial Scholarship

Donor: The Keegan Family and Friends
Eligibility: Student with expressed interest and currently involved in community service, full-time student, Monroe County resident and U. S. citizen, preference given to St. Mary Catholic Central High School graduates, minimum 3.2 GPA, financial need considered, preference given to students receiving no other scholarships during the same academic year

Mary L. and Edward P. Kehoe Scholarship

Donor: Mary L. and Edward P. Kehoe
Eligibility: Minimum of six (6) credit hours per semester, recipient working 30 hours per week or more in addition to attending college or have successfully completed a home school program

Dr. Martin Luther King, Jr. Scholarship

Donor: Concerned Citizens of the Community
Eligibility: Full-time student, resident of Monroe County, financial need

M. Carol Kish Culinary Scholarship

Donor: Monroe County Community College Library Staff and Friends
Eligibility: Culinary skills and management program student, completed 24 credit hours toward culinary degree

Susan L. Lingar "A.G." Memorial Scholarship

Donor: Family and Friends
Eligibility: Accounting major, resident of Monroe County, U.S. citizen, Monroe County high school graduate or GED recipient, GPA of 3.0 (if under 3.0, student must demonstrate promise and GPA improvement during junior and senior years of high school), enrolled for a minimum of six credit hours during Fall and Winter semesters, submit a personal statement discussing educational and professional goals

C. S. & Marion F. McIntyre Memorial Scholarship

Donor: C. S. and Marion F. McIntyre Foundation
Eligibility: Full-time student enrolled in transfer program, financial need, minimum 2.5 GPA

David L. McIntyre Memorial Scholarship

Donor: C. S. and Marion F. McIntyre Foundation
Eligibility: Monroe High School graduate enrolled in a transfer curriculum, full-time student, minimum 2.5 GPA

Midway Products - Lyman E. Hoyt Memorial Scholarship

Donor: Midway Products Group, Inc. Employees and Friends
Eligibility: Student enrolled in one of the following programs at MCCC: automotive engineering technology, mechanical design technology, welding technology, mechanical engineering technology or manufacturing technology; full-time student, financial need, Monroe County resident or child of Midway Products Group, Inc. employee, minimum 2.5 GPA

Pfc. Dennis J. Miller Jr. Memorial Scholarship

Donor: Family and Friends
Eligibility: Major in history and/or planning to teach history, minimum 3.0 GPA, enrolled at least three-quarter time, co-op/internship at Monroe County Historical Museum

Monroe County Community College Alumni Association Scholarship

Donor: Monroe County Community College Alumni Association
Eligibility: Nominated by Monroe County Community College Alumni Association member and additional letter of reference

John and Violet Mueller Scholarship

Donor: John and Violet Mueller
Eligibility: Graduate of Jefferson High School in Monroe, Michigan, Monroe County resident and United States citizen, enrolled at least six (6) credit hours per semester, 2.5 GPA

LaVerne B. Norton Scholarship

Donor: Patrick H. Norton
Eligibility: Academic promise, minimum of six credit hours per semester, preference given to a Monroe County resident, preference given to students who are a single-parent with custodial care of one or more children under the age of 18 or students who were raised in a single-parent household, preference given to students who have faced adversity and who want to create a better future for themselves and their families, financial or personal hardship may be considered

Pearl K. Quermbach Memorial Scholarship

Donor: Family and Friends
Eligibility: Financial need

Robbin Ramage Memorial Scholarship

Donor: Ramage Trust Fund
Eligibility: Full-time student

C. Ernest Read Scholarship

Donor: C. Ernest Read Trust
Eligibility: Sophomore, significant contributions to campus life during the freshman year

Drew Reeves Memorial Scholarship

Donor: Family, Friends and Colleagues
Eligibility: Automotive engineering technology program student

Milton G. Russell Memorial Scholarship

Donor: Mrs. Doris Russell
Eligibility: Monroe County resident for a minimum of five years, enrolled for a minimum of nine (9) credit hours per semester, financial need, priority given to student with a history of Attention Deficit Disorder (ADD)

Richard and Marjorie Sieb Scholarship

Donor: Richard and Marjorie Sieb
Eligibility: Monroe County resident and United States citizen, at least six (6) credit hours per semester, preference given to a student returning to school after a period of other activities

Joanne D. Smith Memorial Scholarship

Donor: Herb Smith
Eligibility: Monroe County, Michigan resident and United States citizen; full-time student enrolled at least twelve (12) academic credit hours per semester; student must be planning to transfer to a college or university to pursue a degree in music; applicant must be a graduating high school senior; preference given to an Ida High School, Ida, Michigan student, otherwise scholarship will be awarded to graduating high school senior who meets all other criteria; during scholarship year recipient must be a member of the College/Community Symphony Band and/or the Agora Chorale; financial need may be considered; submit an essay (300-500 words) detailing interest and involvement in music; letter of recommendation from high school band and/or choir director

Roy Turner Scholarship

Donor: Family and friends
Eligibility: Monroe County firefighter or child/grandchild of a local (Monroe County) firefighter, full-time student, Monroe County resident, minimum GPA of 2.5

Annual Scholarships**Adopt-A-Student Scholarship**

Donor: The Foundation at MCCC
Eligibility: Monroe County resident, financial need, good academic standing

Altrusa International of Monroe Scholarship

Donor: Altrusa International of Monroe
Eligibility: Monroe County resident, financial need, good academic standing, community service, applicant who is seeking education in order to return to the workforce

Edward W. Banachowski Community Service Scholarship

Donor: Dr. Grace B. Yackee and friends
Eligibility: Student with expressed interest and currently involved in community service, full-time student, Monroe County resident, minimum 2.5 GPA

Baumann Nursing Scholarship

Donor: Michelle Baumann and Marvin Baumann
Eligibility: Nursing program student or nursing program applicant taking courses in preparation for enrollment; minimum GPA for Fall Semester of 3.2, Winter Semester 3.0; non-traditional student (25 years of age or older); Monroe County resident; minimum of six credit hours during award semester

Saverio Costello Memorial Scholarship

Donor: Judge Joseph A. Costello, Jr.
Eligibility: Financially disadvantaged

Dana Corporation Scholarship

Donor: Dana Corporation
Eligibility: Industrial Technology Division major, enrolled for a minimum of six credit hours per semester, 2.5 GPA, first- or second-year student, non-renewable

Delta Kappa Gamma Society Scholarship

Donor: Beta Rho Chapter of Delta Kappa Gamma
Eligibility: Financial need, enrolled for a minimum of six credit hours

Fallen Firefighters Scholarship

Donor: Monroe County Firefighters Association
Eligibility: Monroe County firefighter or dependent

The Foundation at MCCC Scholarship

Donor: The Foundation at MCCC
Eligibility: Demonstrate financial need

Mary Fraser Nursing Scholarship

Donor: Estate of Joanne M. Fraser
Eligibility: Second-year nursing student, Monroe County resident, enrolled for a minimum of six (6) credit hours, preference given to students who are parents, minimum 2.5 GPA

Denise A. Gray Scholarship

Donor: Friends and Family
Eligibility: Monroe County resident, minimum of six credit hours per semester, preference given to student with financial need

International Association of Administrative Professionals Scholarship

Donor: IAAP Monroe Chapter
Eligibility: Enrolled in administrative professional program

Sally J. Jaynes Fine Arts Scholarship

Donor: Sally J. Jaynes
Eligibility: Enrolled in art course, Monroe County resident, student at MCCC or dual-enrolled student from a Monroe County high school

Herb Kehrl Memorial Scholarship

Donor: Family and Friends
Eligibility: Political science, history or education major; Monroe County resident with preference given to a resident of Michigan's 56th House District; public, non-charter school graduate; at least six (6) credit hours per semester

Terri McConnaughey Scholarship

Donor: Family and Friends
Eligibility: MCCC Writing Fellow or a staff member on The Agora, enrolled for a minimum six credit hours per semester, 3.0 GPA, work at least 15 hours per week during scholarship year, preference given to non-traditional age student, financial need

The Guild of Mercy Memorial Hospital Scholarship

Donor: Mercy Memorial Hospital Guild
Eligibility: Monroe County resident and U. S. citizen, nursing student, financial need, volunteer experience in healthcare setting preferred, minimum 2.5 GPA, must work for Mercy Memorial Hospital for one year after graduation

Mercy Memorial Nursing Scholarship

Donor: Mercy Memorial Hospital
Eligibility: Nursing students

Ruthie Merritt Memorial Scholarship Fund

Donor: Family and Friends
Eligibility: Monroe County resident, ten (10) semester hours completed with at least a 2.5 GPA, letters of recommendation, reflection/reaction paper

Miss Monroe County Scholarship Program Scholarship

Donor: Traci Calkins
Eligibility: Miss Monroe County Scholarship Pageant contestants using their MCCC Conditional Scholarship, full-time student at MCCC during scholarship year, non-renewable

Monroe County Community College Alumni Family Member Scholarship

Donor: Monroe County Community College Alumni Association
Eligibility: Immediate relative (child or spouse) of an MCCC graduate or student who earned 24 or more credits at MCCC with special consideration given to a relative of an MCCC Alumni Association member in good standing, Monroe County resident and U. S. citizen, full-time student, Monroe County high school graduate

Monroe Exchange Club Scholarship

Donor: Monroe Exchange Club
Eligibility: Graduate of Ida High School, Jefferson High School, Monroe High School or St. Mary Catholic Central High School and a resident of Monroe County, financial need, additional consideration given to student participants of the Monroe Exchange Club Junior Exchange Program

NCSL International Scholarship

Donor: National Conference of Standards Laboratories (NCSL)

Eligibility: Student has declared metrology as their major; enrolled at least three-quarter time (minimum of nine credit hours per semester); 2.5 GPA; Monroe County, Michigan resident

Pepsi Scholarship

Donor: Pepsi Bottling Company

Eligibility: Financial need

Kimberly Reaume Memorial Scholarship

Donor: Family and Friends

Eligibility: Students applying must be enrolled in the Registered Nursing Program and a minimum of six (6) credit hours, Monroe County, Michigan resident, minimum 2.5 GPA

George Rhodes Scholarship

Donor: Friends and Colleagues

Eligibility: Part-time student (six credit hours) who has worked at least one semester in tutoring program at MCCC, recipient must be active in MCCC tutoring program during award year, 3.0 GPA

William E. Rupp Scholarship

Donor: Family

Eligibility: Full-time students at MCCC, minimum 3.4 GPA, Monroe County, Michigan resident and United States citizen

Sawyer Homestead Scholarship

Donor: The Sawyer Homestead Membership

Eligibility: Monroe County, Michigan resident, enrolled in a minimum of six (6) credit hours, preference given to a student returning to school after a lapse in time since attending high school, financial need

Elizabeth M. and Francis P. Steffes**Memorial Scholarship**

Donor: James J. Steffes

Eligibility: Financial need

Student Government Aim & Achieve Scholarship

Donor: MCCC Student Government

Eligibility: Students applying must be active member of the MCCC Student Government and remain active during scholarship year; minimum 2.0 GPA

Thayer Family Scholarship

Donor: Jack and Mary Kay Thayer

Eligibility: Student must have a hearing impairment; graduate of or a student currently enrolled in the Monroe County Program for Children with Hearing Impairments; Monroe County, Michigan resident and United States citizen; dual-enrolled student or a first- or second-year student at Monroe County Community College; enrolled in at least one three (3) credit hour course at MCCC during the Fall and Winter semesters of their scholarship year; fewer credits may be approved via consult with MCCC Disability Services

X-Tech Scholarship

Donor: Various Donors

Eligibility: X-Tech Program participant; pursuing a degree in an existing program in the Industrial Technology Division with preference given to students pursuing a degree in welding technology, mechanical design technology, construction management, manufacturing technology, and nuclear engineering technology; enrolled in a minimum of six (6) credit hours per semester during the scholarship year; graduating senior of Monroe County or downriver area high school or a new adult student; minimum of 2.5 high school GPA and CTE courses taken in high school; financial need; MCCC employees or immediate family members (spouse and dependent children) are not eligible to receive this award

David H. Yoas Memorial Scholarship

Donor: Family and Friends

Eligibility: Welding or automotive technology program, enrolled for minimum of four (4) credit hours per semester

Scholarships Provided by MCCC**Board of Trustees Scholarship**

Eligibility: Monroe County high school graduate or graduate of Milan High School who resides in Monroe County, upon recommendation of their respective facilities; must be enrolled for 12 or more credit hours per semester

Stipend: Tuition and fees

Number: Two for each Monroe County high school, one for Milan High School, renewable

Contact: High school counseling office

Presidential Scholarship

Eligibility: Monroe County resident, cumulative high school GPA of 3.5 or better, leadership qualities, demonstrated participation in school and/or community affairs, must be enrolled for 12 or more credit hours per semester

Stipend: Tuition and fees

Number: Ten per year, renewable

Contact: High school counseling office

Instructional Scholarship

Eligibility: Must be enrolled for 12 or more credit hours in designated program per semester, GPA 2.2

Stipend: Tuition and fees

Number: Up to 16 per year, renewable

Contact: MCCC vice president of instruction or high school counseling office

Performing Music Scholarship

Eligibility: Monroe County resident, full-time student, participating in the MCCC Band or MCCC Agora Chorale, audition required

Stipend: Tuition and fees

Number: 14 per year, renewable

Contact: College Humanities/Social Science Division

Lewis D. McClure Scholarship

Eligibility: Monroe County resident, demonstrated financial need, minimum high school or college GPA 2.5

Stipend: Tuition and fees

Number: One annually

Contact: Financial Aid Office

Senior Citizen Scholarship

Eligibility: Monroe County resident, age 60 or over

Stipend: Tuition

Number: Variable

Contact: Financial Aid Office

The Miss Monroe County Pageant Scholarship

Eligibility: Miss Monroe County Pageant contestant, enrolled for a minimum of 12 credit hours for both Fall and Winter semesters of the year the contestant participated in the pageant

Stipend: Tuition and fees

Number: Variable

Contact: Financial Aid Office

GRADING SYSTEM/COURSE NUMBERING

GRADE REPORTS

Grades are available to students online via WebPAL.

Students who need a printed copy for scholarship or employer reimbursement purposes are able to receive one by calling the Registrar's Office at 734-384-4108. Grade reports requested by students will be mailed within 14 days of the request.

GRADING SYSTEM

The student's work in each course is graded on the following system. Grade points are assigned as indicated.

Letter Grade		Grade Points Per Credit Hour
A	Excellent	4
B	Good	3
C	Fair	2
D	Poor, but Passing	1
E	Failure	0
*E	Course included in Academic Forgiveness Policy	
I	Incomplete	
W	Withdrew	
AU	Audit	
*S	Satisfactory	
*U	Unsatisfactory	
TR	Indicates Transfer Credit Accepted	
*P	Pass (A, B, C)	
*F	Fail (D, E)	
*H	Satisfactory completion of a developmental course – does not apply toward graduation	
R	Repeated class, prior attempt	
CEU	Courses that earn CEU's are identified with a course number between 700-899 and do not apply toward graduation.	

* Not included in GPA

Grading practices regarding letter grades awarded in the nursing program are different in that letter grades of A,B,C and E are issued; there are no D grades.

APPEAL PROCEDURE FOR GRADE CHANGE

The appeal process shall consist of an initial appeal to the instructor in question, a second appeal to the dean of the division the instructor is teaching in and a final appeal to a board consisting of three nonadministrative faculty members and two students to be appointed by the vice president of instruction. The decision of the appeal board will be final and binding. A tie vote by the board will result in the grade remaining unchanged.

Students wishing to initiate a grade appeal have up to six months from the time the grade was issued to request the vice president of instruction to appoint an appeal board to hear the arguments. The request must be made in writing.

COURSE NUMBERING SYSTEM

090-099	Developmental courses that do not apply toward graduation
100-149	Freshman Career/Occupational
200-249	Sophomore Career/Occupational
150-199	Freshman University Parallel
250-294	Sophomore University Parallel
295-299	Field Trips, Seminars, Workshops, Independent Study, Co-Op
700-999	Lifelong Learning - Non-Credit

GRADE POINT AVERAGE (GPA)

To compute the semester grade point average, divide the semester honor points earned by the semester credit hours attempted.

$$\frac{\text{Semester Honor Points Earned (Honor Points)}}{\text{Semester Credit Hours Attempted (GPA Hours)}} = \text{Sem. GPA}$$

Example:	Grade	Honor Points
English	A = 4 x 3 credits =	12 points
Biology	B = 3 x 4 credits =	12 points
Psychology	C = 2 x 4 credits =	8 points
Political Science	D = 1 x 3 credits =	3 points
Math	E = 0 x 3 credits =	0 points

$$\frac{\text{Honor points} - 35}{\text{Hours attempted} - 17} = 2.058 \text{ GPA}$$

To compute the cumulative Grade Point Average, divide the total honor points earned by the total credit hours attempted in all semesters. A cumulative Grade Point Average of "C" (2.0) is required for graduation.

$$\frac{\text{Total Honor Points Earned (Honor Points)}}{\text{Total Credit Hours Attempted (GPA hours)}} = \text{Cumulative GPA}$$

NOTE: Credit accepted from other institutions is not used to calculate the student's GPA at Monroe County Community College.

CREDIT HOURS

All courses carry a specified number of credits. A three-credit lecture course meets three clock hours per week during the 15-week semester. More clock hours per week are required during short courses. Certain courses that require laboratory work or skill practice may meet for more hours per week than the number of credits they confer.

MCCC courses have a minimum of 800 instructional minutes per credit hour.

ACADEMIC HONORS

Dean's List

Students who complete 12 or more academic credits during the Fall and/or Winter semester(s) and earned a semester grade point average of 3.5 or higher will be placed on the Dean's List for that semester. The names of students qualifying for the Dean's List will be distributed to the media.

Graduation with Honors

Students who maintain a 3.5 overall average or higher upon graduation are awarded graduation honors at commencement. As grades are not available in time for the ceremony, honors in the commencement program are based on the cumulative GPA at the end of the term preceding graduation. Graduation with honors is, however, placed on the transcript and the diploma using the GPA upon completion of the requirements for the degree.

Honors Designation GPA Required

Summa Cum Laude	3.900 to 4.000
Magna Cum Laude	3.700 to 3.899
Cum Laude	3.500 to 3.699

TRANSCRIPTS

A transcript is the official cumulative record of a student's enrollment at Monroe County Community College. This data is maintained by the Registrar's Office and is cumulative from the student's first attendance at MCCC.

A student may request an official transcript by making a request in writing. The student's signature is required for all written requests. The cost of each transcript is \$5. A transcript requested by 4 p.m. will generally be available by 9 a.m. at the Main Campus the following business day. Any transcript issued to the student, either by mail or in person, will carry the inscription "issued to student."

Unofficial transcripts are issued to students by the Registrar's Office upon request – and at no charge. A photo ID is required. An unofficial transcript issued to the student will carry the inscription "unofficial transcript."

A transcript will not be issued to/for any student who has a financial hold.

To comply with the provisions of the Family Educational Rights and Privacy Act of 1974, no transcript will be released to a third party without the written authorization of the student.

GRADUATION AND DEGREE REQUIREMENTS

GENERAL REQUIREMENTS FOR GRADUATION

Upon successful completion of an approved plan of study and provided the following requirements have been fulfilled, the student will be awarded an associate degree from Monroe County Community College:

- The student must earn a minimum of 60 semester hours of credit, 20 of which must be earned at Monroe County Community College.
- The student must attain a cumulative grade point average of "C" or higher (2.000 or higher on a 4.000 scale) at graduation.
- The student must meet the general education requirements for his or her program of study – as specified in the Monroe County Community College catalog – under which the student has applied for graduation.
- The student may fulfill requirements for graduation using any Monroe County Community College catalog published during their period of attendance, with the limitation that no student may use a catalog more than 10 years old at the time of graduation. Exceptions may be considered by the appropriate administrator.

Requirements for Graduation from a Certificate Program

The student must attain a grade point average of "C" or higher (2.000 or higher on a 4.000 scale) at graduation in the course work required for the certificate.

Students who enrolled in certificate programs of substantial length (45 or more semester hours) for the first time in Fall 2002 must meet the general education requirements as specified in the 2002-2003 or a subsequent Monroe County Community College catalog.

SECOND DEGREE

To earn a second associate degree from Monroe County Community College, the student must complete 20 semester hours in a specific subject area beyond the requirements of the first associate degree.

ABOUT MCCC DEGREES AND PROGRAMS

Any MCCC degree may be earned by fulfilling the general requirements and the requirements specific to the individual degree (AS, AA, AAS, AFA). This type of degree is called an undesignated degree and appears on the transcript as the degree only.

In addition to earning the specific degree, students who complete one of the occupational degree programs will have the program designation entered on their transcript along with the degree.

Specific program outlines which reflect a high level of specialization are listed elsewhere in this catalog. Deviation from degree requirements or from a specified program may be made only with approval of the division dean, the vice president of instruction or their designee.

GENERAL EDUCATION

General education unites students from diverse areas of study in the pursuit of knowledge that community college graduates should possess. At Monroe County Community College, general education courses are the foundation of each certificate program of substantial length (45 or more credit hours) and of each associate degree (60 or more credit hours). To earn a certificate of substantial length or an associate degree from MCCC, students must demonstrate competency in each of the five general education areas:

- **Written Communication.** Graduates will communicate ideas and information in writing using the rules of standard American English.
- **Mathematics.** Graduates will accurately apply appropriate mathematical approaches to the analysis and interpretation of numerical information.
- **Social Science.** Graduates will demonstrate understanding of social science concepts.
- **Science.** Graduates will demonstrate understanding of the processes of scientific inquiry.
- **Computer Skills.** Graduates will use computer technology to retrieve and communicate information. The competency may be demonstrated by successfully completing an approved course or by demonstrating competency on a designated examination.

Students must complete, at the minimum, the general education coursework or the standardized tests and skills assessments described below. Some degree programs require specific or additional general education courses.

Written Communication

Complete one course (three credits) from the following:
ENGL 101 Written and Oral Communication
ENGL 151 English Composition I

Mathematics

Complete one course (minimum of three credits) from the following:

Any MATH course numbered 124 or higher
BSMTH 101 Business Mathematics

OR

Achieve a satisfactory score on a standardized mathematics test.

NOTE: Students who meet the mathematics requirement by achieving a satisfactory standardized test score do not receive academic credit and may need to earn additional credit to meet degree requirements.

Social Science

POLSC 151 Introduction to Political Science

Science

Complete one course (minimum of four credits) from the following:

ASTRN 151 (Introduction to Astronomy)
BIOL 151 (Biological Science I)
BIOL 152 (Biological Science)
BIOL 154 (Introduction to Environmental Science)
BIOL 155 (Allied Health Anatomy and Physiology I)
BIOL 157 (Anatomy and Physiology I)
CHEM 150 (Fundamental Principles of Chemistry)
CHEM 151 (General College Chemistry I)
CHEM 160 (Fundamentals of Health Science Chemistry)
ESC 151 (Earth Science)
GEOG 151 (Elements of Physical Geography)
PHY 101 (Technical Physics)
PHY 151 (General Physics I)
PHY 251 (Engineering Physics I)
PHYSC 151 (Physical Science)

Computer Skills

Complete one course (minimum of two credits) from the following:

BMGT 160 Managing in the Digital Enterprise
CIS 130 Introduction to Computer Information Systems
MDTC 160 Mechanical Drafting and CAD I
WPR 102 Word Processing I
WPR 110 Personal Word Processing

OR

Achieve a satisfactory score on the Computer Skills Assessment.

NOTE: Students who meet the computer skills requirement by achieving a satisfactory skills assessment score do not receive academic credit and may need to earn additional credit to meet degree requirements.

DEGREE REQUIREMENTS

Requirements for the Associate of Arts Degree (AA)

To earn the associate of arts degree, the student must successfully complete courses from the following areas to meet the minimum general education distribution requirements:

Written Communication – 6 Semester Hours

To meet this distribution requirement, the student must successfully complete English 151 and one additional course selected from English 102, 152, 155 or 254.

Mathematics and/or Science* – 8 Semester Hours

To meet this distribution requirement, the student must:

1. Successfully complete courses selected from two or more of the following subjects: Astronomy, biology, chemistry, earth science, mathematics, Geography 151, physical science or physics.
2. Pass the Mathematics Assessment or successfully complete at least three semester hours of mathematics from courses numbered MATH 124 or higher.

Social Science – 12 Semester Hours

To meet this distribution requirement, the student must successfully complete Political Science 151 and additional courses selected from two different subject areas listed below:

Anthropology, economics, geography (except Geography 151), history, political science (except Political Science 151), psychology, social work or sociology.

Computer Skills

To meet this distribution requirement, the student must successfully complete one course selected from BMGT 160, CIS 130, MDTC 160, WPR 102 or WPR 110 or achieve a satisfactory score on the Computer Skills Assessment.

Humanities – 9 Semester Hours

To meet this distribution requirement, the student must successfully complete courses selected from two different subject areas listed below:

Art, communications, English (excluding English 101 and English courses taken to meet written communications requirements), humanities, journalism, music, philosophy, speech or theater.

Foreign Language – 8 Semester Hours

The student must successfully complete eight semester hours of one foreign language. Students with a minimum of four semesters of one foreign language in high school may petition the dean of humanities/social sciences for a waiver of one course (four credits) of this requirement. Students receiving waivers do not earn college credit and will need to earn additional hours to meet the 60-hour degree requirement.

*It is strongly recommended that students select a science course with a scheduled laboratory period.

Requirements for the Associate of Science Degree (AS)

To earn the associate of science degree, the student must successfully complete courses from the following areas to meet the minimum general education distribution requirements:

Written Communication – 6 Semester Hours

To meet this distribution requirement, the student must successfully complete English 151 and one additional course selected from English 102, 152, 155 or 254.

Mathematics and/or Science* – 8 Semester Hours

To meet this distribution requirement, the student must:

1. Successfully complete courses selected from two or more of the following subjects: Astronomy, biology, chemistry, earth science, mathematics, Geography 151, physical science or physics.
2. Pass the Mathematics Assessment or successfully complete at least three semester hours of mathematics from courses numbered MATH 124 or higher.

Social Science – 9 Semester Hours

To meet this distribution requirement, the student must successfully complete Political Science 151 and additional courses selected from two different subject areas listed below:

Anthropology, economics, geography (except 151), history, political science (except 151), psychology, social work or sociology.

Computer Skills

To meet this distribution requirement, the student must successfully complete one course selected from BMGT 160, CIS 130, MDTC 160, WPR 102 or WPR 110 or achieve a satisfactory score on the Computer Skills Assessment.

Humanities – 3 Semester Hours

To meet this distribution requirement, the student must successfully complete one course selected from the subjects listed below:

Art, communications, English (excluding 101 and English courses taken to meet written communication requirements).

*It is strongly recommended that students select a science course with a scheduled laboratory period.

Requirements for the Associate of Applied Science Degree (AAS)

To earn the associate of applied science degree, the student must successfully complete courses from the following areas to meet the minimum general education distribution requirements:

Written Communication – 3 Semester Hours

To meet this distribution requirement, the student must successfully complete English 101 or 151.

Mathematics

To meet this distribution requirement, the student must successfully complete one MATH course numbered 124 or higher or BSMTH 101 or achieve a satisfactory score on an achievement test.

INDUSTRIAL TECHNOLOGY STUDENTS – MATH 119 (Elementary Technical Mathematics) and 124 (Technical Mathematics II) are recommended for students whose goal is to complete the associate of applied science degree and seek employment. MATH 157 (College Algebra) and MATH 159 (Trigonometry and Analytical Geometry) are recommended for students interested in transferring to a four-year institution. Other MATH courses may be selected for transfer depending on the student's choice of transfer institution. Students interested in transfer are encouraged to seek the assistance of a faculty advisor or admissions counselor.

Social Science and Humanities – 6 Semester Hours

To meet this distribution requirement, the student must successfully complete Political Science 151 and one additional course from the subjects listed below:

Anthropology, art, communications, economics, English (except English 101 and 151), foreign language, geography (except Geography 151), history, humanities, journalism, music, philosophy, political science (except Political Science 151), psychology, social work, sociology, speech or theater.

Science* – 4 Semester Hours

To meet this distribution requirement, the student must successfully complete one course selected from the subjects listed below:

Astronomy 151; Biology 151, 152, 154, 155 or 157;
Chemistry 150, 151 or 160; Earth Science 151;
Geography 151; Physical Science 151; or Physics
101, 151 or 251.

Computer Skills

To meet this distribution requirement, the student must successfully complete one course selected from BMGT 160, CIS 130, MDTC 160, WPR 102, WPR 110 or achieve a satisfactory score on the Computer Skills Assessment.

Technical and Specialty Areas – 32 Semester Hours

Deviation from a specified program may be made only with approval of the division dean, vice president of instruction or their designees.

Apprenticeship Training

A maximum of 32 credits for apprentice training completion may be awarded toward required coursework for the associate degree. Students interested in applying apprentice training toward credit for this degree need to produce documentation of successful completion of the apprenticeship training through the following: 1) Authenticated or official copies of completion certificate, and 2) Transcripts of courses completed toward fulfillment of the apprentice training that clearly show course names and titles, where available.

Requirements for the Associate of Fine Arts Degree (AFA)

To earn the associate of fine arts degree, the student must successfully complete courses from the following areas to meet the minimum general education distribution requirements:

Written Communication – 3 Semester Hours

To meet this distribution requirement, the student must successfully complete English 101 or 151.

Mathematics

To meet this distribution requirement, the student must successfully complete one MATH course numbered 124 or higher or BSMTH 101, or achieve a satisfactory score on an achievement test.

Social Science – 6 Semester Hours

To meet this distribution requirement, the student must successfully complete Political Science 151 and one additional course selected from the subject areas listed below:

Anthropology, economics, geography (except 151), history, political science (except 151), psychology, social work or sociology.

Science* – 4 Semester Hours

To meet this distribution requirement, the student must successfully complete one course selected from the subjects listed below:

Astronomy 151; Biology 151, 152, 154, 155 or 157;
Chemistry 150, 151 or 160; Earth Science 151;
Geography 151; Physical Science 151; or Physics
101, 151 or 251.

Computer Skills

To meet this distribution requirement, the student must successfully complete one course selected from BMGT 160, CIS 130, MDTC 160, WPR 102 or WPR 110 or achieve a satisfactory score on the Computer Skills Assessment.

Humanities – 6 Semester Hours

To meet this distribution requirement, the student must successfully complete courses selected from two different subject areas listed below:

Art, communications, English (except English 101 and 151), foreign language, humanities, journalism, music, philosophy, speech or theater.

Area of Specialization – 32 Semester Hours of Art Courses

The student must successfully complete one of the art curricula that reflects a high degree of specialization.

*It is strongly recommended that students select a science course with a scheduled laboratory period.

PROBATION AND DISMISSAL

ACADEMIC PROBATION AND ACADEMIC DISMISSAL POLICY

A student who has completed 10 credit hours or more (and received a grade of A, B, C, D or E) at Monroe County Community College is automatically placed on probation at the end of the semester when his/her cumulative grade point average falls below 1.8.

A student who has been placed on probation will be removed from probation when he/she has achieved a cumulative grade point average of 1.8 or more. Students on academic probation may not enroll for more than 12 semester hours. A student on probation who earns a semester grade point average of 2.5 or higher while taking 10 credit hours may carry 15 hours the next semester with the approval of his/her adviser.

During the semester in which the 20th semester hour is completed, a student on probation who fails to raise his/her cumulative grade point average to 1.8 or more will be subject to dismissal. Cases of dismissal may be appealed to the Academic Review Committee. A dismissed student who appeals to the Academic Review Committee and is readmitted must continue to meet with the Academic Review Committee prior to registration for any subsequent semester or until such time the cumulative grade point average improves to 1.8 or higher. A readmitted student who achieves a grade point average of 2.25 or higher, even though his/her cumulative grade point average is not 1.8, will be considered to have demonstrated significant improvement and will automatically be continued on probation for the next semester.

Exceptions to this policy may be made by the vice president of student and information services or his/her designee.

ACADEMIC FORGIVENESS POLICY

Monroe County Community College recognizes that some students experience difficulty with academic performance due to life's circumstances, and often-times their subsequent academic record prohibits them from achieving educational and career goals. For example, life's circumstances may include – but are not limited to – personal, emotional and/or financial problems or devastating and unavoidable events that did not permit them to perform at a level representative of their abilities. In an effort to lessen the negative impact of past performance on the student's ability to earn a degree, certificate or successful transfer, the college offers to students the Academic Forgiveness Policy.

The primary purpose of this policy is to provide a “fresh start” to those students who performed poorly in the past but have since demonstrated an ability to succeed with college-level academic studies. This policy is not intended to permit students with chronically poor performance to stay in college, nor to raise false hopes for students who are not making progress.

Through academic forgiveness, the student may petition to have his/her academic grade point average recalculated with failing “E” grades forgiven according to the eligibility criteria and stipulations specified below. As an alternative to academic forgiveness, students are encouraged to consider the course-repeat option, whenever possible, to improve the GPA. Because this forgiveness policy may be granted one time only, students should discuss its appropriateness with a college counselor in the Admissions and Guidance Office.

When the eligibility requirements have been fulfilled and approved, the student's cumulative GPA will be recalculated with the “E” grades removed from the calculation. Forgiven grades of “E” will remain on the student transcript with a special notation explaining this policy.

Eligibility Criteria

1. Forgiveness will be granted one time only for a student.
2. A maximum of 16 semester hours of “E” grades for courses numbered 100-level and above may be applied toward this policy.
3. If **fewer** than 36 months have elapsed since the end of the semester in which the last “E” grade to be forgiven was received, before the Academic Forgiveness Policy is applied, the student must have successfully completed (with a 2.00 GPA or higher) a minimum of 30 credit hours in courses numbered 100 or above.
4. If **more** than 36 months have elapsed since the end of the semester in which the last “E” grade to be forgiven was received, before the Academic Forgiveness Policy is applied, the student must have successfully completed (with a 2.00 GPA or higher) a minimum of 12 credit hours in courses numbered 100 or above.

Stipulations

1. The student may obtain an application for Academic Forgiveness from the college registrar. The submitted application is reviewed by the registrar for accuracy and is approved if all eligibility criteria and stipulations have been met.
2. The Financial Aid Office does not accept "forgiveness status" in the calculation of cumulative GPA for standards of progress.
3. Academic forgiveness, when granted, applies only to MCCC courses. There is no guarantee, expressed or implied, that academic forgiveness will be recognized by any other college or university.
4. Grades of "E" that have been documented for academic dishonesty are not eligible under this policy.
5. Limited access programs such as, but not limited to, nursing, respiratory therapy and culinary arts have program-specific academic standards, which address course failure/withdrawal for students enrolled in these programs.
6. A student can graduate with honors only if all grades are calculated, including forgiven "E" grades.

STUDENT CODE OF CONDUCT AND DUE PROCESS WITH REGARD TO DISCIPLINE OTHER THAN ACADEMIC

Monroe County Community College is committed to maintaining a teaching and learning environment that fosters critical thinking, creativity, personal integrity and positive self-esteem. The intent of this document is to define a collegiate standard of behavior and to describe the actions to be taken if a person disregards this standard.

Rights and Responsibilities

Students have the rights and accept the responsibilities of participating in the educational process when they participate in any course, seminar or activity sponsored by MCCC. Each student is expected to respect the rights of others and to help create a positive environment where diversity of people and ideas are valued and tolerated. A collegiate community should be free from intimidation, discrimination, harassment and violence. Students are expected to know and obey federal, state and local ordinances, as well as College policies and procedures.

The Americans With Disabilities Act With Amendments (2008) affords students an equal opportunity to participate in educational courses/programs/services. If you have a permanent disability and require accommodations in order to meet the guidelines set forth in the MCCC Student Code of Conduct, please contact the Disability Services Office at 734.384.4167, located in the Learning Assistance Lab, C-218.

Code of Conduct

Students at MCCC are expected to show respect for order, law, the rights of others and the mission of the college, as well as to maintain standards of personal integrity.

Behavior that violates these standards includes, but is not limited to:

1. Obstruction or disruption of teaching, administration, or other normal college operations or activities.
2. Failure to comply with directions of college officials, security, or other law enforcement officers while acting in the performance of their duties.
3. Direct or indirect threats to the health or safety of self or others.
4. Illegal use, possession or distribution of alcoholic beverages, narcotics, or controlled substances, or public intoxication.
5. Theft or destruction on college property.
6. Unauthorized entry or use of college facilities.
7. Misuse of college or personal technology or violation of the Acceptable Use Policy.
8. Harassment or discrimination.
9. Possession of firearms, explosives, chemicals or other dangerous weapons.
10. Conduct which is disorderly, lewd or indecent.

Disciplinary Procedure

Action by the vice president of student and information services may be initiated upon his/her knowledge of any student conduct considered to be unsatisfactory. Action will also be initiated upon the receipt of a written statement from any Monroe County Community College employee who reports that a student's conduct has been unsatisfactory. The vice president of student and information services will then:

1. Notify the student in writing within *five (5) working days of the complaint filed against him/her, and/or arrange for a conference with said student.
2. Meet with the student whose conduct has been accused of being unsatisfactory.

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3. Make a decision of what disciplinary status to impose upon the student based upon the severity of the problem:
 - a. Warn the student that past conduct or behavior has not been satisfactory and/or
 - b. Curtail specified privileges for a designated period of time and/or
 - c. Have the student make financial restitution to the college and/or
 - d. Dismiss or suspend the student from the college.
 4. Send a certified letter within *five (5) working days to let the student know what disciplinary action will be taken and that he/she can appeal the decision.

Appeals

A student may appeal the decision rendered by the vice president of student and information services and request a review by the college president. The appeal must be initiated *five (5) working days of the vice president's decision. After review, the president's decision is final and binding.

*All procedural timelines may be adjusted by the vice president in the interest of facilitating due process and fairness.

Guidelines For Classroom Discipline

If a student behaves in a disruptive or unsafe manner, the instructor in charge may dismiss the student responsible from the class. The instructor should review the student's behavior with the student prior to the next class meeting to determine cause for further action. The instructor may permit the student to return to class after satisfying himself or herself of the student's desire to refrain from the behavior that led to his/her suspension. The instructor may decide to disallow the student's continuation in the class. It is the duty of the instructor in charge, however, to inform the student that he/she may appeal the dismissal to the instructor's division dean. If the student is not readmitted to class, it is also the duty of the instructor to notify his/her division dean of the student's dismissal.

Should the student appeal his/her dismissal to the instructor's division dean, it will be the responsibility of the instructor and the division dean to come to an agreement as to whether the student should be allowed to return to the instructor's class. This agreement must be reached as soon as possible, but should not exceed 48 hours from the time the student is dismissed from class.

If the division dean, the instructor and the student cannot reach an agreement allowing a student to return to class, a committee will be established and called into session within an additional 48 hours to hear the facts from all parties involved. This committee will be formed as follows: Student Government shall appoint two students with no vested interest to the appeal committee; the chair of the academic review committee will appoint two non-vested faculty members to the committee, and the vice president of student and information services will appoint one administrator not directly related to the problem. This committee will make its recommendation to the vice president of instruction. The decision of the vice president of instruction is final and binding.

ACADEMIC DISHONESTY

Statement on Academic Honesty

The college expects students to be honest in all academic work and maintain their own integrity as well as the academic integrity and reputation of their institution. Students who seek to better their records in dishonest ways demean themselves and show a lack of regard for others. Instead, students should take full advantage of the opportunities offered by the college to ensure that their time here is well spent, their experience is productive and their academic credentials are valuable. Students who do this will be better prepared for future endeavors and are more likely to meet with success in a world in which their performance will be the main criterion of recognition and advancement.

Acquisition of knowledge and the development of the skills necessary for success in one's chosen field are among the aims of education. Academic dishonesty is inconsistent with those aims and will not be tolerated. Academic dishonesty is an intentional act of fraud in which a student seeks to claim credit for the work or efforts of another without authorization or uses unauthorized materials or fabricated information in any academic exercise. The college considers academic dishonesty to include forgery of academic documents, intentionally impeding or damaging the academic work of others or assisting other students in acts of dishonesty. It is the student's responsibility to know what constitutes academic dishonesty. If a student is unclear whether a particular act constitutes academic dishonesty, he or she should consult with the instructor of the class involved.

Any act of academic dishonesty will result in disciplinary action by the college. The maximum penalty under the provisions of this policy is permanent expulsion from the college. Disciplinary action will be determined according to the severity of the infraction as recommended by the faculty member and sanctioned by the college administration.

Disciplinary Procedure

1. All acts of academic dishonesty, based on the instructor's determination of probable cause*, must be reviewed with the appropriate academic dean. After the review, the dean will notify the vice president of student and information services, and the faculty member will submit the Academic Dishonesty Report Form to the vice president of student and information services, the student and the dean. Upon receipt of notification, the vice president of student and information services will place an academic hold on the student record.

The hold will prevent the student from withdrawing during the review.

After the student acknowledges receipt of the Academic Dishonesty Report Form (by signature, returned e-mail, registered mail receipt), he/she will have 10 days to respond to the charge and recommended penalty. In the event the student fails to respond, and if the vice president of student and information services accepts the recommended disciplinary action, the student waives the right to an appeal.

2. The faculty member reporting an act of academic dishonesty may recommend expulsion from the college or program, or a lesser disciplinary action such as a failing grade on the test, paper, project, etc., or a failing grade in the course. In all cases of academic dishonesty, the proportionality of the sanction is to be considered relative to the incident. Sanctions less than expulsion should be based on a preponderance of the evidence**, whereas expulsion from the college or a program should be based on clear and convincing evidence***.
3. The vice president of student and information services shall make available an opportunity for consultation with both parties. Following consultation (if desired by either or both parties), the vice president shall inform, in writing, the faculty member and student of his/her acceptance, rejection or modification of the disciplinary recommendation within seven days of receipt of the deadline to appeal.
4. The vice president shall inform both parties of the appeal/due process available.
5. The vice president shall maintain a record of all acts of academic dishonesty.
6. Once the faculty member recommends disciplinary action, the student shall not be permitted to withdraw from the course until the review process is completed. If the charge of academic dishonesty is set aside, the student may withdraw from the course following the withdrawal procedures for the time period of the initial incident.
7. Procedural timelines may be waived by the vice president in the interest of facilitating due process and fairness.

Appeals Procedure

1. A student subject to disciplinary action for academic dishonesty or the faculty member who reported the act of academic dishonesty may appeal the decision of the vice president of student and information services as to whether academic dishonesty did or did not take place. Neither the student nor the faculty member can appeal the disciplinary action or sanction as rendered by the vice president. The appeal must be made to the vice president's office within seven days of notice of the vice president's decision.
2. The vice president shall appoint an appeals committee composed of two students, two faculty members and an administrator to hear the appeals. The appointed administrator shall chair the committee. The vice president and the faculty member making the charge shall not serve on the committee.
3. If it is the vice president's decision that academic dishonesty has occurred and the student appeals, the committee shall determine whether the student has committed academic dishonesty. If the committee determines the student has not committed academic dishonesty, all disciplinary action shall be rescinded. If the committee determines the student has committed academic dishonesty, the vice president's disciplinary action shall stand. The committee's determination shall be final and binding.
4. If the vice president determines that the charge of academic dishonesty has not been proven, the faculty member may appeal the decision. If the appeals committee (see item 2) determines that an act or acts of academic dishonesty has been proven, the committee shall, by majority vote, determine the appropriate sanction. The committee's determination shall be final and binding.

* Probable cause: reason to believe, based on reliable information, that academic dishonesty has occurred and that a particular student has committed an act of academic dishonesty.

** Preponderance of the evidence: burden of proof has been established by evidence which outweighs the evidence against.

*** Clear and convincing evidence: the evidence must satisfy that the proposition has been established with a high degree of probability.



■ **ACADEMIC PROGRAMS**

Programs of study are designed to provide the educational outcomes and competencies necessary for students to obtain immediate employment or to further their education.

Programs lead to an associate degree or certificate in the field of study.

■ **Transfer Options**

■ **Programs of Study**

ACADEMIC PROGRAMS

MACRAO AGREEMENT

The MACRAO Agreement is an agreement between Monroe County Community College and many Michigan four-year institutions. Depending upon the institution and the program, satisfying the requirements of this agreement could allow a student greater flexibility in meeting general education requirements at the four-year institution.

- 6 semester hours of English composition
- 8 semester hours of humanities (Courses must be taken in more than one discipline and must not include English composition.)
- 8 semester hours of social science (Courses must be taken in more than one discipline.)
- 8 semester hours of natural science: 1) At least one science must have a lab, 2) One of the sciences may be math (Math 151 or above) and 3) Science courses must be from more than one discipline.

Fifteen of the 30 credits must be completed at Monroe County Community College.

Courses which are not transferable (i.e., technical, vocational or developmental) are not part of the agreement. For additional information, or to request a MACRAO agreement evaluation, please contact the Registrar's Office.

OCCUPATIONAL CERTIFICATE AND DEGREE PROGRAMS OF STUDY

Individuals completing a prescribed course of study in one of the career program areas will receive an associate of applied science or associate of commerce degree. See the instructional programs listing for a detailed description of the programs offered.

Individuals who wish to upgrade their knowledge and skills or prepare for new areas of employment may choose from a wide variety of course offerings. Special sequences of courses may be designed to meet these objectives. Students should consult with an appropriate faculty member, administrator or counselor.

Described in detail in the instructional program listing, the following is a list of career/occupational degree and certificate programs available.

Program	Degree	Certif.
Accounting	•	•
Administrative Office Assistant		•
Administrative Office Specialist		•
Administrative Professional	•	
Medical Office Coordinator	•	
Application Software Specialist	•	•
Automotive Engineering Technology	•	•
Business Management	•	
Chemistry	•	
Computer Information Systems:		
Accounting/CIS	•	
Computer Programming	•	
Application Development		•
Database Application Development		•
Computer Science	•	
End User Support Specialist	•	
Help Desk Specialist		•
PC Support Technician	•	•
System Administration Specialist	•	•
Web Design	•	•
Web Development	•	•
Construction Management Technology	•	•
Residential and Light		
Commercial Construction		•
Heavy and Industrial Construction		•
Criminal Justice/Law Enforcement	•	
Culinary Skills and Management	•	•
Early Childhood Development	•	•
Electronics and Computer Technology	•	
Fine Arts	•	
General Technology	•	
Graphic Design	•	
Digital Media		•
Illustration		•
Industrial Electricity/Electronics Technology	•	
Industrial Management Plant	•	
Mechanical Design Technology	•	•
Mechanical Engineering Technology	•	
Metrology Technology	•	•
Nuclear Engineering Technology	•	
Nursing, Practical		•
Nursing, Registered	•	
Phlebotomy Technician		•
Product and Process Technology	•	•
Quality Systems Technology	•	•
Basic Quality Technician		•
Respiratory Therapy	•	
Teacher Paraprofessional	•	
Welding Technology	•	
Basic Welding		•
Advanced Welding		•

CERTIFICATE PROGRAMS

A certificate of completion will be granted upon completion of certain specialized certificate programs. Certificate programs are listed in the career program listing.

TRANSFER AND PRE-PROFESSIONAL OPTIONS

The university parallel and pre-professional programs are designed for the students who will eventually finish their education at a four-year college or university. Typical programs are discussed in the Transfer Options section of this catalog (pages 49-52). Credits earned in the parallel or pre-professional programs are generally transferable to four-year colleges and universities if the credits meet the following criteria:

1. Satisfactory grades. Grades of "C" or better are necessary for a student to transfer the course to most colleges or universities.
2. Proper selection of courses. A student must select courses designed for college transfer which are consistent with the requirements of the school to which the student plans to transfer. Since no two schools have identical requirements, students should consult with their faculty advisor or counselor to discuss any questions regarding specific programs.

Students following a transfer guide provided by a particular four-year college can complete the first two years of a baccalaureate program at MCCC. In addition, students fulfilling appropriate graduation requirements of Monroe County Community College will be eligible to receive an associate degree.

BACHELOR'S DEGREE COMPLETION AGREEMENTS

Please be aware that this information changes frequently. For up-to-date listings, please visit the Transfer Information Center on the MCCC Web site.

2 + 2 and 3 + 1 Agreements

Monroe County Community College has developed articulation agreements with a number of four-year colleges and universities. These agreements (sometimes called bachelor's degree completion agreements) provide students who are pursuing one of Monroe County Community College's specific two-year associate's degree programs an opportunity to continue their studies and complete the requirements for a baccalaureate degree. The 2 + 2 agreements provide that the student will be able to transfer a minimum of 60 semester credit hours from one of Monroe County Community College's associate

degree programs toward selected bachelor's degree programs at the four-year institution. The 3 + 1 agreements are similar but give students the opportunity to transfer more than 60 credits of MCCC coursework for specified degree programs at four-year institutions. Students interested in transferring credits earned at MCCC should consult with the institution to which there are transferring.

Students interested in obtaining specific information regarding any of the special programs should contact a counselor in the Monroe County Community College Admissions and Guidance Office.

Joint Programs

Monroe County Community College has cooperative agreements allowing students to complete components of certain programs at the college and the remainder of these programs at participating community colleges. Such agreements exist in the following areas:

Sonography/Radiology

General Sonography – Jackson Community College;
Cardiac Sonography – Jackson Community College;
Vascular Sonography – Jackson Community College;
and Radiography – Washtenaw Community College.

Students interested in obtaining specific information regarding any of the above programs should contact the Health Sciences Division office at MCCC.

Criminal Justice: Law Enforcement Option

Qualified students may enroll in a state-approved police academy through Schoolcraft College while earning an associate of applied science degree in criminal justice from MCCC. (See the criminal justice/law enforcement program.) For additional information, contact the dean of humanities/social sciences.



■ TRANSFER OPTIONS

At Monroe County Community College, students can earn the first two years of a bachelor's degree by selecting courses that transfer to four-year institutions.

MCCC works with four-year colleges and universities to develop curricular guides which explain what courses must be taken at MCCC. These curricular guides vary depending on the specific four-year college or university the student plans to attend. Transfer guides are available on the MCCC Web site at www.monroeccc.edu/academicadv-transferindex.htm. To ensure the transferability of credits to a specific four-year college or university and program, it is essential that the transfer student identify the college or university and curriculum as soon as possible, consult with an advisor and follow the appropriate transfer curriculum guide.

TRANSFER OPTIONS

GENERAL EDUCATION TRANSFER DISTRIBUTION REQUIREMENTS

Four-year colleges and universities have university-wide requirements called “general education core curriculum.” Usually, colleges and universities expect most of these requirements to be met during the first two years of a four-year program of study. Colleges within a university may also have general education requirements beyond the university-wide requirements. Usually, these requirements can be met at Monroe County Community College.

Students who attend MCCC prior to transferring to a four-year college or university will be taking courses at MCCC recommended by the specific four-year college where they intend to receive a bachelor’s degree (four-year degree).

PRE-PROFESSIONAL PROGRAMS

The majority of the courses offered by the Humanities/Social Science Division and Science/Mathematics Division can be transferred to a four-year college or university. These courses and sequences can be used to meet specific program requirements in areas such as pre-professional programs in architecture, biology, chiropractic, computer science, education (elementary, secondary and special), chemistry, criminal justice, engineering, journalism, law, mathematics, medicine, mortuary science, nursing, occupational therapy, optometry, pharmacy, physics, psychology, social work and veterinary medicine. These courses and sequences are also used to fulfill general education distribution requirements at four-year colleges and universities. Some of the courses and sequences offered by the Business, Health Sciences and Industrial Technology divisions may also transfer to specialized programs at four-year colleges and universities in accounting, business administration, engineering technology and nursing.

First- and second-year, college-level courses and sequences in the following disciplines are frequently taken for transfer credit: accounting, art, astronomy, biology, business administration, business law, business management, chemistry, computer information systems, drama, earth science, economics, engineering drawing, English composition, foreign language, geography, history, humanities, journalism, literature, mathematics, music, philosophy, physics, physical science, political science, psychology, sociology and social work.

PRE-EDUCATION PROGRAMS

One of the transfer programs at MCCC leads to a degree in education. Students interested in elementary education are able to transfer a large number of introductory courses such as English composition, history, mathematics, political science, science and speech. This program also contains art, literature, mathematics and music courses, which are specifically geared to students planning a degree in elementary education at a four-year institution.

Those interested in teaching at the secondary level also have many classes available for transfer. Classes in art, English composition, dramatic arts, history, literature, mathematics, philosophy, political science, psychology, science, sociology and speech are frequently taken for transfer credit.

Students interested in special education may take transfer classes whether they are interested in a secondary education endorsement or an elementary education endorsement. Students may also specialize in health education and may take courses here that transfer for health education. MCCC also offers a class (EDUC 151, Exploring Teaching) which fulfills the pre-teaching requirement of many four-year institutions.

PRE-ENGINEERING PROGRAMS

The recommended engineering transfer program should enable the student to transfer to any of the engineering colleges in the state with a very favorable situation for transfer credit and choice of specific engineering program. It is advisable for an engineering student to make a choice of an engineering college and a specific curriculum as soon as possible, consult with their faculty advisor and follow transfer guides available on the MCCC Web site.

The recommended engineering transfer program includes:

- 4 or 5 semesters of mathematics through MATH 273
- 2 semesters of calculus-based physics
- 2 semesters of chemistry (4 semesters for chemical engineering majors)
- 2 semesters of English (composition and literature)
- 2 semesters of humanities (art, communication, journalism, music, philosophy, speech)
- 2 semesters of social science (anthropology, history, economics, geography, political science, psychology, sociology and social work)

Many engineering programs have a specific requirement of microeconomics (ECON 252).

Coursework may also be required in the following areas depending upon the college and engineering degree program the student chooses: drafting, computer aided design, structured programming, linear algebra, statistics, biological sciences and business administration.

CHEMISTRY PROGRAM

This associate of science degree with specialization in chemistry is designed to provide the first two years of study for students who intend to continue their education in chemistry or other natural sciences. This degree (with careful selection of electives) will also be useful for students in the pre-professional study of medicine and related fields, as well as students who seek careers as laboratory technicians after completing an associate degree. Students transferring to another college should obtain information early from the college concerning specific degree requirements.

HUMANITIES/SOCIAL SCIENCE PROGRAMS

In addition to fulfilling the humanities and social science general education distribution requirements at four-year colleges and universities, humanities and social science courses can be transferred as components of a baccalaureate degree program in fields such as anthropology, art, communication, education, English language and literature, foreign language, history, journalism, police administration/law enforcement, political science, pre-law, psychology, social work and sociology.

Humanities and social science classes which are most frequently taken for transfer credit are courses in English composition, history, literature, political science, psychology, sociology and speech. Depending on the student's program and the requirements of the four-year college or university, courses in art, anthropology, dance, dramatic arts, foreign language, geography, journalism, philosophy and social work are also offered for transfer credit.

CRIMINAL JUSTICE PROGRAM

This program prepares MCCC graduates for positions in law enforcement which require an associate of applied science degree. Check with your advisor and planned transfer schools for more details about transferring.

PRE-HEALTH PROFESSIONS

Students desiring to enter professional health careers such as chiropractic, dentistry, medicine, pharmacy and veterinary medicine typically can transfer coursework in the following areas to four-year colleges and universities:

- 4 semesters of chemistry (general and organic, including laboratory)
- 2 semesters of biology
- 2 semesters of physics
- 2 semesters of mathematics
- 2 semesters of English language and literature
- 2 semesters of humanities (art, communication, journalism, music, philosophy, speech)
- 2 semesters of social science (anthropology, history, economics, geography, political science, psychology, sociology and social work)

HEALTH OCCUPATIONS PROGRAMS

Students interested in health occupations may select a health program of study at MCCC or take preparatory work here that will transfer to four-year colleges or universities.

Students who complete an associate degree in nursing or respiratory therapy may also wish to pursue a bachelor's degree. As a registered nurse, for example, students have several options for bachelor of science in nursing completion programs available in Southeast Michigan and Northwest Ohio. Students should talk to a faculty advisor for details.

PRE-BUSINESS ADMINISTRATION PROGRAMS

Students who wish to pursue four-year degrees in business administration may begin their education at MCCC. Transfer students may choose a variety of options for completing their first two years of study toward a bachelor of business administration degree. When pursuing any of these options, students should consult with an MCCC counselor or advisor and the institution they intend to transfer to when deciding which courses to take. The suggested options for transfer students include:

- Pursue an associate of science degree and include business and pre-business electives
- Pursue an associate of arts degree and include business and pre-business electives
- Pursue an associate of applied science degree in the business management program. (See the business management program for details.)
- Pursue a bachelor's degree with Siena Heights University taking up to 90 credits at MCCC

- Select and complete classes that transfer to the four-year college or university of choice (do not pursue an associate degree)

All students who wish to earn an associate degree must complete the general requirements for graduation and meet specific degree requirements.

TYPICAL BUSINESS/PRE-BUSINESS ELECTIVES (These courses may also be required for some programs.)

BUSAD 151	Introduction to Business
CIS 130	Introduction to Computer Information Systems
ACCTG 151	Accounting Principles
ACCTG 152	Accounting Principles
ACCTG 252	Cost Accounting
BMGT 201	Principles of Management
BSLW 251	Business Law
ECON 251	Principles of Macroeconomics
ECON 252	Principles of Microeconomics
MATH 162	Introduction to Statistics
MATH 171	Calculus I
MCOM 201	Principles of Marketing

Other MCCC accounting, business and management courses may transfer to some four-year institutions. Students should contact their prospective four-year institutions before registering for elective classes at MCCC.

COMPUTER SCIENCE

Students interested in pursuing a bachelor's degree in computer science may earn an associate degree at MCCC and then transfer to a four-year institution. Students have the opportunity to take courses leading to an associate of science degree which could include various computer science courses, or they may take courses leading to the associate of applied science in CIS. Either of these will prepare the student to transfer to a four-year institution. MCCC has signed transfer agreements with the University of Michigan, Dearborn and Eastern Michigan University which indicate specific MCCC courses that transfer directly into the bachelor of science or BBA in computer science. Students should seek assistance from a counselor or an academic advisor in the CIS program.

INDUSTRIAL TECHNOLOGY PROGRAMS

Although industrial technology programs are designed as career programs for entry into jobs after the completion of a certificate or associate degree, Monroe County Community College has transfer agreements with several universities. The University of Toledo, Wayne State University, Eastern Michigan University, Ferris State University, Lawrence Technological University and Siena Heights University allow direct transfer of several of MCCC's two-year industrial technology programs.

Many MCCC graduates earn a bachelor of engineering technology degree after receiving an associate of applied science degree from MCCC. Some students use their technical credits earned at MCCC as their area major in teacher education programs.

APPRENTICESHIP TRAINING

In conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training, apprenticeship training is available in such trades as electrician, machine repair, machinist, millwright, diemaker and welder. All of these programs can be tailored to meet the needs of individual companies. College representatives, in discussion with local employers, can design unique programs of study to suit a particular industry.

STUDY ABROAD

Monroe County Community College offers students the chance to expand their horizons while completing coursework by visiting and living in other countries and cultures. Program course content and location varies from year to year. Study abroad programs take place during the Spring Semester; announcements regarding the program are made during the prior Spring or Fall semesters. Student exchange opportunities also exist in a variety of countries. For more information, contact the Humanities/Social Sciences Division.



■ PROGRAMS OF STUDY

Programs of study are designed to lead to degrees/certificates in particular areas of study. Students may enter the workplace following completion of the degree or certificate and/or continue their education.

While the career programs are occupationally oriented and have a high degree of specialization, many are transferable to four-year colleges for completion of bachelor's degree programs such as education, career and technical education, general studies, etc. Careful course selection is important and should be done with a Monroe County Community College counselor and, to the extent possible, with an advisor of the four-year college to which transfer is planned.

ACCOUNTING

Business Division

The associate of applied science degree with specialization in accounting is designed to provide practical and theoretical preparation for positions leading to supervisory and administrative assignments. In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses. This curriculum provides for careers in business and industrial accounting departments as:

- Accounting clerks
- Junior accountants
- Accounting and management trainees

	Credits
Required General Education Courses	18
ENGL 151 (English Composition I)	3
MATH.	3
POLSC 151 (Introduction to Political Science)	3
¹ Social Science/Humanities Elective	3
² Science Elective.	4
³ Computer Skills Elective.	2
Required Core Courses	39
1st Semester	
ACCTG 151 (Accounting Principles)	4
BUSAD 151 (Introduction to Business)	4
2nd Semester	
ACCTG 152 (Accounting Principles)	4
[†] CIS 109 (Spreadsheet Software)	3
3rd Semester	
ACCTG 201 (Microcomputer Accounting I)	3
ACCTG 220 (Payroll Accounting)	3
ACCTG 251 (Intermediate Accounting I)	4
ACCTG 255 (Introduction to Taxation)	3
4th Semester	
ACCTG 205 (Microcomputer Accounting II)	3
ACCTG 252 (Cost Accounting)	4
ACCTG 254 (Intermediate Accounting II)	4
Suggested General Electives	3
<i>(to complete degree requirements, not limited to those courses listed)</i>	
BMGT 201 (Principles of Management)	3
BMGT 220 (International Business)	3
BSLW 251 (Business Law)	4
ECON 251 (Principles of Macroeconomics)	3
ECON 252 (Principles of Microeconomics)	3
ENGL 155 (Technical Writing)	3
PSYCH 151 (General Psychology)	3
SPCH 151 (Communication Fundamentals)	3
Total Degree Requirements	60 credits
Total Degree Cost	60 minimum billable contact hours

Certificate Program: Accounting

The accounting certificate prepares students for careers in business and industrial accounting departments as accounting clerks, junior accountants, or accounting and management trainees. The courses taken under the certificate are applicable to the degree program. Students should check course prerequisites when planning their semester schedules.

	Credits
Required Core Courses	
ACCTG 151 (Accounting Principles)	4
ACCTG 152 (Accounting Principles)	4
ACCTG 201 (Microcomputer Accounting I)	3
ACCTG 205 (Microcomputer Accounting II)	3
ACCTG 220 (Payroll Accounting)	3
ACCTG 251 (Intermediate Accounting I)	4
ACCTG 252 (Cost Accounting)	4
ACCTG 254 (Intermediate Accounting II)	4
ACCTG 255 (Introduction to Taxation)	3
BUSAD 151 (Introduction to Business)	4
[†] CIS 109 (Spreadsheet Software)	3
Total Certificate Requirements	39 credits
Total Certificate Cost	39 minimum billable contact hours

[†] Tech Prep course. See page 15.

¹ See the social science/humanities alternatives listed on page 39.

² See the science alternatives listed on page 40.

³ See the computer skills alternatives listed on page 40.

ADMINISTRATIVE OFFICE SPECIALIST

Business Division

Certificate Program:

Administrative Office Specialist

In addition to the administrative professional associate degree program, Monroe County Community College offers certificate programs in administrative office specialist and administrative office assistant. The college recognizes that many employers place value on a certificate which authenticates specialized preparation. Courses taken under the certificate programs are applicable to the associate degree.

Those who complete these certificate programs will be prepared for entry-level employment as receptionists and office assistants.

Credits

Required Core Courses for

Administrative Office Specialist Certificate

ADMN 101 (Introduction to Today's Office)	1
ADMN 106 (Numeric Keypad)	1
ADMN 119 (Machine Transcription)	3
ADMN 135 (Intermediate Keyboarding)	3
ADMN 201 (Integrated Office Software)	4
† CIS 109 (Spreadsheet Software)	3
CIS 112 (Database Software)	3
† CIS 118 (Windows Operating System)	1
CIS 123 (PowerPoint Presentation Software)	3
CIS 188 (InDesign Desktop Publishing)	3
ENGL 151 (English Composition I)	3
WPR 102 (Word Processing I)	3
WPR 103 (Advanced Word Processing)	3

Total Certificate Requirements 34 credit hours

Total Certificate Cost 34 minimum billable contact hours

Certificate Program:

Administrative Office Assistant

Credits

Required Core Courses for

Administrative Office Assistant Certificate

ADMN 101 (Introduction to Today's Office)	1
ADMN 106 (Numeric Keypad)	1
ADMN 131 (Beginning Keyboarding)	3
† CIS 109 (Spreadsheet Software)	3
† CIS 118 (Windows Operating System)	1
ENGL 151 (English Composition I)	3
WPR 102 (Word Processing I)	3

Total Certificate Requirements 15 credits

Total Certificate Cost 15 minimum billable contact hours

† Tech Prep course. See page 15.

ADMINISTRATIVE PROFESSIONAL

Business Division

The associate of applied science degree with specialization as an administrative professional is designed to provide comprehensive preparation for office employment. The curriculum offers administrative, medical and legal options and emphasizes communication skills as well as office applications software usage.

Graduates of this program will be prepared for entry-level employment in corporate offices, law firms, medical offices and administrative departments of state or local governments.

	Credits
Required General Education Courses	19
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II)	3
BSMTH 101 (Business Mathematics)	3
POLSC 151 (Introduction to Political Science)	3
¹ Science Elective	4
WPR 102 (Word Processing I)	3
Required Core Courses	39-40
1st Semester	
ADMN 106 (Numeric Keypad)	1
ADMN 101 (Introduction to Today's Office)	1
SPCH 151 (Communication Fundamentals)	3
[†] CIS 109 (Spreadsheet Software)	3
2nd Semester	
ADMN 135 (Intermediate Keyboarding)	3
CIS 170 (Web Design for Non-Designers)	3
WPR 103 (Advanced Word Processing)	3
3rd Semester	
BMGT 201 (Principles of Management)	3
CIS 188 (InDesign Desktop Publishing)	3
CIS 123 (PowerPoint Presentation Software)	3
CIS 112 (Database Software)	3
4th Semester	
ACCTG 110 (Applied Office Accounting) or	
ACCTG 151 (Accounting Principles)	3-4
ADMN 119 (Machine Transcription)	3
ADMN 201 (Integrated Office Software)	4

Credits

General Electives	
Administrative Option Suggestions	1-2
ACCTG 201 (Microcomputer Accounting I)	3
BUSAD 151 (Introduction to Business)	4
CIS 182 (Illustrator Graphics)	3
CIS 184 (Photoshop Graphics)	3
ECON 251 (Principles of Macroeconomics)	3
ADMN 131B (Keyboarding Skills Enhancement)	1
PSYCH 101 (Social Psychology) or	
PSYCH 151 (General Psychology)	3

Additional Required Core	
Courses for Legal Transcription	10
BSLW 251 (Business Law)	4
POLSC 154 (Introduction to Law Enforcement)	
or POLSC 156 (Fundamentals of Criminal Investigation) . . .	3
ADMN 104 (Legal Specialty)	3

Additional Required Core	
Courses for Medical Transcription	5
² BIOL 151 (Biological Science I)	4
HLTSC 110 (Medical Terminology)	2
ADMN 105 (Medical Specialty)	3

Total Degree Requirements:	
Administrative Option	60 credits
Legal Option	68 credits
Medical Option	63 credits

Total Degree Cost:	
Administrative Option	60 minimum billable contact hours
Legal Option	68 minimum billable contact hours
Medical Option	63 minimum billable contact hours

[†] Tech Prep course. See page 15.

¹ See the science alternatives listed on page 40.

² Satisfies General Education Science requirement.

ADMINISTRATIVE PROFESSIONAL MEDICAL OFFICE COORDINATOR

Business Division

The associate of applied science degree with specialization as a medical office coordinator is designed to provide comprehensive preparation for employment in the administrative areas of modern health care facilities. The curriculum emphasizes communication skills, computer applications, and a solid background in medical terminology and office procedures. This program is for students who would like to work in the health care field but prefer to specialize in administrative skills.

Graduates will be prepared for entry-level employment in doctors' offices, clinics, hospitals, public health departments and other health care facilities.

- Admission to program is contingent upon passing the prerequisites for MOAD 101.
- Limited enrollment in MOAD courses is 24 students per cohort year.

	Credits
Required General Education Courses	16
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II)	3
BSMTH 101 (Business Mathematics)	3
POLSC 151 (Introduction to Political Science)	3
Science elective	4
Required Core Courses	32
1st Semester	
ADMN 101 (Introduction to Today's Office)	1
WPR 102 (Word Processing I)	3
* ADMN 135 (Intermediate Keyboarding)	3
† HLTSC 110 (Medical Terminology)	2
2nd Semester	
BMGT 160 (Managing in the Digital Enterprise)	3
MOAD 101 (Introduction to the Medical Office)	3
ADMN 119 (Machine Transcription)	3
3rd Semester	
MOAD 104 (Medical Office Administration I)	3
WPR 103 (Advanced Word Processing)	3
4th Semester	
MOAD 204 (Medical Office Administration II)	3
MOAD 206 (Medical Insurance Coding and Billing)	3
Spring Semester (Second Year)	
COOP (Cooperative Work Experience)	2
Additional Required Core Courses	12/13
ACCTG 110 (Applied Office Accounting) or ACCTG 151 (Accounting Principles)	3/4
ADMN 106 (Numeric Keypad)	1
BMGT 201 (Principles of Management)	3
CIS 123 (PowerPoint Presentation Software)	3
HPE 151 (First Aid and Safety)	2
Total Degree Requirements	60 or 61 credits
Total Degree Cost	60 minimum billable contact hours

† Tech Prep course. See page 15.

* Required keyboarding skills of 40 nwpm.

APPLICATION SOFTWARE SPECIALIST

Business Division

The associate of applied science degree with a concentration in application software is designed to provide comprehensive preparation in the computer support area.

Job opportunities include:

- Information technology support specialist
- Software application specialist

	Credits
Required General Education Courses	19
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II) or ENGL 102 (Business Writing)	3
¹ Math	3
POLSC 151 (Introduction to Political Science)	3
² Science Elective	4
[†] CIS 130 (Introduction to Computer Information Systems)	3
Required Core Courses	41
ADMN 102 (Keyboarding)	1
ADMN 201 (Integrated Software)	4
[†] CIS 109 (Spreadsheet Software)	3
CIS 112 (Database Software)	3
[†] CIS 118 (Windows Operating System)	1
CIS 123 (PowerPoint Presentation Software)	3
CIS 188 (InDesign Desktop Publishing)	3
WPR 102 (Word Processing I)	3
WPR 103 (Advanced Word Processing)	3
Additional CIS Required Electives	9
General Electives	8

Total Degree Requirements **60 credits**
Total Degree Cost **60 minimum billable contact hours**

Application Software Specialist Certificate:

This certificate program focuses on office application software for today's administrative assistant. Successful completion of these courses helps to prepare students for the certification exams.

	Credits
Required Courses	
ADMN 102 (Keyboarding)	1
ADMN 201 (Integrated Office Software)	4
[†] CIS 109 (Spreadsheet Software)	3
CIS 112 (Database Software)	3
[†] CIS 118 (Windows Operating System)	1
CIS 123 (PowerPoint Presentation Software)	3
[†] CIS 130 (Introduction to Computer Information Systems)	3
WPR 102 (Word Processing I)	3
WPR 103 (Advanced Word Processing)	3

Total Certificate Requirements **24 credits**
Total Certificate Cost **24 minimum billable contact hours**

[†] Tech Prep course. See page 15.
¹ BSMTH 101 (Business Mathematics), MATH 150 or higher. It is suggested that math be taken in the first semester.
² See the science alternatives listed on page 40.

AUTOMOTIVE ENGINEERING TECHNOLOGY

Industrial Technology Division

The associate of applied science degree with specialization in automotive engineering technology is structured to provide the technical knowledge and mechanical abilities necessary to work in today's growing automotive research and development industry.

Automotive engineering technicians assist engineers in design and development work. They help determine the practicality of a proposed product design change and plan and carry out tests on experimental test devices and equipment for performance, durability and efficiency. As part of the testing procedure, they record data, make computations, plot graphs, analyze results, write reports and often make recommendations for improvements to meet performance requirements. The automotive engineering technician makes use of various mechanical and electrical test instruments and gauges, including engine and chassis dynamometers, road simulators, flow benches and computer-controlled data gathering devices. The curriculum is planned to prepare the graduate to perform duties concerned with design, testing and development activities in direct support of the automotive engineer. Graduates of this program will be prepared for entry-level employment in the following areas:

- Automotive engineering technician
- Engineering technician
- Factory technical representative
- Research and development technician
- Research technician
- Sales engineer

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

	Credits
Required General Education Courses	
19	
ENGL 101 (Written and Oral Communications) or ENGL 151 (English Composition I)	3
¹ MATH	6
POLSC 151 (Introduction to Political Science)	3
² PHY 101, 151, or CHEM 150 or 151	4
³ Social Science/Humanities Elective	3
 Required Core Courses	
36	
1st Semester	
[†] ELEC 125 (Fundamentals of Electricity)	3
AUTO 101 (Internal Combustion Engines).	4
2nd Semester	
AUTO 102 (Auto Electricity and Electronics)	4
AUTO 103 (Fuel and Emission Control Systems)	4
Winter or Spring Semester	
AUTO 201 (Automotive Digital Electronics)	3
^{†4} MDTC 160 (Mechanical Drafting and CAD I)	4
3rd Semester	
AUTO 104 (Automotive Ignition Systems).	3
AUTO 107 (Automotive Chassis Units)	4
4th Semester	
AUTO 105 (Automotive Transmissions).	3
AUTO 114 (Automotive Instrumentation and Testing)	4
 Additional Technology Electives	
6-7	
<i>(All recommended for better employment opportunities.)</i>	
AUTO 109 (Welding for Automotive Technicians)	3
MATL 101 (Industrial Materials).	3
MECH 102 (Manufacturing Processes)	4
[†] MECH 103 (Machining Basics and CNC).	4
MECH 111 (Introduction to Fluid Power).	3
 Total Degree Requirements	
61-62 credits	
Total Degree Cost	
80 minimum billable contact hours	

BUSINESS MANAGEMENT

Business Division

This associate of applied science degree has been developed to provide the student with a general background in business and an awareness of the organizational and environmental changes that continually challenge management.

Graduates of this program will potentially be prepared for entry-level employment as:

- Retail managers
- Sales managers
- Customer service representatives
- Business analysts
- Office managers
- Human resource managers
- General business managers
- Purchasing agents

Although this program is a two-year occupational program designed to prepare students for employment, many four-year colleges and universities will accept much of this curriculum in transfer. See an MCCC counselor for details.

	Credits
Required General Education Courses	16
ENGL 151 (English Composition I)	3
ENGL 102 (Business Writing)	3
¹ MATH.	3
POLSC 151 (Introduction to Political Science)	3
² Science Elective	4

	Credits
Required Core Courses	27
1st Semester	
BUSAD 151 (Introduction to Business)	4
ECON 251 (Principles of Macroeconomics)	3
2nd Semester	
BMGT 201 (Principles of Management)	3
ACCTG 151 (Accounting Principles)	4
3rd Semester	
ACCTG 152 (Accounting Principles)	4
MCOM 201 (Principles of Marketing)	3
4th Semester	
³ BMGT 160 (Managing in the Digital Enterprise)	3
ECON 252 (Principles of Microeconomics)	3

	Credits
Required Electives Options	12
<i>(to complete degree requirements)</i>	
ACCTG 201 (Microcomputer Accounting I)	3
ACCTG 220 (Payroll Accounting)	3
ACCTG 252 (Cost Accounting)	4
BUSAD 170 (Small Business and Entrepreneurship)	3
BMGT 220 (International Business)	3
BMGT 251 (Human Resource Management)	4
BSLW 251 (Business Law)	4
[†] CIS 109 (Spreadsheet Software)	3
CIS 112 (Database Software)	3
CIS 123 (PowerPoint Presentation Software)	3
MATH 162 (Introduction to Statistics)	3
QSTC 111 (Quality Management)	3

General Electives	5
Total Degree Requirements	60 credits
Total Degree Cost	60 minimum billable contact hours

[†] Tech Prep course. See page 15.
¹ BSMTH 101 (Business Mathematics), or MATH 151 (Intermediate Algebra) or higher.
² See the science alternatives listed on page 40.
³ Meets General Education Requirement for computer skills.

CHEMISTRY

Science/Mathematics Division

This associate of science degree with specialization in chemistry is designed to provide the first two years of study for students who intend to continue their education in chemistry or other natural sciences. This degree (with careful selection of electives) will also be useful for students in the pre-professional study of medicine and related fields, as well as students who seek careers as laboratory technicians after completing an associate degree. Students transferring to another college should obtain information early from that college concerning specific degree requirements.

Students take chemistry courses that emphasize significant laboratory work including instrumentation, traditional wet chemical methods and microscale techniques.

	Credits
Required General Education Courses	20
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II)	3
POLSC 151 (Introduction to Political Science)	3
Social Sciences Elective	6
Humanities Elective	3
¹ Computer Skills Elective	2
Required Core Courses	32
1st Semester	
CHEM 151 (General College Chemistry I)	4
MATH 171 (Calculus I)	4
2nd Semester	
CHEM 152 (General College Chemistry II)	4
MATH 172 (Calculus II)	4
3rd Semester	
CHEM 251 (Organic Chemistry I)	4
² PHY 151 (General Physics I)	4
4th Semester	
CHEM 252 (Organic Chemistry II)	4
² PHY 152 (General Physics II)	4
Suggested Elective Courses	8-10
MATH 251 (Introduction to Linear Algebra)	3
MATH 271 (Calculus III)	4
MATH 273 (Introduction to Differential Equations)	3
Total Degree Requirements	60 credits
Total Degree Cost	72 minimum billable contact hours

¹ See the computer skills alternatives listed on page 40.

² May substitute PHY 251 for PHY 151 and PHY 252 for PHY 152.

COMPUTER INFORMATION SYSTEMS ACCOUNTING/CIS

Business Division

The associate of applied science degree with specialization in accounting/CIS has a dual focus in combining accounting and computer courses. Students completing this program of study will have entry-level skills in both career areas.

Job opportunities include:

- Entry-level accounting clerk
- Junior accountant
- Cost estimator
- Small business accountant
- Entry-level programmer
- CIS entry-level positions

	Credits
Required General Education Courses	19
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II) or ENGL 102 (Business Writing)	3
¹ MATH.	3
POLSC 151 (Introduction to Political Science)	3
² Science Elective	4
[†] CIS 130 (Introduction to Computer Information Systems)	3
Required Courses	45
1st Semester	
ACCTG 151 (Accounting Principles)	4
[†] CIS 109 (Spreadsheet Software)	3
ADMN 102 (Keyboarding)	1
[†] CIS 132 (Computer Programming Concepts)	3
2nd Semester	
ACCTG 152 (Accounting Principles)	4
CIS 112 (Database Software)	3
CIS 150 (Computer Science I)	3
3rd Semester	
ACCTG 201 (Microcomputer Accounting I)	3
ACCTG 251 (Intermediate Accounting I)	4
CIS 152 (Visual Basic Programming)	3
CIS 205 (Systems Analysis & Design)	3
4th Semester	
ACCTG 205 (Microcomputer Accounting II)	3
ACCTG 252 (Cost Accounting)	4
ACCTG 254 (Intermediate Accounting II)	4
Additional Required Courses	6
ACCTG 220 (Payroll Accounting)	3
CIS Elective. Must be numbered higher than CIS 152.	3

Total Degree Requirements **70 credits**
Total Degree Cost **70 minimum billable**
contact hours

[†] Tech Prep course. See page 15.

¹ BSMTH 101 (Business Mathematics), MATH 150 or higher. It is suggested that math be taken in the first semester.

² See the science alternatives listed on page 40.

COMPUTER INFORMATION SYSTEMS

COMPUTER PROGRAMMING

Business Division

The associate of applied science degree in computer programming is designed to train students as programmers. Students completing this program of study should be able to write and update programs in a variety of languages.

Job opportunities include:

- Entry-level programming positions in C++, Java and Visual Basic
- Entry-level Systems Analysis

Required General Education Courses	Credits
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II) or ENGL 102 (Business Writing)	3
¹ MATH.	3
POLSC 151 (Introduction to Political Science)	3
² Science Elective	4

Required Courses **41-43**

1st Semester

ADMN 102 (Keyboarding)	1
CIS 112 (Database Software)	3
[†] CIS 130 (Introduction to Computer Information Systems)	3
[†] CIS 132 (Computer Programming Concepts)	3

2nd Semester

CIS 150 (Computer Science I)	3
CIS 152 (Visual Basic Programming)	3
CIS 177 (Markup Languages)	3
BUSAD 151 (Introduction to Business)	4

3rd Semester

CIS 205 (Systems Analysis & Design)	3
CIS 175 (Java Programming)	3
CIS 155 (Database Management Systems)	3
CIS 272 (Database Web Development)	3

Additional Required CIS Courses

(Choose 2 of the following)

CIS 179 (Web Script Programming)	3
CIS 250 (Computer Science II)	3
CIS 252 (Advanced Visual Basic Programming)	4
CIS 267 (Beginning Game Programming)	3
CIS 268 (Assembly Language and Computer Architecture)	4
CIS 274 (Advanced Database Web Development with ASP.NET)	3

General Elective Courses

(As required to complete 60 hours)

Total Degree Requirements 60 credits

Total Degree Cost 60 minimum billable contact hours

Take CIS 274 from the list of additional required CIS courses to earn the database application development certificate in addition to the AAS in computer programming.

Take CIS 179 and CIS 274 from the list of additional required CIS courses to earn the Web development certificate in addition to the AAS in computer programming.

Certificate Programs: Database Application Development

This certificate program focuses on database systems and database development concepts.

Required Courses	Credits
ADMN 102 (Keyboarding)	1
CIS 112 (Database Software)	3
[†] CIS 130 (Introduction to Computer Information Systems)	3
[†] CIS 132 (Computer Programming Concepts)	3
CIS 150 (Computer Science I)	3
CIS 152 (Visual Basic Programming)	3
CIS 155 (Database Management Systems)	3
CIS 177 (Markup Languages)	3
CIS 272 (Database Web Development)	3
CIS 274 (Advanced Database Web Development with ASP.NET)	3

Total Certificate Requirements 28 credits

Total Certificate Cost 28 minimum billable contact hours

Application Development

This certificate program focuses on computer programming and systems analyst skills.

Credits

Required Courses

ADMN 102 (Keyboarding)	1
CIS 112 (Database Software)	3
† CIS 130 (Introduction to Computer Information Systems)	3
† CIS 132 (Computer Programming Concepts)	3
CIS 150 (Computer Science I)	3
CIS 152 (Visual Basic Programming)	3
CIS 205 (Systems Analysis and Design)	3

(Choose any 2 of the following)

CIS 175 (Java Programming)	3
CIS 250 (Computer Science II)	3
CIS 252 (Advanced Visual Basic Programming)	4
CIS 267 (Beginning Game Programming)	3
CIS 268 (Assembly Language and Computer Architecture)	4

Total Certificate Requirements 25-27 credits

**Total Certificate Cost 25 minimum billable
contact hours**

† Tech Prep course. See page 15.

¹ BSMTH 101 (Business Mathematics), MATH 150 or higher. It is suggested that math be taken in the first semester.

² See the science alternatives listed on page 40.

Students interested in pursuing a baccalaureate degree should see the notes on the computer science program.

COMPUTER INFORMATION SYSTEMS COMPUTER SCIENCE

Business Division

The associate of applied science degree with specialization in computer science is designed to train students for the area of computer programming in an engineering/science environment.

Job opportunities include:

- Entry-level programming positions in C++, Java or Visual Basic.
- Entry-level systems analyst

Also, this program will prepare students well for transfer opportunities in the area of computer science.

For information on transfer options and requirements, refer to the MCCC Web site at: http://www.monroeccc.edu/academi_cadv-transfer/2+2agreement/baccalau.htm

MCCC has a signed transfer agreement with the University of Michigan-Dearborn which allows students to transfer directly into the bachelor of science in computer and information science or software engineering programs. Refer to the above Web site for specific transfer courses and requirements.

	Credits
Required General Education Courses	20
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II)	3
POLSC 151 (Introduction to Political Science)	3
MATH 171 (Calculus)	4
<i>(See course description for prerequisites)</i>	
[†] Science Elective	4
[†] CIS 130 (Introduction to Computer Information Systems) . . .	3
Required Core Courses	35
1st Semester	
ADMN 102 (Keyboarding)	1
CIS 112 (Database Software)	3
[†] CIS 132 (Computer Programming Concepts)	3
2nd Semester	
CIS 150 (Computer Science I)	3
CIS 152 (Visual Basic Programming)	3
3rd Semester	
CIS 155 (Database Management Systems)	3
CIS 175 (Java Programming)	3
CIS 205 (Systems Analysis and Design)	3
CIS 250 (Computer Science II)	3
4th Semester	
CIS 167 (Discrete Structures)	3
CIS 267 (Beginning Game Programming)	3
CIS 268 (Assembly Language and Computer Architecture)	4
General Elective Courses	5
Total Degree Requirements	60 credits
Total Degree Cost	60 minimum billable contact hours

[†] Tech Prep course. See page 15.

¹ See the science alternatives listed on page 40.

COMPUTER INFORMATION SYSTEMS END USER SUPPORT SPECIALIST

Business Division

The associate of applied science degree in computer information systems with a program designation of end user support specialist is designed to provide an opportunity for students to acquire skills needed for an entry-level position supporting computer end-users in a business environment. The degree and accompanying certificate focus on the software side of end user support with the opportunity to further enhance skills by choosing other computer classes as electives.

Job opportunities include:

- End user support specialist
- Help desk specialist
- Software support specialist

	Credits
Required General Education Courses	16
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II) or ENGL 102 (Business Writing)	3
¹ MATH	3
POLSC 151 (Introduction to Political Science)	3
² Science Elective	4

Required Core Courses **31**

1st Semester	
ADMN 102 (Keyboarding)	1
[†] CIS 130 (Introduction to Computer Information Systems)	3
CIS 140 (Help Desk Concepts)	3
2nd Semester	
[†] CIS 109 (Spreadsheet Software)	3
CIS 142 (Help Desk Troubleshooting)	3
CIS 208 (PC Operating Systems)	3
WPR 102 (Word Processing I)	3
3rd Semester	
CIS 123 (PowerPoint Presentation Software)	3
CIS 209 (Network Concepts)	3
WPR 103 (Advanced Word Processing)	3
4th Semester	
CIS 112 (Database Software)	3

Additional CIS Required Electives **8**
(Recommended: PC support or system administration courses)

General Electives **5**

Total Degree Requirements **60 credits**
Total Degree Cost **60 minimum billable contact hours**

Certificate Program: Help Desk Specialist

This certificate program focuses on office application software and help desk skills that are essential for today's help desk and computer end user support professionals.

	Credits
Required Courses:	
ADMN 102 (Keyboarding)	1
[†] CIS 109 (Spreadsheet Software)	3
CIS 112 (Database Software)	3
CIS 123 (PowerPoint Presentation Software)	3
[†] CIS 130 (Introduction to Computer Information Systems)	3
CIS 140 (Help Desk Concepts)	3
CIS 142 (Help Desk Troubleshooting)	3
CIS 208 (PC Operating Systems)	3
CIS 209 (Network Concepts)	3
WPR 102 (Word Processing I)	3
WPR 103 (Advanced Word Processing)	3

Total Certificate Requirements **31 credits**
Total Certificate Cost **31 minimum billable contact hours**

*To earn the PC support technician certificate in addition to the AAS in end user support specialist, take CIS 132 and CIS 220 as additional CIS required electives.

*To earn the system administration specialist certificate in addition to the AAS in end user support specialist, take CIS 132, CIS 150 or CIS 152, CIS 216, CIS 228, CIS 230, CIS 234 and CIS 276 as electives.

[†] Tech Prep course. See page 15.

¹ BSMTH 101 (Business Mathematics), MATH 150 or higher. It is suggested that math be taken in the first semester.

² See the science alternatives listed on page 40.

COMPUTER INFORMATION SYSTEMS

PC SUPPORT TECHNICIAN

Business Division

The associate of applied science degree with specialization as a PC support technician is designed to train students in PC hardware maintenance and various PC operating systems.

Job opportunities include:

- PC technician
- Hardware support specialist

	Credits
Required General Education Courses	16
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II) or ENGL 102 (Business Writing)	3
¹ MATH	3
POLSC 151 (Introduction to Political Science)	3
² Science Elective	4

Required Courses **35**

1st Semester

ADMN 102 (Keyboarding)	1
† CIS 130 (Introduction to Computer Information Systems) . . .	3
† CIS 132 (Computer Programming Concepts)	3
CIS 140 (Help Desk Concepts)	3

2nd Semester

† CIS 109 (Spreadsheet Software)	3
CIS 142 (Help Desk Troubleshooting)	3
CIS 150 (Computer Science I) or CIS 152 (Visual Basic Programming)	3
CIS 209 (Network Concepts)	3

3rd Semester

CIS 205 (Systems Analysis & Design)	3
CIS 208 (PC Operating Systems)	3
† ELEC 125 (Fundamentals of Electricity)	3

4th Semester

CIS 220 (Hardware Maintenance)	4
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Additional Required CIS Electives **8**

General Elective Courses **1**
(As required to complete 60 hours)

Total Degree Requirements **60 credits**

Total Degree Cost **60 minimum billable contact hours**

Certificate Program:
PC Support Technician

This certificate program focuses on knowledge and skills that are essential for today's computer technicians.

	Credits
Required Courses	
ADMN 102 (Keyboarding)	1
† CIS 130 (Introduction to Computer Information Systems) . . .	3
† CIS 132 (Computer Programming Concepts)	3
CIS 140 (Help Desk Concepts)	3
CIS 142 (Help Desk Troubleshooting)	3
CIS 208 (PC Operating Systems)	3
CIS 209 (Network Concepts)	3
CIS 220 (Hardware Maintenance)	4

Total Certificate Requirements **23 credits**

Total Certificate Cost **23 minimum billable contact hours**

† Tech Prep course. See page 15.

¹ MATH 150 (Beginning Algebra) or a math course numbered higher than 150. It is suggested that math be taken in the first semester.

² See the science alternatives listed on page 40.

COMPUTER INFORMATION SYSTEMS SYSTEM ADMINISTRATION SPECIALIST

Business Division

The associate of applied science degree with specialization as a system administration specialist is designed to train students in LAN, Windows Server networking, hardware maintenance, data communication concepts, various PC operating systems and Web administration fundamentals.

Job opportunities include:

- Network operating systems specialist
- Network administration specialist
- System administrator

Required General Education Courses	Credits
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II) or ENGL 102 (Business Writing)	3
¹ MATH.	3
POLSC 151 (Introduction to Political Science)	3
² Science Elective	4

Required Courses	Credits
1st Semester	
ADMN 102 (Keyboarding)	1
[†] CIS 130 (Introduction to Computer Information Systems) . . .	3
[†] CIS 132 (Computer Programming Concepts)	3
CIS 140 (Help Desk Concepts)	3
2nd Semester	
CIS 150 (Computer Science I) or CIS 152 (Visual Basic Programming)	3
CIS 208 (PC Operating Systems)	3
CIS 209 (Network Concepts)	3
3rd Semester	
CIS 205 (Systems Analysis & Design)	3
CIS 228 (Linux Administration)	3
CIS 230 (Windows Server)	3
4th Semester	
CIS 216 (Introduction to Computer Security)	4
CIS 220 (Hardware Maintenance)	4
CIS 234 (Advanced Windows Server)	4
CIS 276 (Web Administration)	3

General Elective Courses **1**
(as required to complete 60 hours)

Total Degree Requirements **60 credits**
Total Degree Cost **60 minimum billable contact hours**

Certificate Program: System Administration Specialist

This certificate program focuses on knowledge and skills that are essential for those specializing in network software.

Required Courses	Credits
ADMN 102 (Keyboarding)	1
[†] CIS 130 (Introduction to Computer Information Systems) . . .	3
[†] CIS 132 (Computer Programming Concepts)	3
CIS 208 (PC Operating Systems)	3
CIS 209 (Network Concepts)	3
CIS 216 (Introduction to Computer Security)	4
CIS 228 (Linux Administration)	3
CIS 230 (Windows Server)	3
CIS 234 (Advanced Windows Server)	4
CIS 276 (Web Administration)	3

Total Certificate Requirements **30 credits**
Total Certificate Cost **30 minimum billable contact hours**

*To earn the PC support technician certificate along with an AAS system administration specialist program designation, you need to only take CIS 142.

*To earn the AAS PC support technician program designation along with an AAS system administration specialist program designation, you need to only take CIS 142, CIS 109 and ELEC 125. This means taking only three additional courses to earn both the AAS PC support technician program designation and the AAS system administration specialist program designation.

[†] Tech Prep course. See page 15.

¹ BSMTH 101 (Business Mathematics), MATH 150 or higher. It is suggested that math be taken in the first semester.

² See the science alternatives listed on page 40.

COMPUTER INFORMATION SYSTEMS

WEB DESIGN

Business Division

This associate of applied science degree with specialization in Web design is designed to train students as Web designers.

Job opportunities include:

- Entry-level Web design
- Web graphic design

	Credits
Required General Education Courses	19
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II) or ENGL 102 (Business Writing)	3
¹ MATH	3
POLSC 151 (Introduction to Political Science)	4
² Science Elective	4
[†] CIS 130 (Introduction to Computer Information Systems)	3

	Credits
Required Core Courses	36
Core 1	
ADMN 102 (Keyboarding)	1
CIS 172 (Web Design Concepts)	3
CIS 177 (Markup Languages)	3
CIS 182 (Illustrator Graphics)	3
CIS 184 (Photoshop Graphics)	3
WPR 102 (Word Processing I)	3
Core 2	
CIS 176 (Web Animation-Flash)	3
CIS 185 (Web Graphics)	3
CIS 186 (Multimedia Development: Adobe After Effects)	3
CIS 187 (Digital Video Editing) or CIS 189 (3D Animation: Maya)	3
Core 3	
CIS 174 (Dreamweaver Web Design)	3
Additional CIS Required Electives*	5

General Electives	5
<i>(suggested art elective)</i>	

Total Degree Requirements	60 credits
Total Degree Cost	60 minimum billable contact hours

Certificate Program: Web Design

This certificate program focuses on knowledge and skills for today's Web design professionals.

	Credits
Required Courses	
ADMN 102 (Keyboarding)	1
[†] CIS 130 (Introduction to Computer Information Systems)	3
CIS 172 (Web Design Concepts)	3
CIS 174 (Dreamweaver Web Design)	3
CIS 176 (Web Animation: Flash)	3
CIS 177 (Markup Languages)	3
CIS 182 (Illustrator Graphics)	3
CIS 184 (Photoshop Graphics)	3
CIS 185 (Web Graphics)	3
CIS 186 (Multimedia Development: Adobe After Effects)	3
CIS 187 (Digital Video Editing) or CIS 189 (3D Animation: Maya)	3

Total Certificate Requirements	31 credits
Total Certificate Cost	31 minimum billable contact hours

* To earn the graphic design digital media certificate with this AAS, take CIS 180, CIS 188, and two from ART 151, ART 160 and ART 165.

[†] Tech Prep course. See page 15.

¹ BSMTH 101 (Business Mathematics), MATH 150 or higher. It is suggested that math be taken in the first semester.

² See the science alternatives listed on page 40.

COMPUTER INFORMATION SYSTEMS WEB DEVELOPMENT

Business Division

This associate of applied science degree with specialization in Web development is designed to train students as Web developers.

Job opportunities include:

- Entry-level Web development
- Entry-level Web programming
- Entry-level Web database programming

	Credits
Required General Education Courses	19
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II) or ENGL 102 (Business Writing)	3
¹ MATH	3
POLSC 151 (Introduction to Political Science)	3
² Science Elective	4
[†] CIS 130 (Introduction to Computer Information Systems)	3
Required Core Courses	37
Core 1	
ADMN 102 (Keyboarding)	1
CIS 112 (Database Software)	3
[†] CIS 132 (Computer Programming Concepts)	3
CIS 177 (Markup Languages)	3
Core 2	
CIS 152 (Visual Basic Programming)	3
CIS 179 (Web Script Programming)	3
CIS 272 (Database Web Development)	3
CIS 274 (Advanced Database Web Development with ASP.NET)	3
Choose two from the following	
CIS 150 (Computer Science I)	3
CIS 155 (Database Management Systems)	3
CIS 175 (Java Programming)	3
Additional Required CIS electives	9
General Electives	4
Total Degree Requirements	60 credits
Total Degree Cost	60 minimum billable contact hours

Certificate Program: Web Development

This certificate program focuses on knowledge and skills for today's Web developers.

	Credits
Required Courses	
ADMN 102 (Keyboarding)	1
CIS 112 (Database Software)	3
[†] CIS 130 (Introduction to Computer Information Systems)	3
[†] CIS 132 (Computer Programming Concepts)	3
CIS 152 (Visual Basic Programming)	3
CIS 177 (Markup Languages)	3
CIS 179 (Web Script Programming)	3
CIS 272 (Database Web Development)	3
CIS 274 (Advanced Database Web Development with ASP.NET)	3

Choose two from the following

CIS 150 (Computer Science I)	3
CIS 155 (Database Management Systems)	3
CIS 175 (Java Programming)	3

Total Certificate Requirements **31 credits**
Total Certificate Cost **31 minimum billable
contact hours**

*To earn the computer programming database application development certificate with the Web development AAS, take CIS 150 and CIS 155 as your electives.

*To earn the computer programming application development certificate with the Web development AAS, take CIS 150, CIS 205 and any two of the following programming courses as your electives: CIS 175, CIS 250, CIS 252, CIS 267 or CIS 268.

[†] Tech Prep course. See page 15.

¹ BSMTH 101 (Business Mathematics), MATH 150 or higher. It is suggested that math be taken in the first semester.

² See the science alternatives listed on page 40.

CONSTRUCTION MANAGEMENT TECHNOLOGY

Industrial Technology Division

The associate of applied science degree with specialization in construction management technology is designed to provide individuals with a sound background for rewarding careers in the construction industry.

The program is structured to provide training in both the technical and business components of this industry. Technical courses examine the materials, processes and systems used in construction. The business courses teach basic business practices and computer skills.

The program will be valuable for students seeking entry-level positions as well as individuals who are currently in the construction field seeking to enhance their employment opportunities. Graduates of the program will have sufficient knowledge of the construction process to make a valuable contribution in both the field and office environment. They will be prepared for entry-level employment in the following areas:

- Assistant construction superintendent
- Construction inspector
- Quality control technician
- Estimator
- Land planning technician
- Architectural drafter
- Materials sales engineer
- Specifications writer trainee
- Structural engineering technician
- Construction supervisor

It should be noted that classes are offered on a rotating basis, but due to schedule conflicts may not be offered to allow a student to complete the program within two calendar years. Check with the Industrial Technology Division office for further information.

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

Construction management students who wish to pursue the 3+1 transfer program to Eastern Michigan University must meet with MCCC program faculty for alternate course selections before registering for classes.

	Credits
Required General Education Courses	
	22
ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition I)	3
¹ MATH.	6
POLSC 151 (Introduction to Political Science)	3
² Social Science/Humanities Elective	3
PHY 101, 151 or CHEM 150 or 151	4
[†] CIS 130 (Introduction to Computer Information Systems)	3
 Required Core Courses	
	43
1st Semester	
CONM 100 (Introduction to Design and Construction)	3
[†] CONM 101 (Materials of Construction)	3
2nd Semester	
CONM 102 (Construction Practices)	3
CONM 103 (Residence Drafting)	4
CONM 110 (Construction Blueprint Reading)	3
Spring	
CONM 107 (Surveying)	3
3rd Semester	
CONM 120 (Introduction to AutoCAD for Architecture) or	3
[†] MDTC 160 (Mechanical Drafting and CAD I)	4
METC 220 (Statics & Strength of Materials)	4
CONM 202 (Construction Safety)	3
4th Semester	
CONM 105 (Mechanical Building Systems)	4
ACCTG 110 (Applied Office Accounting)	3
CONM 240 (Construction Planning and Scheduling with Primavera)	3
 Additional Business	
	3
BMGT 201 (Principles of Management)	3
 Total Degree Requirements	
	65 credits
Total Degree Cost	
	80 minimum billable contact hours

[†] Tech Prep course. See page 15.

¹ See page 39 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.

² See the social science/humanities alternatives listed on page 39.

Certificate Program: Construction Management Technology

In addition to the two-year associate degree program, Monroe County Community College offers two certificate program options in construction management technology. We recognize that many employers place value on a certificate, which authenticates specialized educational preparation. The programs concentrate upon core courses with skill development and job upgrading being the primary objectives. All courses taken in the certificate programs are applicable toward one of the associate degrees of applied science degrees.

Option 1: Residential and Light Commercial Construction

The residential and light commercial construction certificate is for students who have limited construction background. The courses develop the basic skills necessary to gain entry-level employment with residential and light commercial contractors.

	Credits
CONM 100 (Introduction to Design and Construction)	3
† CONM 101 (Materials of Construction)	3
CONM 102 (Construction Practices)	3
CONM 103 (Residence Drafting)	4
CONM 105 (Mechanical Building Systems)	4
CONM 107 (Surveying)	3
CONM 110 (Construction Blueprint Reading)	3
CONM 120 (Introduction to AutoCAD for Architecture)	3
CONM 202 (Construction Safety)	3
MATH (Mathematics)	4
METC 220 (Statics & Strength of Materials)	4

Total Certificate Requirements 37 credits
Total Certificate Cost 49 minimum billable contact hours

Option 2: Heavy and Industrial Construction

The heavy and industrial construction certificate is designed for more experienced construction personnel who wish to upgrade skills to gain management positions with large industrial employers.

	Credits
CONM 110 (Construction Blueprint Reading)	3
CONM 202 (Construction Safety)	3
CONM 240 (Planning & Scheduling with Primavera)	3
CONM 244 (Construction Estimating)	3
METC 220 (Statics & Strength of Materials)	4
CONM 242 (Construction Documents & Law)	3
CONM 248 (Case Studies in Construction)	1
CONM 107 (Surveying)	3
† MDTC 160 (Mechanical Drafting & CAD 1) or CONM 120 (Intro to AutoCAD for Architecture)	4
MATH 151 (Intermediate Algebra)	4

Total Certificate Requirements 31 credits
Total Certificate Cost 35 minimum billable contact hours

† Tech Prep course. See page 15.

CRIMINAL JUSTICE/LAW ENFORCEMENT

Humanities/Social Sciences Division

Criminal Justice

This associate of applied science program prepares students for employment in criminal justice positions that require an associate degree or for transfer to baccalaureate programs in criminal justice. Students planning to transfer should consult both their MCCC advisor and the transfer school for assistance in selecting appropriate electives.

Law Enforcement

This associate of applied science program prepares students for employment in law enforcement positions requiring both an associate degree and Michigan Commission on Law Enforcement Standards (MCOLES) certification (www.michigan.gov/mcoles). Monroe County Community College students may take the Police Academy at the Schoolcraft College, Radcliff Campus in Garden City.

The following steps will need to be completed:

1. Students must apply and be admitted to Schoolcraft College.
2. Students must have their official transcript sent to Schoolcraft College.
3. Students are required to contact Schoolcraft College's Radcliff Campus Police Academy Office for application materials before the end of the second semester at Monroe County Community College. Call the Public Safety Education Office at Schoolcraft at 734-462-4747 for information and application materials.
4. Students must complete the general education and required core courses at Monroe County Community College with a minimum 2.0 cumulative GPA prior to entering the Police Academy.
5. Schoolcraft College Police Academy is a qualifying admission program. Applicants must meet the requirement in order to be accepted.
6. Applicants must successfully pass the MCOLES pre-enrollment reading and writing test and the pre-enrollment physical agility test.
7. After meeting these requirements, along with a successful interview, criminal history check and driving record check, qualified students will be admitted into the course.

Credits

Required General Education Courses **16-17**

ENGL 151 (English Composition I)	3
POLSC 151 (Introduction to Political Science)	3
Math (MATH 151 or higher)	3-4
Science (with lab)	4
† CIS 130 (Introduction to Computer Information Systems)	3

Required Core Courses **30**

1st Semester	
POLSC 154 (Introduction to Law Enforcement)	3
SOC 151 (Introduction to Sociology).	3
SPCH 151 (Communication Fundamentals)	3
2nd Semester	
ENGL 155 (Technical Writing)	3
PSYCH 151 (General Psychology)	3
SOC 170 (Introduction to Corrections)	3
3rd Semester	
POLSC 251 (Criminal Law)	3
POLSC 255 (Police Organization and Administration)	3
SOC 252 (Juvenile Delinquency)	3
PSYCH 152 (Psychology of Personality & Adjustment)	3

Criminal Justice Option

4th Semester	
SOC 251 (Modern Social Problems)	3
PSYCH 153 (Social Psychology)	3
SPCH 155 (Interpersonal Communication)	3
* Elective	3
* Elective	3
Total	15

Total Degree Requirements 61-62 credits

Total Degree Cost 61 minimum billable contact hours

* Elective courses should be selected in consultation with an advisor.

Law Enforcement Option

4th Semester	
Police Academy (CJ 286 at Schoolcraft College)	21

Total Degree Requirements 68 credits

Total Degree Cost 68 minimum billable contact hours

† Tech Prep course. See page 15.

CULINARY SKILLS AND MANAGEMENT

Business Division

The associate of applied science degree with specialization in culinary skills and management and the culinary skills and management certificate program are designed to prepare students for careers in the food service industry. Labor market projections indicate that opportunities for trained cooks and chefs are expected to increase in the years ahead.

Students in the culinary skills and management program take college courses to gain knowledge and skills in cooking and restaurant operation. They receive hands-on experience operating the Cuisine 1300 Restaurant located on the MCCC campus and also gain experience in banquet operations, catering and kitchen management.

Graduates of this program are prepared to accept jobs as cooks and chefs in hotels, fine dining restaurants, resorts and institutions. The work is demanding and the hours are long; however, job security, promotions and good salaries reward the energetic worker.

Students are required to purchase their own uniforms, knives, tools and books. It is recommended that students have food service experience prior to enrollment in the program at MCCC.

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses. Students are required to take the CSM courses in the order listed; however, the remaining courses required for the degree may be selected in accordance with the college schedule and advisor recommendations.

Students are reminded that CSM 111 (Food Sanitation) must be completed successfully before they may enroll in CSM 101A-D. CSM 111 is offered in the six-week summer session immediately preceding fall semester.

	Credits
Required General Education Courses	19
ENGL 151 (English Composition I)	3
BSMTH 101 (Business Math)	3
POLSC 151 (Introduction to Political Science)	3
¹ Social Science/Humanities Elective	3
² Science Elective	4
[†] CIS 130 (Introduction to Computer Information Systems)	3

	Credits
Required Core Courses	44
Pre-1st Semester	
³ CSM 111 (Food Sanitation)	2
1st Semester	
CSM 101 (Food Preparation I)	
CSM 101A (Introduction to Culinary Arts)	4
CSM 101B (Basic Restaurant Production)	2
CSM 101C (Baking I)	2
CSM 101D (Soups, Stocks, Sauce Production)	2
2nd Semester	
CSM 116 (Food Preparation II)	
CSM 116A (Introduction to Buffet Preparation)	4
CSM 116B (Beginning Pastries)	2
CSM 116C (Baking II)	2
CSM 116D (Institutional Food Preparation)	2
Spring Semester	
CSM 114 (Nutrition)	2
3rd Semester	
CSM 201 (Advanced Food Preparation I)	
CSM 201A (Introduction to Hospitality Industry)	2
CSM 201B (Dining Room Procedures)	1
CSM 201C (Menu Planning)	1
CSM 201D (Purchasing and Receiving)	1
CSM 201E (a la Carte Food Preparation)	3
4th Semester	
CSM 216 (Advanced Food Preparation II)	
CSM 216A (Garde Manger)	2
CSM 216B (Menu Planning)	1
CSM 216D (Advanced Buffet Preparation)	3
CSM 216E (Contemporary Food Design & Architecture)	2
CSM 119 (Bar Management)	1
CSM 207 (Restaurant Management and Supervision)	3
Total Degree Requirements	63 credits
Total Degree Cost	79 minimum billable contact hours

[†] Tech Prep course. See page 15.

¹ See the social science/humanities alternatives listed on page 39.

² See the science alternatives listed on page 40.

³ CSM 111 is offered during the summer session and must be completed successfully before the student enrolls in CSM 101A-D.

EARLY CHILDHOOD DEVELOPMENT

Science/Mathematics Division

The Monroe County Community College program in early childhood development is committed to the training and professional development of students dedicated to the care and education of young children. Through experiential learning, students plan and implement activities appropriate to the developing child, from birth through age 8. Students also demonstrate knowledge in creating and administering a safe, healthy environment which uses developmentally appropriate curriculum practices. A primary goal of this program is to develop attitudes and values in students that are indicative of caring, competent and committed early childhood professionals. It provides a theoretical base in the growth and development of young children and early childhood curricula and activities. The externship experiences with young children facilitate the development of skills needed to implement a curriculum that fosters the motor, cognitive, social and emotional development of the child.

The early childhood development associate of applied science degree program prepares the student to work in a variety of early childhood settings. The associate degree program prepares individuals for staff placement in:

- Child care centers
- Family daycare
- Head Start centers
- Nursery schools
- Public schools' Latchkey programs
- Other programs involved in the care and guidance of children and their families.

Graduates of the associate degree program meet the educational requirements for child care center program directors as specified by the State of Michigan Child Day Care Center Licensing Regulations.

Credits

Required Core Courses

32

Fall Semester (First Year)

ECDV 105 (Child Growth and Development)	3
ECDV 150 (Nutrition, Health & Safety for Early Childhood Education)	3

Winter Semester (First Year)

ECDV 106 (Observing & Recording Child Behavior)	3
ECDV 107 (Programs for Young Children - Birth to Age 5)	5
HPE 151 (First Aid and Safety)	2

Fall Semester (Second Year)

ECDV 207 (Methods & Materials for Early Childhood Education)	5
PSYCH 156 (The Exceptional Person)	3

Winter Semester (Second Year)

ECDV 210 (Administration of Child Care Programs)	3
ECDV 218 (Early Childhood Development Externship)	5

Elective Courses

1

(If needed to complete required total credit hours)

Suggested Elective Courses

ENGL 102 (Business Writing)	3
ENGL 152 (English Composition II)	3
PSYCH 254 (Life Span Psychology)	3
SOC 152 (Marriage and the Family)	3
SPCH 151 (Communication Fundamentals)	3
SWK 106 (Child Welfare)	3
SWK 151 (Introduction to Social Services)	3

Total Degree Requirements

60 credits

Total Degree Cost

60 minimum billable contact hours

- ¹ BSMTH 101 (Business Mathematics), or MATH 150 (Beginning Algebra) or higher.
- ² See science alternatives listed on page 40.
- ³ See computer skills alternatives listed on page 40.

Credits

Required General Education Courses

27

ENGL 101 (Written & Oral Communication) or ENGL 151 (English Composition I)	3
¹ MATH	3
POLSC 151 (Introduction to Political Science)	3
PSYCH 151 (General Psychology)	3
PSYCH 251 (Child Psychology)	3
² Science Elective	4
³ Computer Skills Elective	2

Two of the following courses

6

ART 158 (Art for Elementary Teachers)	3
ENGL 256 (Children's Literature)	3
MUSIC 165 (Music for Classroom Teachers)	3

ELECTRONICS AND COMPUTER TECHNOLOGY

Industrial Technology Division

Associate of applied science degree graduates with specialization in electronics technology typically find employment as engineering aides, laboratory technicians and field service representatives. Many graduates transfer to nearby universities which offer a bachelor of engineering technology or bachelor of applied science degree on a “2+2” basis – two years at the community college and two years at the university. These graduates generally obtain engineering positions and often advance into management.

The program provides a solid foundation in general electronics in the first three semesters and moves into some currently and regionally important specialized areas in the fourth semester. Throughout, the program maintains a commitment of “hands-on” laboratory applications to support and reinforce theoretical discussions of circuits. To this end, the Electronics II course includes the construction of a finished electronic instrument which students may keep at their option. Graduates of this program will be prepared for entry-level employment in the following areas:

- Computer maintenance technician
- Electrical designer
- Electromechanical technician
- Electronic systems test technician
- Electronics technician
- Engineering aide
- Field service technician

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

Required General Education Courses	Credits
ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition I)	3
¹ MATH	6
POLSC 151 (Introduction to Political Science)	3
² PHY 101, 151, or CHEM 150 or 151	4
³ Social Science/Humanities Elective	3

Required Core Courses	Credits
1st Semester	
† ELEC 125 (Fundamentals of Electricity)	3
† ⁴ MDTC 160 (Mechanical Drafting and CAD I)	4
2nd Semester	
† ELEC 132 (Electronics I)	4
† ELEC 135 (Digital Electronic Logic)	4
ELEC 141 (Industrial Automation and Process Control)	3
3rd Semester	
ELEC 133 (Circuit Analysis)	4
ELEC 137 (Microprocessors)	4
ELEC 200 (Electronic & Electrical Troubleshooting)	4
4th Semester	
ELEC 130 (Introduction to Programmable Logic Controllers)	3
ELEC 136 (Instrumentation)	3
ELEC 138 (Machinery and Power Control)	4
ELEC 144 (PC-Based Data Acquisition and Control)	2
Total Degree Requirements	61 credits
Total Degree Cost	80 minimum billable contact hours

† Tech Prep course. See page 15.
¹ See page 39 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.
² Electronics and computer technology students are strongly encouraged to take PHY 101 or 151.
³ See the social science/humanities alternatives listed on page 39.
⁴ Meets computer skills requirement.

FINE ARTS

Humanities/Social Sciences Division

The associate of fine arts degree with specialization in fine arts is designed to provide the student with an excellent foundation upon which to build a profession or an avocation. In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

	Credits
Required General Education Courses	15-16
ENGL 151 (English Composition I)	3
¹ MATH	3
POLSC 151 (Introduction to Political Science)	3
² Science (with Lab)	4
³ Computer Skills Elective.	2-3
Required Core Courses	45
1st Semester	
ART 151 (Art Fundamentals).	3
ART 180 (Drawing I)	3
ART 280 (Art History: Prehistoric to Gothic) or ART 281 (Art History: Renaissance to Baroque) or ART 282 (Art History: Neo-classic to Modern)	3
⁴ Social Science Elective	3
2nd Semester	
ART 160 (2-D Design)	3
ART 181 (Drawing II).	3
ENGL 152 (English Composition II)	3
HUMAN 152 (Exploring Creativity)	3
3rd Semester	
ART 165 (Illustration Techniques)	3
ART 270 (Ceramics I)	3
ART 190 (Painting I) or ART 250 (Watercolor Painting I)	3
ART 170 (Life Drawing)	3
4th Semester	
ART 271 (Ceramics II)	3
ART 191 (Painting II) or ART 251 (Watercolor Painting II)	3
ART 280 (Art History: Prehistoric to Gothic) or ART 281 (Art History: Renaissance to Baroque) or ART 282 (Art History: Neo-classic to Modern)	3
Total Degree Requirements	60-61 credits
Total Degree Cost	90 minimum billable contact hours

¹ See the mathematics alternatives listed on page 40.

² See the science alternatives listed on page 40.

³ See the computer skills alternatives listed on page 40.

⁴ Suggested social science electives: PSYCH 151 (General Psychology), SOC 151 (Principles of Sociology).

GENERAL TECHNOLOGY

Industrial Technology Division

The associate of applied science degree with specialization in general technology is designed to provide students with an educational opportunity to earn an associate of applied science degree which can be molded to fit individual needs and interests. Examples include those who have been in an apprenticeship program, individuals working in an industry who want to design a degree which supports their job-related responsibilities or those who want to prepare themselves for a technical career which does not follow one of the college's existing programs.

A basic core of technical courses is required. However, if the student's needs or interests are better served by other technical subjects, the core can be customized. Students must, however, complete a basic core of 12 credit hours in a defined program area (manufacturing, welding, etc.). This area will be selected by the student.

The program provides wide latitude under the technical electives. Students may choose from management courses, computer information systems courses or any technical course offered through the Division of Industrial Technology.

Students with apprenticeship training who wish to apply that training toward a degree should see the "Requirements for the Associate of Applied Science Degree-AAS" entry in Graduation and Degree Requirements section of this catalog.

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required specialized courses.

This program is also applicable to the student who has enrolled in one of the other industrial technology programs but because of scheduling conflicts and work schedules has not been able to complete the entire program sequence. Often these students can apply for an associate of applied science degree in general technology. When they complete the courses in one of the other programs at the college, an additional program designation can be added to their transcript.

Required General Electives **Credits**
7

Total Degree Requirements **60 credits**
Total Degree Cost **60 minimum billable contact hours**

- ¹ See page 39 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.
- ² See the social science/humanities alternatives listed on page 39.
- ³ See the computer skills alternatives listed on page 40.

	Credits
Required General Education Courses	21
ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition I)	3
¹ MATH	6
POLSC 151 (Introduction to Political Science)	3
² Social Science/Humanities Elective	3
PHY 101, 151, or CHEM 150 or 151	4
³ Computer Skills Elective	2

Required Technical and Specialty Courses **32**

GRAPHIC DESIGN

Business Division

This associate of applied science degree has two concentrations: digital media and illustration.

Job opportunities include:

- Graphic designer
- Illustration designer

	Credits
Required General Education Courses	19
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II) or ENGL 102 (Business Writing)	3
¹ MATH	3
POLSC 151 (Introduction to Political Science)	3
² Science Elective	4
[†] CIS 130 (Introduction to Computer Information Systems)	3

Required Core Courses	16
ADMN 102 (Keyboarding)	1
ART 151 (Art Fundamentals) or ART 160 (Two Dimensional Design) or ART 165 (Illustration Techniques)	6
CIS 180 (Graphic Design Concepts)	3
CIS 182 (Illustrator Graphics)	3
CIS 184 (Photoshop Graphics)	3

Digital Media Concentration	25
CIS 185 (Web Graphics)	3
CIS 186 (Multimedia Development: Adobe After Affects)	3
CIS 187 (Digital Video Editing)	3
CIS 188 (InDesign Desktop Publishing)	3
CIS 189 (3D Animation: Maya)	3
General Electives (Additional ART, CIS Web courses, HUMAN 152 or MCOM 201 recommended)	10

OR

Illustration Concentration	25
ART 151 or ART 160 or ART 165 (not previously taken)	3
ART 170 (Life Drawing)	3
ART 180 (Drawing I)	3
ART 280 (Art History: Prehistoric to Gothic) or ART 281 (Art History: Renaissance to Baroque) or ART 282 (Art History: Neo-Classical to Early Modern)	3
HUMAN 152 (Exploring Creativity)	3
General CIS/MCOM/ART Required Electives (Choose from ART 181, CIS 185, CIS 186, CIS 187, CIS 188, CIS 189 and MCOM 201)	10

Total Degree Requirements	60
Total Degree Cost	65 minimum billable contact hours

Certificate Programs: Graphic Design-Digital Media

Required Courses	Credits
ADMN 102 (Keyboarding)	1
ART 151 (Art Fundamentals) or ART 160 (Two-Dimensional Design) or ART 165 (Illustrative Techniques)	6
[†] CIS 130 (Introduction to Computer Information Systems)	3
CIS 180 (Graphic Design Concepts)	3
CIS 182 (Illustrator Graphics)	3
CIS 184 (PhotoShop Graphics)	3
CIS 188 (InDesign Desktop Publishing)	3

Select any three of the following four courses:

CIS 185 (Web Graphics)	3
CIS 186 (Multimedia Development: Adobe After Affects)	3
CIS 187 (Digital Video Editing)	3
CIS 189 (3D Animation-Maya)	3

Total Certificate Requirements	31 credits
Total Certificate Cost	37 minimum billable contact hours

Graphic Design-Illustration

Required Courses	
ADMN 102 (Keyboarding)	1
ART 151 (Art Fundamentals)	3
ART 160 (Two-Dimensional Design) or ART 165 (Illustrative Techniques) or ART 170 (Life Drawing)	6
ART 180 (Drawing I)	3
[†] CIS 130 (Introduction to Computer Information Systems)	3
CIS 180 (Graphic Design Concepts)	3
CIS 182 (Illustrator Graphics)	3
CIS 184 (PhotoShop Graphics)	3
HUMAN 152 (Exploring Creativity)	3

Total Certificate Requirements	28 credits
Total Certificate Cost	40 minimum billable contact hours

To earn the Web design certificate in addition to the AAS in graphic design-digital media, take CIS 172, CIS 174, CIS 176 and CIS 177 as general electives.

To earn the graphic design-illustration certificate in addition to the AAS in graphic design-digital media, take ART 180, HUMAN 152 and take an additional ART class from ART 151, ART 160, ART 165, or ART 170 (not already taken as general electives).

To earn the graphic design-digital media certificate in addition to the AAS in graphic design-illustration, take CIS 188 and any three of the following as general electives: CIS 185, CIS 186, CIS 187 or CIS 189.

[†] Tech Prep course. See page 15.

¹ BSMTH 101 (Business Mathematics), MATH 150 or higher. It is suggested that math be taken in the first semester.

² See the science alternatives listed on page 40.

INDUSTRIAL ELECTRICITY/ELECTRONICS TECHNOLOGY

Industrial Technology Division

The associate of applied science degree with specialization in industrial electricity/electronics technology is designed to provide the theory and application of principles, procedures and components that technicians encounter in modern industrial environments. Subject matter ranges from fundamental electrical, electronic and digital theory to process control of automated systems. The program also stresses effective oral and written communication as well as related mathematics and science.

The program is supported by application of theoretical concepts via laboratory exercises in modern, well-equipped facilities. The emphasis of the program is to provide students with the knowledge and skills needed to function effectively in the increasingly technical environment of modern industry.

Electrical apprentices will find this program to be an attractive way to utilize the credits they have earned while pursuing their journeyman status to complete an associate of applied science degree. Other individuals who are working in industrial-electrical/electronics environments will also find it to be a meaningful path to an associate of applied science degree. Graduates of this program will be prepared for entry-level employment in the following areas:

- Industrial electrician
- Electromechanical technician
- Industrial sales technician
- Field service technician
- Automated systems technician

It should be noted that many of the specialty courses from the program are available only in the evening. They are offered on a sequential basis, which will make completion of the program exceed two calendar years. Check with the Industrial Technology Division Office for further information.

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

Required General Education Courses Credits 21

ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition I)	3
¹ MATH	6
POLSC 151 (Introduction to Political Science)	3
² SPCH 151 or Social Science/Humanities Elective	3
³ PHY 101, 151, or CHEM 150 or 151	4
⁴ Computer Skills Elective	2

Required Core Courses Credits 41

1st Semester	
[†] ELEC 125 (Fundamentals of Electricity)	3
MECH 130 (Introduction to Automated Manufacturing)	3
2nd Semester	
[†] ELEC 132 (Electronics I)	4
[†] ELEC 135 (Digital Electronic Logic)	4
ELEC 141 (Industrial Automation and Process Control)	3
(even-numbered years)	
3rd Semester	
ELEC 127 (AC/DC Motors)	3
ELEC 130 (Introduction to Programmable Logic Controllers)	3
ELEC 133 (Circuit Analysis)	4
ELEC 137 (Microprocessors)	4
4th Semester	
ELEC 144 (PC-Based Data Acquisition and Control)	2
ELEC 214 (National Electrical Code)	2
ELEC 211 (Medium Voltage Power Distribution Systems)	3
ELEC 136 (Instrumentation)	3

Total Degree Requirements	62 credits
Total Degree Cost	77 minimum billable contact hours

[†] Tech Prep course. See page 15.
¹ See page 39 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.
² See the social science/humanities alternatives listed on page 39.
³ Industrial electricity/electronics students are strongly encouraged to take PHY 101 or 151.
⁴ See the computer skills alternatives listed on page 40. Students who pass the computer skills assessment test may substitute CIS 208 (PC Operating Systems - 3 credit hours).

INDUSTRIAL MANAGEMENT-PLANT

Industrial Technology Division

The industrial management-plant program at Monroe County Community College is designed to prepare students for careers in entry-level to middle management. Successful graduates will qualify for positions as foremen, supervisors and office managers.

Job responsibilities may include coordinating activities of departments, such as production, distribution, engineering, design, data processing, maintenance and human resources. Duties might include planning and developing human resources programs or review of existing programs in such areas as inventory control, scheduling, purchasing, billing, cost, budgeting, and/or research and development.

To receive the associate of applied science degree with an industrial management plant designation, students must complete the required general education courses as well as the required core courses for the specific program.

Graduates of this program will be prepared for entry-level employment in the following areas:

- Estimator
- Sales
- Supervisor
- Production control supervisor
- Personnel or industrial relations
- Human resources

Required General Education Courses	Credits
	21
ENGL 151 (English Composition I) or ENGL 101 (Written and Oral Communication)	3
¹ MATH	6
POLSC 151 (Introduction to Political Science)	3
² Social Science/Humanities Elective	3
PHY 101, 151, or CHEM 150 or 151	4
³ Computer Skills Elective	2
 Required Core Courses	 12
BMGT 201 (Principles of Management)	3
QSTC 111 (Quality Management)	3
METC 100 (Introduction to Engineering & Technology)	3
MDTC 228 (Introduction to Solid Modeling-SolidWorks) or CONM 120 (Intro to AutoCAD for Architecture)	3

Additional Required Technology Courses	Credits
32	
<i>(Select from technology electives listed below)</i>	
[†] ELEC 125 (Fundamentals of Electricity)	3
MATL 101 (Industrial Materials)	3
MDTC 109 (Mechanical Blueprint Reading)	2
^{3†} MDTC 160 (Mechanical Drafting and CAD I)	4
MDTC 161 (Mechanical Drafting and CAD II)	4
MDTC 226 (Geometric Dimensioning & Tolerancing)	3
MECH 102 (Manufacturing Processes)	4
[†] MECH 103 (Machining Basics and CNC)	4
MECH 111 (Introduction to Fluid Power)	3
MECH 131 (Introduction to Automated Manufacturing)	3
METC 220 (Statics & Strength of Materials)	4
QSTC 120 (Introduction to Quality Systems)	3
WELD 100 (Introduction to Welding Processes)	4
WELD 102 (Advanced SMAW)	6
WELD 216 (Basic Pipefitting)	4
or other electives approved by the division dean	

Total Degree Requirements	65 credits
Total Degree Cost	108 minimum billable contact hours

[†] Tech Prep course. See page 15.
¹ See page 39 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.
² See the social science/humanities alternatives listed on page 39.
³ Meets computer skills requirement. If MDTC 160 is not taken, See the computer skills alternatives listed on page 40.

MECHANICAL DESIGN TECHNOLOGY

Industrial Technology Division

The associate of applied science degree with specialization in mechanical design technology is designed to prepare students for careers that follow the design process of a manufactured product from inspiration to final production. Automobiles, furniture, kitchen appliances, laptop computers, cell phones – the list of consumer products designed by people in this field could go on forever.

Mechanical design students receive training in the latest solid-modeling computer aided design (CAD) software. The CAD programs utilized in the design program are AutoCAD, Inventor, SolidWorks and Catia. Possessing skills and knowledge in multiple CAD programs make our design graduate more marketable – it is all about having an edge.

Mechanical design is a dynamic field that attracts talented, creative people. The need for advanced technology products in the medical, transportation and energy fields, as well as the growing global competition among businesses is expected to keep designers busy.

According to the Bureau of Labor Statistics, employment of commercial and industrial designers is expected to grow 9 percent between 2008 and 2018, as fast as the average for all occupations. Employment growth will arise from an increase in consumer and business demand for new or upgraded products.

Typical mechanical design titles include:

- Drafter
- CAD operator
- Product designer
- Industrial designer
- Mechanical designer
- Field technician
- Technical sales representative
- Research and development technician

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

	Credits
Required General Education Courses	
	19
ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition I)	3
¹ MATH.	6
POLSC 151 (Introduction to Political Science)	3
² Social Science/Humanities Elective	3
³ PHY 101 or 151, or CHEM 150 or 151.	4
 Required Core Courses	
	46
1st Semester	
^{4†} MDTC 160 (Mechanical Drafting and CAD I).	4
MECH 103 (Machining Basics and CNC)	4
2nd Semester	
MDTC 161 (Mechanical Drafting and CAD II)	4
MDTC 152 (Descriptive Geometry)	4
MECH 102 (Manufacturing Processes)	4
Winter or Spring Semester	
MECH 201 (CAD/CAM I)	3
3rd Semester	
MDTC 226 (Geometric Dimensioning and Tolerancing)	3
MDTC 228 (Introduction to Solid Modeling-SolidWorks)	3
METC 220 (Statics & Strength of Materials)	4
MATL 101 (Industrial Materials).	3
4th Semester	
MDTC 242 (Mechanical Design Capstone Project)	4
METC 170 (Introduction to Parametric CAD/CATIA)	3
QSTC 150 (Intro to Metrology)	3
 Total Degree Requirements	
	65 credits
Total Degree Cost	
	86 minimum billable contact hours

[†] Tech Prep course. See page 15.

¹ See page 39 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.

² See the social science/humanities alternatives listed on page 39.

³ Mechanical Design Technology students are strongly encouraged to take PHY 101 or 151.

⁴ Meets computer skills requirement.

NUCLEAR ENGINEERING TECHNOLOGY

Industrial Technology Division

The associate of applied science degree with specialization in nuclear engineering technology will enable prospective students to seek employment as nuclear engineering technicians in various sectors of the nuclear power industry. This specialization utilizes a learning approach that emphasizes both theory and hands-on skills necessary to function effectively in the technical environment of the nuclear industry. The program stresses effective oral and written communication as well as related mathematics, science and technical skills.

The program is based on the Nuclear Uniform Curriculum, a uniform standard administered by the Nuclear Energy Institute. Students who complete the program with an 80 percent score (B or better) in core classes will qualify for the Nuclear Uniform Curriculum Certificate, which is recognized industry wide.

Graduates of this program will be prepared for entry-level employment in the following areas:

- Mechanical technician
- Electrical technician
- Instrumentation and control (I&C) technician

Graduates with additional training experiences will be prepared for employment in the following areas:

- Radiation protection technician
- Non-licensed operator
- Senior reactor operator

In addition to completion of this program, graduates will eventually need to pass appropriate background checks to be employable in the nuclear industry. Please check with the Admissions Office for details.

It is strongly recommended that students follow the prescribed course sequence, as some courses are only offered once in an academic year.

Required General Education Courses	Credits
	18/19
ENGL 151 (English Composition 1)	3
ENG 155 (Technical Writing)	3
POLSC 151 (Introduction to Political Science)	3
MATH 160 (Math Applications in Engineering Technology)	2
MATH 164 (Precalculus)*	4
† CIS 130 (Introduction to Computer Information Systems) or	
† MDTC 160 (Mechanical Drafting and CAD I)	3/4

Required Core Courses	Credits
1st Semester	
PHY 151 (General Physics I)	4
MATH 164 (Precalculus)*	4
METC 100 (Intro to Engineering & Technology)	3
NUET 100 (Nuclear Industry Fundamentals)	2
† MDTC 160 (Mechanical Drafting and CAD I) or	
† CIS 130 (Intro to Computer Information Systems)	4/3

2nd Semester	
ENGL 151 (English Composition 1)	3
NUET 120 (Radiation Protection)	3
NUET 130 (Plant Systems I)	3
† ELEC 125 (Fundamentals of Electricity)	3
MATL 121 (Nuclear Plant Materials)	3

Summer Semester	
NUET 205 (Nuclear Plant Experience)	2
ENGL 155 (Technical Writing)	3

3rd Semester	
CHEM 151 (Chemistry)	4
MATH 160 (Math Applications in Engineering Technology)	2
ELEC 133 (Circuit Analysis)	4
METC 234 (Thermodynamics and Fluid Sciences)	4
NUET 230 (Plant Systems 2)	3

4th Semester	
ELEC 141 (Industrial Automation and Process Control)	3
NUET 240 (Reactor Theory, Safety and Design)	3
NUET 220 (Power Plant Components)	3
POLSC 151 (Political Science)	3
ELEC 211 (Medium Voltage Power Distribution System)	3

Total Degree Requirements	68 or 69 credits
Total Degree Cost	86/89 minimum billable contact hours

*MATH 157 and MATH 159 may substitute for MATH 164.

† Tech Prep course. See page 15.

METROLOGY TECHNOLOGY

Industrial Technology Division

The associate of applied science degree with specialization in metrology technology (precision measurement) is designed to meet the precision measurement needs of industry by preparing graduates through both theoretical and hands-on laboratory work to successfully enter the work force. Metrology is used throughout the world in such areas as telecommunications, manufacturing, electrical power, aerospace, transportation, medicine, pharmaceuticals, food production, packaging, construction, national defense, atmospheric research and environmental protection. The metrology technology program at MCCC emphasizes dimensional metrology for the manufacturing industry. Individuals with dimensional metrology skills, especially coordinate measuring machine (CMM) operators, are in high demand. MCCC is one of only a handful of colleges offering a program in dimensional metrology technology (one of only two in Michigan).

Graduates of this program will be prepared for employment in the following areas:

- Field service technician
- Inspection
- Lab technician
- Layout inspector
- Metrologist
- Metrology technician
- Quality assurance
- Quality control
- Testing technician

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

Required General Education Courses	Credits
ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition 1)	3
¹ MATH	6
POLSC 151 (Introduction to Political Science)	3
² Social Science/Humanities Elective	3
PHY 101, 151 or CHEM 150 or 151	4
[†] CIS 130 (Introduction to Computer Information Systems)	3

Credits 40

Required Core Courses	
1st Semester	
MATL 101 (Industrial Materials)	3
MECH 103 (Machining Basics and CNC)	4
[†] MDTC 160 (Mechanical Drafting and CAD I)	4
2nd Semester	
MDTC 226 (Geometric Dimensioning and Tolerancing)	3
MECH 102 (Manufacturing Processes)	4
QSTC 111 (Quality Management)	3
3rd Semester	
METC 220 (Statics & Strength of Materials)	4
QSTC 150 (Introduction to Metrology)	3
4th Semester	
[†] ELEC 125 (Fundamentals of Electricity)	3
ENGL 155 (Technical Writing)	3
QSTC 210 (Advanced Metrology)	3
QSTC 220 (Calibration and Gage R & R)	3

Total Degree Requirements 62 credits
Total Degree Cost 76 minimum billable contact hours

Certificate Program: Metrology Technology

In addition to the two-year associate degree program, Monroe County Community College offers a certificate program in metrology technology. We recognize that many employers place value on a certificate which authenticates specialized educational preparation. The program concentrates upon basic core courses with skill development and job upgrading being the primary objectives. All courses taken in the certificate program are applicable toward the associate of applied science degree.

MATL 101 (Industrial Materials)	3
[†] MDTC 160 (Mechanical Drafting and CAD I)	4
MDTC 226 (Geometric Dimensioning and Tolerancing)	3
MECH 102 (Manufacturing Processes)	4
[†] MECH 103 (Machining Basics and CNC)	4
MATH (Mathematics)	4
QSTC 150 (Introduction to Metrology)	3
QSTC 210 (Advanced Metrology)	3
QSTC 220 (Calibration and Gage R & R)	3

Total Certificate Requirements 31 credits
Total Certificate Cost 41 minimum billable contact hours

[†] Tech Prep course. See page 15.

¹ See page 39 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.

² See the social science/humanities alternatives listed on page 39.

NUCLEAR ENGINEERING TECHNOLOGY

Industrial Technology Division

The associate of applied science degree with specialization in nuclear engineering technology will enable prospective students to seek employment as nuclear engineering technicians in various sectors of the nuclear power industry. This specialization utilizes a learning approach that emphasizes both theory and hands-on skills necessary to function effectively in the technical environment of the nuclear industry. The program stresses effective oral and written communication as well as related mathematics, science and technical skills.

The program is based on the Nuclear Uniform Curriculum, a uniform standard administered by the Nuclear Energy Institute. Students who complete the program with an 80 percent score (B or better) in core classes will qualify for the Nuclear Uniform Curriculum Certificate, which is recognized industry wide.

Graduates of this program will be prepared for entry-level employment in the following areas:

- Entry-Level Engineer
- Experienced Engineer
- Mechanical technician
- Electrical technician
- Instrumentation and control (I&C) technician

Graduates with additional training experiences will be prepared for employment in the following areas:

- Radiation protection technician
- Non-licensed operator
- Senior reactor operator

In addition to completion of this program, graduates will eventually need to pass appropriate background checks to be employable in the nuclear industry. Please check with the Admissions Office for details.

It is strongly recommended that students follow the prescribed course sequence, as some courses are only offered once in an academic year.

Required General Education Courses	Credits
	18/19
ENGL 151 (English Composition 1)	3
ENG 155 (Technical Writing)	3
POLSC 151 (Introduction to Political Science)	3
MATH 160 (Math Applications in Engineering Technology)	2
MATH 164 (Precalculus)*	4
† CIS 130 (Introduction to Computer Information Systems) or	
† MDTC 160 (Mechanical Drafting and CAD I)	3/4

Required Core Courses	Credits
1st Semester	
PHY 151 (General Physics I)	4
MATH 164 (Precalculus)*	4
METC 100 (Intro to Engineering & Technology)	3
NUET 100 (Nuclear Industry Fundamentals)	2
† MDTC 160 (Mechanical Drafting and CAD I) or	
† CIS 130 (Intro to Computer Information Systems)	4/3

2nd Semester	
ENGL 151 (English Composition 1)	3
NUET 120 (Radiation Protection)	3
NUET 130 (Plant Systems I)	3
† ELEC 125 (Fundamentals of Electricity)	3
MATL 121 (Nuclear Plant Materials)	3

Summer Semester	
NUET 205 (Nuclear Plant Experience)	2
ENGL 155 (Technical Writing)	3

3rd Semester	
CHEM 151 (Chemistry)	4
MATH 160 (Math Applications in Engineering Technology)	2
ELEC 133 (Circuit Analysis)	4
METC 234 (Thermodynamics and Fluid Sciences)	4
NUET 230 (Plant Systems 2)	3

4th Semester	
ELEC 141 (Industrial Automation and Process Control)	3
NUET 240 (Reactor Theory, Safety and Design)	3
NUET 220 (Power Plant Components)	3
POLSC 151 (Political Science)	3
ELEC 211 (Medium Voltage Power Distribution System)	3

Total Degree Requirements	68 or 69 credits
Total Degree Cost	86/89 minimum billable contact hours

*MATH 157 and MATH 159 may substitute for MATH 164.

† Tech Prep course. See page 15.

NURSE AIDE HUMAN SERVICES PARAPROFESSIONAL

Health Sciences Division

The nurse aide program is designed to prepare an individual to fulfill the role of direct caregiver/nursing aide. The course emphasizes the skills and behaviors that are significant to employers of nurse aides, including cardiopulmonary resuscitation.

This course includes classroom activities, skills practice time in the laboratory and supervised clinical practice at a long-term care facility for a total of 132 hours.

Students are expected to show competency in skills before the clinical portion of the course in order to proceed and complete the course. Upon completion of this course, students will be eligible to take the clinical and written exams required for certification as a nurse aide in the State of Michigan.

Major units include: orientation to long term care, understanding the long term care, patient ethical/legal aspects of health care, fire/disaster safety, safe patient environment, communication, planning and organizing your work, medical and charting terminology, activities of daily living, measuring intake and output, standard precautions, infection control, body mechanics, positioning, range of motion, lifting, transfers, ambulation, vital signs, nutrition, elimination, the reproductive system of the elderly, care of specific disorders, restorative nursing, spiritual and religious needs, and death and dying.

Being a nurse aide, as well as taking course work to become a nurse aide, requires direct care of clients and is characterized by the application of verified knowledge in the skillful performance of nurse aide duties.

Technical standards are defined by the Monroe County Community College nursing faculty as the functional abilities determined to be essential to the practice of nursing.

The purpose of this document is to notify prospective and current nursing students of these technical standards to enable them to make an informed decision regarding enrollment and continued participation in the nursing program at Monroe County Community College.

The delivery of safe, effective nursing care requires that students be able to perform functions related to the technical standards. The inability of a student to perform these functions may result in the student being unable to meet course objectives and to progress in the nursing program. Additionally, if a student is unable to perform these required functions, the student may pose a risk of harm to the patient(s) for whom care is provided.

The following list outlines the technical standards and the related functions required by the Monroe County Community College nursing programs. Examples of each standard are available at: http://www.monroecccc.edu/health_sciences/TechnicalStandardsMCCNursingProgramOrigFeb2010.pdf.

- **Motor**

The student will have sufficient:

- Strength, mobility, flexibility and coordination necessary to perform client care activities and emergency procedures.
- Gross and fine motor skills necessary to perform clinical skills and techniques safely and effectively.

- **Sensory**

The student will have sufficient function to:

- See
- Hear
- Touch
- Smell

- **Communication**

The student will have adequate ability to:

- Read, write, interpret, comprehend and legibly document in multiple formats using standard English.
- Recognize, interpret and respond to nonverbal behavior of self and others.
- Accurately elicit information.

- **Professional Behavior**

The student will demonstrate the appropriate behavior(s) to:

- Establish effective, compassionate relationships with clients, families, staff and colleagues with varied socioeconomic, emotional, cultural and intellectual backgrounds.
- Accept accountability and responsibility for one's actions.
- Effectively work independently and in team situations.
- Comply with the ethical and legal standards of the nursing program.
- Respond effectively to criticism.
- Display integrity, honesty and responsibility.
- Demonstrate comfort with intimate physical care of clients.

- **Critical Thinking**

The student will have sufficient problem-solving skills to:

- Make safe, immediate, well-reasoned judgments, often in unpredictable situations.

- **Emotional, Psychological, Mental Stability**

The student will display:

- Effective and empathetic behaviors under stressful and rapidly changing situations while interacting with diverse individuals and groups.

A prospective student or participant in the program with an approved documented disability can request reasonable accommodations to meet these standards. The college will provide appropriate accommodations, but is not required to substantially alter the requirements or nature of the program. Requests for accommodations should be directed to a disability services counselor in the Learning Assistance Laboratory (C 218). To make an appointment, please call 734-384-4167.

Students must meet agency health and security requirements prior to the first clinical experience. These include:

- Health physical that indicates good general health and up-to-date immunizations (titers to show immunity), at student's expense.
- Negative P.P.D. tuberculin test (two-step) or chest X-ray.
- Hepatitis B vaccination series (or at least injection one completed, two preferred) or a signed waiver if vaccination is contraindicated.
- Personal health insurance.
- Criminal background check, at student's expense, with results that will allow admission to nursing home environment.
- Drug screening at student's expense.
- Current basic cardiac life support for healthcare providers.

If a student cannot meet the health/or security requirements to be placed in the clinical setting, the nurse aide course should not be taken.

HSP 100 – Nurse Aide Practice – 5 credits/8 billable contact hours

Corequisite: None

Hours required: Class - 40; Lab – 44; Clinical – 48

Prerequisite: Students must take the college placement test or submit qualifying ACT scores and complete all mandated 090 courses prior to enrolling in HSP 100.

NURSING, PRACTICAL

Health Sciences Division

Certificate Program

A practical nurse certificate prepares students to function as beginning licensed practical nurses and members of the health team, under the supervision of the registered nurse, physician or dentist, in the care of individuals with acute and chronic common illnesses. Licensed practical nurses provide basic bedside nursing care and are qualified for employment in structured practice settings, including acute care hospitals, extended care facilities, nursing homes, clinics and physicians' offices. Currently, the greatest employment opportunities for practical nurses are in extended care settings. With experience, practical nurses may also function in providing nursing care in specialized areas, including home health and hospice settings, and in charge nurse and management positions in extended care facilities. Salary for licensed practical nurses in Michigan ranges from \$40,000 to \$50,000 per year with benefits. Practical nursing is an excellent entry level career choice, and graduates may qualify to complete advanced degrees in nursing with more education. A total of 38 credit hours are required to complete the program with 2 credit hours awarded to certified nursing assistants who qualify for the program.

Upon program completion and the Michigan Board of Nursing eligibility determination, students will be prepared to take the licensure exam (NCLEX-PN) to become a licensed practical nurse.

Credits

Required Courses and Sequence

Winter Semester

PNUR 120 (Fundamentals of Practical Nursing for Certified Nursing Assistants)	7
or PNUR 121 (Fundamentals of Practical Nursing)	9
PNUR 123 (Mental Health Concepts for Practical Nursing)	2
HLTSC 120 (Pharmacology)	2
BIOL 158 (Anatomy and Physiology II)	4

Spring/Summer Semester (12 weeks)

First Rotation:

PNUR 124 (Practical Nursing Care of Adults I)	6
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Second Rotation:

PNUR 125 (Practical Nursing Care of Pediatric Clients)	3
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Fall Semester

PNUR 128 (Issues in Practical Nursing)	2
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First Rotation:

PNUR 126 (Practical Nursing Care of Obstetrical Clients)	3
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Second Rotation:

PNUR 127 (Practical Nursing Care of Adults II)	4
--	---

Third Rotation:

PNUR 129 (Management Concepts for the Practical Nurse)	3
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Total Degree Requirements	36-38 credits
Total Degree Cost	56-66 minimum billable contact hours

Practical Nursing Admission Criteria

The practical nursing program is a selective admission program which involves three steps:

1. Admission to the college;
2. Completion of prerequisites as indicated by the Admissions and Guidance Office; the Admissions Office confirms that the criteria listed below have been met by the application date.
Courses in progress will not meet requirements.
3. Verification of the completion of the program application. Applications will be date stamped upon receipt in the Admissions Office and must be submitted on the first Monday in October each year. **Students must apply every year.**

Enrollment in the practical nursing program is limited. If the program is full, the names of qualified applicants will be ranked by the verification date described above. The following tie breakers will be used in this order:

- a. County resident over non-county resident
- b. Completed BIOL 158 (with a "C" or higher)*
- c. Completed HLTSC 110 (with a "C" or higher)
- d. Higher cumulative GPA over lower GPA in the following courses: ENGL 151, PSYCH 151, BIOL 157 and MATH 125 or higher level.

Nursing program admission requirements are separate from general admission to the college and are subject to change. To be accepted into the nursing program, a student must meet the requirements in effect for the class and year of admission.

* Completion of BIOL 158 (Anatomy & Physiology II) is strongly recommended prior to admission as well, but not required.

Specific Criteria for Completion of Prerequisites

Develop a folder in the Admissions area consisting of the following:

1. Evidence of high school graduation (official high school transcripts or GED).
2. Official transcripts from all post-secondary schools must be submitted for evaluation.
3. Cumulative grade point average of 2.5 (on a 4.0 scale) from most recent academic institution attended.
4. Completion of the following course work with a "C" or better:
 - a. ENGL 151 (Composition I)
 - b. PSYCH 151 (General Psychology)
 - c. BIOL 157 (Anatomy & Physiology I)
 - d. Successful completion of MATH 125 or higher level
 - e. Successful completion of MCCC's computer skills graduation requirement (either by a passing score on the college competency test or by taking a course which meets the requirement). CIS 130 is recommended.

BIOL 157 and 158 credits cannot be more than 10 years old. Meeting minimum requirements does not guarantee acceptance into the practical nursing program.

Applications will be accepted beginning the first Monday in October until all seats are filled.

General Information

1. A physical examination and immunizations are required of students selected for the program at the student's expense which verify capabilities and general health status.
2. Applicants should be aware that any previous or current conviction of a crime and/or treatment for substance abuse may result in ineligibility to be licensed as a practical nurse. The determination of (in)eligibility is made by the Michigan Board of Nursing. Any questions or concerns about the licensing should be directed to the Board of Nursing at www.michigan.gov/healthlicense.

3. Students admitted to the practical nursing program must consent to security checks that consist of criminal background checks and drug screening. In order to comply with Michigan Compiled Laws, no student will be admitted to the program if convicted of a felony or attempt/ conspiracy to commit a felony within 15 years preceding the date of admission or a misdemeanor conviction involving abuse, neglect, assault, battery, or criminal sexual conduct, or fraud or theft (or similar misdemeanor in state or federal law) against a vulnerable adult within 10 years of the date of admission. No student will be admitted with a positive drug screen for illegal substances. Other positive background checks, either criminal or drug screening, may also be grounds for prohibiting admission but will be considered case-by-case. Positive security checks that typically prohibit clinical placement for students are usually enough to prohibit admission to the program. Any cost incurred with the security checks is the student's responsibility.
4. Technical standards are defined by the Monroe County Community College nursing faculty as the functional abilities determined to be essential to the practice of nursing.

The purpose of this document is to notify prospective and current nursing students of these technical standards to enable them to make an informed decision regarding enrollment and continued participation in the nursing program at Monroe County Community College.

The delivery of safe, effective nursing care requires that students be able to perform functions related to the technical standards. The inability of a student to perform these functions may result in the student being unable to meet course objectives and to progress in the nursing program. Additionally, if a student is unable to perform these required functions, the student may pose a risk of harm to the patient(s) for whom care is provided.

The following list outlines the technical standards and the related functions required by the Monroe County Community College nursing programs. Examples of each standard are available at: http://www.monroeccc.edu/health_sciences/TechnicalStandardsMCCCNursingProgramOrigFeb2010.pdf

- **Motor**

The student will have sufficient:

- Strength, mobility, flexibility and coordination necessary to perform client care activities and emergency procedures.
- Gross and fine motor skills necessary to perform clinical skills and techniques safely and effectively.

- **Sensory**

The student will have sufficient function to:

- See
- Hear
- Touch
- Smell

- **Communication**

The student will have adequate ability to:

- Read, write, interpret, comprehend and legibly document in multiple formats using standard English.
- Recognize, interpret and respond to nonverbal behavior of self and others.
- Accurately elicit information.

- **Professional Behavior**

The student will demonstrate the appropriate behavior(s) to:

- Establish effective, compassionate relationships with clients, families, staff and colleagues with varied socioeconomic, emotional, cultural and intellectual backgrounds.
- Accept accountability and responsibility for one's actions.
- Effectively work independently and in team situations.
- Comply with the ethical and legal standards of the nursing program.
- Respond effectively to criticism.
- Display integrity, honesty and responsibility.
- Demonstrate comfort with intimate physical care of clients.

- **Critical Thinking**

The student will have sufficient problem-solving skills to:

- Make safe, immediate, well reasoned judgments often in unpredictable situations.

- **Emotional, Psychological, Mental Stability**

The student will display:

- Effective and empathetic behaviors under stressful and rapidly changing situations while interacting with diverse individuals and groups.

A prospective student or participant in the program with an approved documented disability can request reasonable accommodations to meet these standards. The college will provide appropriate accommodations, but is not required to substantially alter the requirements or nature of the program. Requests for accommodations should be directed to a disability services counselor in the Learning Assistance Laboratory (C 218). To make an appointment, please call 734-384-4167.

5. Students who successfully complete at least one nursing class must complete the practical nursing portion of the program within two years of initial entry into the program. Failure to meet the time framework necessitates reapplication to the practical nursing program.
6. All practical nursing courses utilize Internet services and resources to supplement instruction. It is recommended that students have access to a reliable computer with an Internet connection. MCCC offers open-access computer laboratories, but students should also be familiar with community resources for computer access, such as public libraries. A personal computer is helpful.
7. In addition to the general college rules, practical nursing students are required to adhere to policies and procedures outlined in the Practical Nursing Program Student Handbook.

NURSING, REGISTERED

Health Sciences Division

The associate of applied science degree with specialization in nursing prepares graduates to function as beginning registered nurse practitioners and members of the health care team in the care of acutely and chronically ill individuals with common illnesses. Registered nurses are qualified for employment in structured practice settings, including acute care hospitals, extended care facilities, nursing homes, clinics and physicians' offices. With experience, nurses may also participate in providing skilled care in more specialized areas, including psychiatric units, emergency departments, pediatric and obstetric units, critical care units and home health settings. Jobs in all areas of nursing are plentiful. Job pay is exceptional, starting at \$47,000 in Michigan with full benefits. Nursing is a flexible and mobile career choice. A total of 72 credits are required to complete the program.

Upon program completion and the Michigan Board of Nursing eligibility determination, graduates will be prepared to take the licensure exam to become a registered nurse.

This nursing program is accredited by the National League for Nursing Accrediting Commission and is approved by the Michigan Board of Nursing. Graduates may transfer all or part of the credit earned at MCCC to several colleges and universities to pursue a bachelor of science in nursing degree.

NLNAC
3343 Peachtree Road, NE
Suite 500
Atlanta, GA 30326
1-800-669-1656
nlnac@nlac.org

Required Courses and Sequence (Fall Start) 72

Summer Session (before Fall Entry)

¹ ENGL 151 (English Composition I)	3
¹ PSYCH 151 (General Psychology)	3

Fall Semester (First Year)

* NURS 100 (RN Student Success Course)	1
NURS 103 (Adapt Throughout Life Cycle)	9
¹ BIOL 157 (Anatomy & Physiology I)	4

Winter Semester (First Year)

NURS 104 (Adapting to Common Stressors I: Psychiatric Nursing)	4
NURS 105 (Adapting to Common Stressors II: Medical-Surgical Nursing)	5
¹ BIOL 158 (Anatomy & Physiology II)	4

Spring Session (First Year)

¹ BIOL 260 (Microbiology)	4
HLTSC 120 (Pharmacology)	2

Summer Session (Second Year)

¹ SOC 151 (Principles of Sociology)	3
¹ POLSC 151 (Introduction to Political Science)	3

Fall Semester (Second Year)

NURS 204 (The Family Adapting I: Obstetrical Nursing)	4.5
NURS 205 (The Family Adapting II: Pediatric Nursing)	4.5
¹ ENGL 152 (English Composition II)	3

Winter Semester (Second Year)

NURS 209A (Adapting to Multiple Stressors I)	10
NURS 210 (Seminar)	3

Spring Session (Second Year)

NURS 209B (Adapting to Multiple Stressors II)	3
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Total Degree Requirements 72 credits
Total Degree Cost 114 minimum billable contact hours

¹ Courses may be taken prior to entry into the nursing program.
* Optional Course

Required Courses and Sequence (Winter Start) 72

Fall Semester (before Winter Entry)

¹ ENGL 151 (English Composition I)	3
¹ PSYCH 151 (General Psychology)	3
¹ BIOL 157 (Anatomy & Physiology I)	4
¹ POLSC 151 (Introduction to Political Science)	3

Winter Semester (First Year)

*NURS 100 (RN Student Success Course)	1
NURS 103 (Adapt Throughout Life Cycle)	9
¹ BIOL 158 (Anatomy & Physiology II)	4

Spring Semester (First Year)

¹ BIOL 260 (Microbiology)	4
HLTSC 120 (Pharmacology)	2

Fall Semester (First Year)

NURS 104 (Adapting to Common Stressors I: Psychiatric Nursing)	4
NURS 105 (Adapting to Common Stressors II: Medical Surgical Nursing)	5
¹ SOC 151 (Principles of Sociology)	3

Winter Semester (Second Year)

NURS 204 (The Family Adapting I: Obstetrical Nursing)	4.5
NURS 205 (The Family Adapting II: Pediatric Nursing)	4.5
¹ ENGL 152 (English Composition II)	3

Fall Semester (Second Year)

NURS 209A (Adapting to Multiple Stressors I)	10
NURS 210 (Nursing Seminar)	3

Winter Semester (Second Year)

NURS 209B (Adapting to Multiple Stressors II)	3
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Total Degree Requirements 72 credits
Total Degree Cost 114 minimum billable contact hours

¹ Courses may be taken prior to entry into the nursing program.
* Optional Course

While general electives are not required in the program, the following courses can be taken as desired and may be helpful to the student:

Suggested Additional General Electives

BIOL 259 (Pathophysiology)	4
CHEM 160 (Fundamentals of Health-Sciences Chemistry)	4
† CIS 130 (Introduction to Computer Information Systems)	3
ENGL 251 (Introduction to Poetry and Drama)	3
ENGL 252 (Introduction to Short Story and Novel)	3
ENGL 253 (American Literature)	3
ENGL 254 (Advanced Composition)	3
ENGL 255 (Women's Writing)	3
ENGL 260 (Introduction to Shakespeare)	3
ENGL 266 (Non-Western Literature)	3
† HLTSC 110 (Medical Terminology)	2
HLTSC 151 (Principles of Nutrition and Diet Therapy)	3
HLTSC 136 (ECG Basics)	3
HLTSC 156 (Phlebotomy Basics)	6
HLTSC 160 (Perspectives of Aging)	3
Higher Level Humanities Course	3
MATH 162 (Introduction to Statistics)	3
PHIL 151 (Introduction to Logic)	3
PHIL 152 (Introduction to Western Philosophy)	3
PHIL 253 (Introduction to Philosophy of Religion)	3
PSYCH 251 (Child Psychology)	3
PSYCH 254 (Life Span Psychology)	3
SPCH 151, 152 (Speech)	3

Students' clinical assignments are determined by the concurrent classroom theory. Clinical instruction and guidance in medical-surgical, obstetric, pediatric and psychiatric units will be provided in surrounding area facilities: Mercy Memorial Hospital, Monroe; Hutzel Women's Hospital, Detroit; Mercy Memorial Nursing Center, Monroe; Oakwood Hospital-Southshore Medical Center, Trenton; Henry Ford-Wyandotte Hospital, Wyandotte; Oakwood Hospital-Heritage Center, Taylor; Lutheran Home, Monroe; HomeCare Connection, Monroe; Children's Hospital of Michigan, Detroit; University of Michigan Medical Center; St. Joseph's Hospital, Ann Arbor; Oakwood Hospital and Medical Center, Dearborn; Flower Hospital, Sylvania, Ohio, and The Toledo Hospital, Toledo, Ohio.

† Tech Prep course. See page 15.

Nursing Admission Criteria

The registered nursing program is a selective admission program that involves three steps:

1. Admission to the college;
2. Completion of prerequisites as verified by the Admissions area which confirms that the minimum standards listed below have been met by the deadline date of May 10;
3. Selection of qualified nursing applicants by use of the numerical process.

The potential nursing applicant needs to be aware that meeting the standards at the minimum level does not insure admission to the nursing program. Applicants for the nursing program tend to be well qualified and only the top 60 candidates are selected each year.

Nursing program admission requirements are separate from general admission to the college and are subject to change. To be accepted into the nursing program, a student must meet the requirements in effect for the class and year of admission. Science courses (BIOL, CHEM) will not qualify for program admission if they are more than 10 years old.

Specific Criteria for Step Two

Developing a folder in the Admissions area consists of the following:

1. Evidence of high school graduation must be submitted (diploma or G.E.D.). Official transcripts must be sent that confirm this requirement for those with no prior college or university degree. High school students may apply, but acceptance is contingent upon high school and prerequisite completion;
2. Official transcripts from all post-secondary schools must be submitted for evaluation, including L.P.N. and R.N. programs, if applicable;
3. An accumulative grade point average of 2.5 (on a 4.0 scale) is required from the most recent academic institution attended, whether high school or college. High school grade point averages are based on five academic areas of study: English, mathematics, foreign language, social sciences and natural sciences. The measuring point for the accumulative grade point average will be the end of winter term for college students or the most recent grading period for high school students;

4. High school-level chemistry must be completed (two semesters), or CHEM 150, Fundamental Principles of Chemistry (one semester) or CHEM 151, General College Chemistry I (one semester), with a grade of "C" or better. The chemistry class must be within the past 10 years. Completion of BIOL 157, 158 and 260 within five years of nursing admission may waive the 10-year requirement for chemistry and biology.
 5. High school-level biology must be completed (two semesters), or BIOL 151, Biological Sciences I (one semester) or BIOL 152 if taken prior to the Fall 2008 semester, with a grade of "C" or better. The biology class must be within the past 10 years. Completion of BIOL 157, 158 and 260 within five years of nursing admission may waive the 10-year requirement for chemistry and biology.
 6. The American College Test (ACT) is required of all applicants. The minimum composite score to be considered as an applicant is a 17 on the Enhanced Test or 14 if tested prior to 1989;
 7. Successful completion of MCCC's mathematics graduation requirement (either a passing score on the college competency test or a math class above the 090 level of mathematics);
 8. Successful completion of MCCC's computer skills graduation requirement (either a passing score on the college competency test or by taking a course which meets the requirement). CIS 130 is recommended;
 9. MELAB (80 percentile) or TOEFL (550) tests may be required to show proof of English language proficiency for those whose native language is not English.
2. A physical examination and immunizations are required of students selected for the program at the student's expense which verify capabilities and general health status.
 3. Applicants should be aware that any previous or current conviction of a crime and/or treatment for substance abuse may result in ineligibility to be licensed as a registered nurse. The determination of eligibility is made by the Michigan Board of Nursing. Any questions or concerns about licensing should be directed to the Board of Nursing at www.michigan.gov/healthlicense.
 4. Students admitted to the nursing program must consent to security checks that consist of criminal background checks and drug screening. In order to comply with Michigan Compiled Laws, no student will be admitted to the program if convicted of a felony or attempt/ conspiracy to commit a felony within 15 years preceding the date of admission or a misdemeanor conviction involving abuse, neglect, assault, battery or criminal sexual conduct, or fraud or theft (or similar misdemeanor in state or federal law) against a vulnerable adult within 10 years of the date of admission. No student will be admitted with a positive drug screen for illegal substances. Other positive background checks, either criminal or drug screening, may also be grounds for prohibiting admission, but will be considered case-by-case. Positive security checks that typically prohibit clinical placement for students is usually enough to prohibit admission to the program. Any cost incurred with the security checks is the student's responsibility.
 5. Technical standards are defined by the Monroe County Community College nursing faculty as the functional abilities determined to be essential to the practice of nursing.

These are minimum requirements for consideration. Meeting the minimum requirements does not guarantee admission into the nursing program.

Specific Criteria for Step Three

Once minimum standards have been met, the applicants will be evaluated to determine admission status. Criteria for this evaluation may be obtained from the Admissions and Guidance Office.

General Information

1. A class of 30 students will be selected for Fall and for Winter semesters from among the pool of applicants by use of the numerical process.

The purpose of this document is to notify prospective and current nursing students of these technical standards to enable them to make an informed decision regarding enrollment and continued participation in the nursing program at Monroe County Community College.

The delivery of safe, effective nursing care requires that students be able to perform functions related to the technical standards. The inability of a student to perform these functions may result in the student being unable to meet course objectives and to progress in the nursing program. Additionally, if a student is

unable to perform these required functions, the student may pose a risk of harm to the patient(s) for whom care is provided.

The following list outlines the technical standards and the related functions required by the Monroe County Community College nursing programs. Examples of each standard are available at: http://www.monroecc.edu/health_sciences/TechnicalStandardsMCCCNursingProgramOrigFeb2010.pdf

- **Motor**

The student will have sufficient:

- Strength, mobility, flexibility and coordination necessary to perform client care activities and emergency procedures.
- Gross and fine motor skills necessary to perform clinical skills and techniques safely and effectively.

- **Sensory**

The student will have sufficient function to:

- See
- Hear
- Touch
- Smell

- **Communication**

The student will have adequate ability to:

- Read, write, interpret, comprehend and legibly document in multiple formats using standard English.
- Recognize, interpret and respond to nonverbal behavior of self and others.
- Accurately elicit information.

- **Professional Behavior**

The student will demonstrate the appropriate behavior(s) to:

- Establish effective, compassionate relationships with clients, families, staff and colleagues with varied socioeconomic, emotional, cultural and intellectual backgrounds.
- Accept accountability and responsibility for one's actions.
- Effectively work independently and in team situations.
- Comply with the ethical and legal standards of the nursing program.
- Respond effectively to criticism.
- Display integrity, honesty and responsibility.

- Demonstrate comfort with intimate physical care of clients.

- **Critical Thinking**

The student will have sufficient problem-solving skills to:

- Make safe, immediate, well-reasoned judgments often in unpredictable situations.

- **Emotional, Psychological, Mental Stability**

The student will display:

- Effective and empathetic behaviors under stressful and rapidly changing situations while interacting with diverse individuals and groups.

A prospective student or participant in the program with an approved documented disability can request reasonable accommodations to meet these standards. The college will provide appropriate accommodations, but is not required to substantially alter the requirements or nature of the program. Requests for accommodations should be directed to a disability services counselor in the Learning Assistance Laboratory (C 218). To make an appointment, please call 734-384-4167.

6. Students who successfully complete at least one nursing class must complete the nursing portion of the program within four calendar years of initial entry into the program. Failure to meet the time frame necessitates re-application to the nursing program.
7. The nursing courses utilize Internet services and resources to supplement instruction. It is recommended that students have access to a reliable computer with an Internet connection. MCCC offers open access computer laboratories, but students should also be familiar with community resources for computer access, such as public libraries. A personal computer is helpful.
8. In addition to the general college rules, nursing students are required to adhere to policies and procedures outlined in the Nursing Program Student Handbook.

Transfer Students

A student who desires to transfer into the MCCC registered nursing program from another nursing program must meet all criteria as listed on the MCCC registered nursing Web site at: www.monroecc.edu/health_sciences/nursing/ADN_generic_criteria.htm.

PHLEBOTOMY TECHNICIAN

Health Sciences Division

Certificate Program

A phlebotomy technician performs venipuncture techniques to collect blood specimens necessary in the diagnosis and treatment of a client, as well as related procedures, such as point of entry testing/dermal punctures, specimen transport and processing, and infection control. Communication, legal, ethical and professional concepts related to the role of the phlebotomist will also be studied.

The program includes classroom and skills laboratory experiences, followed by a clinical externship. Some clinical work may be in the evening. To enter the clinical portion, students must be at least 18 years old and able to document good physical and mental health. A physical examination and immunizations are required for students at their expense to verify capabilities and general health status. The exam must be completed before clinical placement in HLTSC 157. Moreover, a cardiopulmonary resuscitation certification from the American Red Cross or American Heart Association and criminal background/drug screen checks are required at the student's expense.

In addition to college rules, phlebotomy technician students are required to adhere to policies and procedures outlined in the Phlebotomy Technician Student Handbook. Students must be available at least 20 hours per week for the classroom portion and are required to work up to 40 hours per week for 3 weeks or a total of 120 hours for the externship period. This course of study must be completed in a CLIA-regulated, accredited laboratory without monetary compensation.

Both classes (HLTSC 156 and HLTSC 157) must be completed for the certificate with a "C" average or better and the national American Society for Clinical Pathology Certification exam taken in order to be awarded the phlebotomy technician certificate.

Phlebotomists work in free standing laboratories, hospitals, clinics, home care areas and physicians' offices. Phlebotomists are often cross-trained as patient care technicians. Starting pay is about \$22,000.

Technical standards are defined by the Monroe County Community College phlebotomy faculty as the functional abilities determined to be essential to the practice of phlebotomy.

The purpose of this document is to notify prospective and current phlebotomy students of these technical standards to enable them to make an informed decision regarding enrollment and continued participation in the phlebotomy program at Monroe County Community College.

The delivery of safe, effective phlebotomy care requires that students be able to perform functions related to the technical standards. The inability of a student to perform these functions may result in the student being unable to meet course objectives and to progress in the phlebotomy program. Additionally, if a student is unable to perform these required functions, the student may pose a risk of harm to the patient(s) for whom care is provided.

The following list outlines the technical standards and the related functions required by the Monroe County Community College phlebotomy program. Examples of each standard are available at: http://www.monroecc.edu/health_sciences/phlebotomy.htm

- **Motor**

The student will have sufficient:

- Strength, mobility, flexibility and coordination necessary to perform client care activities and emergency procedures.
- Gross and fine motor skills necessary to perform clinical skills and techniques safely and effectively.

- **Sensory**

The student will have sufficient function to:

- See
- Hear
- Touch
- Smell

- **Communication**

The student will have adequate ability to:

- Read, write, interpret, comprehend and legibly document in multiple formats using standard English.
- Recognize, interpret and respond to nonverbal behavior of self and others.
- Accurately gather information.

- **Professional Behavior**

The student will demonstrate the appropriate behavior(s) to:

- Establish effective, compassionate relationships with clients, families, staff and colleagues with varied socioeconomic, emotional, cultural and intellectual backgrounds.
- Accept accountability and responsibility for one's actions.
- Effectively work independently and in team situations.
- Comply with the ethical and legal standards of the medical profession and the policies of the phlebotomy program.
- Respond appropriately and effectively to criticism.
- Display integrity, honesty and responsibility.

- **Critical Thinking**

The student will have sufficient problem-solving skills to:

- Make safe, immediate, well-reasoned judgments often in unpredictable situations.
- Adapt ideas and resources to meet changing and often unpredictable client needs during medical emergencies.
- Recall, collect, analyze, synthesize and integrate information from a variety of sources.

- **Emotional, Psychological, Mental Stability**

The student will display:

- Effective and empathetic behaviors under stressful and rapidly changing situations while interacting with diverse individuals and groups.

A prospective student or participant in the program with an approved documented disability can request reasonable accommodations to meet these standards. The college will provide appropriate accommodations, but it is not required to substantially alter the requirements or nature of the program. Requests for accommodations should be directed to a Disability Services counselor in the Learning Assistance Lab (C-218). To make an appointment, please call 734-384-4167.

Students who wish to review or enhance phlebotomy skills may elect to take HLTSC 156 (Phlebotomy Basics) and not HLTSC 157(Phlebotomy II), but a certificate will not be awarded.

Students must complete the necessary prerequisites before the beginning of a clinical rotation. Each student must pass both the lab and theory portion of the class with a "C" average (78 percent) or better to be eligible for a phlebotomy externship, HLTSC 157.

Credits

HLTSC 156 (Phlebotomy Basics)	6
HLTSC 157 (Phlebotomy II).	3

Total Certificate Requirements 9 credits
Total Certificate Cost 14.33 minimum billable contact hours

NOTE: A minimum of 10 students is required for this class to run.

Prerequisite: Students must take the college placement test or submit qualifying ACT scores and complete all mandated 090 courses prior to enrolling in HLTSC 156.

PRODUCT AND PROCESS TECHNOLOGY (FORMERLY MANUFACTURING TECHNOLOGY)

Industrial Technology Division

The associate of applied science degree with specialization in product and process technology is designed to prepare students for careers in high-performance manufacturing of consumer goods.

This degree will provide students with a foundation in manufacturing design, precision machining and tooling, and complex computer-aided design and computer-aided manufacturing (CAD/CAM). Students will learn tooling process and equipment requirements, design, analysis and process planning and also receive instruction in manual and computer-numerical-control (CNC) mills, machining centers, lathes, grinders, electronic discharge wire machines, robotic integration and support processes, procedures and practices.

This program is focused on beginner, intermediate and advanced levels in product and process technology. Students will learn “soft” skills in problem solving, teamwork, communication dynamics and lean manufacturing principles, as well as hands-on technical skills in CNC programming and CAD/CAM.

Graduates of this program will be prepared to pursue careers in the product and process technology field such as:

- Automation and control technician analyst
- CAD tool engineer
- CAD/CAM technician
- CAM operator
- CNC operator
- CNC programmer
- CNC set-up technician
- Designer
- Engineering technician
- Industrial engineer production team leader
- Machine technician
- Machinist
- Manufacturing technician
- Process planner lab technician
- Production control specialist
- Sales and service engineer

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

	Credits
Required General Education Courses	19
ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition I)	3
¹ MATH	6
POLSC 151 (Introduction to Political Science)	3
² Social Science/Humanities Elective	3
PHY 101, 151, or CHEM 150 or 151	4
 Restricted Electives	 6-7
QSTC 150 (Introduction to Metrology)	3
METC 170 (Introduction to Parametric CAD/CATIA)	3
WELD 100 (Introduction to Welding Processes)	4
MDTC 228 (Introduction to Solidmodeling - SolidWorks)	3

Required Core Courses 49

1st Semester	
MECH 102 (Manufacturing Processes)	4
† MECH 103 (Machining Basics and CNC)	4
† MDTC 160 (Mechanical Drafting and CAD I)	4
2nd Semester	
† ELEC 125 (Fundamentals of Electricity)	3
MATL 101 (Industrial Materials)	3
† MECH 104 (CNC II)	3
MECH 201 (CAD/CAM I)	3
3rd Semester	
MECH 131 (Introduction to Automated Manufacturing)	3
MECH 105 (CNC III)	3
MECH 221 (CAD/CAM II)	3
MDTC 226 (Geometric Dimensioning and Tolerancing)	3
Restricted Elective	3-4
4th Semester	
METC 220 (Statics & Strength of Materials)	4
MECH 231 (CAD/CAM III)	3
Restricted Elective	3-4

Total Degree Requirements 68-70 credits
Total Degree Cost 87 minimum billable contact hours

Certificate Program: Product and Process Technology

In addition to the two-year associate degree program, Monroe County Community College offers a certificate program in product and process technology. We recognize that many employers place value on a certificate which authenticates specialized educational preparation. The program concentrates upon basic core courses with skill development and job upgrading being the primary objectives. All courses taken in the certificate program are applicable toward the associate of applied science degree.

Certificate: CNC Technician

† MECH 103 (Machining Basics and CNC)	4
† MECH 104 (CNC II)	3
MECH 105 (CNC III)	3
MECH 201 (CAD/CAM I)	3
† MDTC 160 (Mechanical Drafting and CAD I)	4

Total Certificate Requirements 17 credits
Total Certificate Cost 24 minimum billable contact hours

Certificate: CAD/CAM Technician

† MECH 103 (Machining Basics and CNC)	4
MECH 201 (CAD/CAM I)	3
MECH 221 (CAD/CAM II)	3
MECH 231 (CAD/CAM III)	3
† MDTC 160 (Mechanical Drafting and CAD I)	4

Total Certificate Requirements 17 credits
Total Certificate Cost 24 minimum billable contact hours

† Tech Prep course. See page 15.

¹ See page 39 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.

² See the social science/humanities alternatives listed on page 39.

QUALITY SYSTEMS TECHNOLOGY

Industrial Technology Division

The associate of applied science degree with specialization in quality systems technology is designed to prepare students to assume responsibilities in a wide variety of technical and management support roles. The program combines quality tools to monitor production and management practices to develop the environment that is most conducive to establishing quality systems in organizations. In today's business and industrial environments, "quality" is an integral part of the way companies are organized and managed to produce quality products and services.

Graduates of this program will be prepared for employment in the following areas:

- Inspector
- Lab technician
- Quality engineer
- Quality auditor
- Quality control technician
- Quality manager
- Quality technician
- Testing technician

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

	Credits
Required General Education Courses	22
ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition 1)	3
MATH 162 (Introduction to Statistics)	3
¹ MATH	3
POLSC 151 (Introduction to Political Science)	3
PHY 101, 151 or CHEM 150 or 151	4
² Social Science/Humanities Elective	3
[†] CIS 130 (Introduction to Computer Information Systems)	3
 Required Core Courses	38
1st Semester	
MATL 101 (Industrial Materials)	3
[†] CIS 109 (Spreadsheet Software)	3
Technical Electives	5
2nd Semester	
MDTC 109 (Mechanical Blueprint Reading)	2
MECH 102 (Manufacturing Processes)	4
QSTC 111 (Quality Management)	3
3rd Semester	
ENGL 102 (Business Writing) or	3
SPCH 151 (Communication Fundamentals)	
QSTC 115 (Statistical Process Control)	3
QSTC 150 (Introduction to Metrology)	3
QSTC 160 (Team Problem Solving)	3
4th Semester	
CIS 112 (Database Software)	3
QSTC 230 (Documentation and Audit Preparation)	3
Total Degree Requirements	60 credits
Total Degree Cost	64 minimum billable contact hours

Certificate Program:

Quality Systems Technology

In addition to the two-year associate degree program, Monroe County Community College offers a certificate program in quality systems technology. We recognize that many employers place value on a certificate which authenticates specialized educational preparation. The program concentrates upon basic core courses with skill development and job upgrading being the primary objectives. All courses taken in the certificate program are applicable toward the associate of applied science degree.

	Credits
QSTC 111 (Quality Management)	3
QSTC 115 (Statistical Process Control)	3
QSTC 150 (Introduction to Metrology)	3
QSTC 160 (Team Problem Solving)	3
QSTC 230 (Documentation and Audit Preparation)	3
[†] CIS 109 (Spreadsheet Software)	3
MDTC 109 (Mechanical Blueprint Reading)	2
ENGL 102 (Business Writing) or SPCH 151 (Communication Fundamentals)	3
MATH 119 (Elementary Technical Mathematics)	2
Total Certificate Requirements	25 credits
Total Certificate Cost	26 minimum billable contact hours

Basic Quality Technician Certificate

A certificate is also available for a basic quality technician. This certificate is designed for the entry-level production or quality assurance employee who seeks additional skills for assuming greater responsibility in a production environment.

QSTC 105 (SPC Basics)	1
QSTC 111 (Quality Management)	3
QSTC 150 (Introduction to Metrology)	3
[†] CIS 109 (Spreadsheet Software)	3
MDTC 109 (Mechanical Blueprint Reading)	2
Total Certificate Requirements	12 credits
Total Certificate Cost	13 minimum billable contact hours

[†] Tech Prep course. See page 15.

¹ See page 39 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.

² See the social science/humanities alternatives listed on page 39.

RESPIRATORY THERAPY

Health Sciences Division

Respiratory therapy, or respiratory care, is an allied health profession specializing in cardiopulmonary disorders and diseases. A respiratory therapist can be instrumental in assisting a physician in the diagnosis, treatment and prevention of a wide spectrum of disorders affecting the heart and lungs.

There are two levels of therapists in respiratory care: certified respiratory therapists and registered respiratory therapists. A certified respiratory therapist is the entry-level position in the field and typically works with less critically ill patients. A registered respiratory therapist is an advanced-level position in the field and requires a two-, three- or four-year degree program. RRTs typically work in ICUs and are more likely to be in positions of supervision. Monroe County Community College has the RRT program at the associate-degree level. Graduates of the RRT program at MCCC exceed the national averages for success on board exams. Future employment for registered respiratory therapists is considered excellent nationwide.

The Monroe County Community College respiratory therapy program is accredited by the Commission on Accreditation for Respiratory Care (CoARC).

Commission on Accreditation
for Respiratory Care
1248 Harwood Road
Bedford, Texas 76021-4244
817-283-2835
www.coarc.com

Graduate therapists are prepared to:

- Assume basic or advanced respiratory care positions in hospitals, nursing homes, subacute care centers, rehabilitation facilities, long-term care facilities, home care companies, asthma clinics, sleep disorders laboratories and pulmonary function laboratories;
- Continue higher education, if desired.

Registered Respiratory Therapist (RRT) Program

	Credits
Required Courses and Sequence	
Spring/Summer Semester (First Year)	6
¹ PSYCH 151 (General Psychology)	3
¹ ENGL 151 (English Composition I)	3
Fall Semester (First Year)	15
RTH 100 (Respiratory Care Techniques I)	8
RTH 104 (Cardiopulmonary Assessment)	3
¹ BIOL 158 (Anatomy and Physiology II)	4
Winter Semester (First Year)	14
RTH 110 (Respiratory Care Techniques II)	5
RTH 111 (Respiratory Care Clinical Practice I)	5
RTH 116 (Cardiopulmonary Pathophysiology)	4
Spring/Summer Semester (Second Year)	9
RTH 120 (Respiratory Care Techniques III)	5
RTH 121 (Respiratory Care Clinical Practice II)	2
RTH 220 (Pharmacology for Respiratory Therapists)	2
Fall Semester (Second Year)	16
RTH 211 (Respiratory Care Clinical Practice III-Therapist)	5
RTH 212 (Advanced Cardiopulmonary Physiology)	4
RTH 214 (Adult Critical Care)	4
RTH 216 (Neonatal/Pediatric Critical Care)	3
Winter Semester (Second Year)	16
RTH 221 (Respiratory Care Clinical Practice IV)	4
RTH 222 (Seminar)	2
RTH 226 (Respiratory Care Techniques IV)	3
¹ BIOL 260 (General Microbiology)	4
¹ POLSC 151 (Political Science)	3

Completion of RRT Program **76 credits**
Total RRT Completion **120 minimum billable**
Degree Cost **contact hours**

² Suggested General Electives	
BIOL 259 (Pathophysiology)	4
CHEM 151, 152, 160 (Chemistry)	4
[†] HLTSC 110 (Medical Terminology)	2
Higher Level Humanities Course	3
MATH 157, 159, 162, 164	3
PSYCH 254 (Life Span Psychology)	3
SPCH 151, 152 (Speech)	3

[†] Tech Prep Course. See Page 15.

¹ If desired, these courses may be taken prior to the scheduled sequence as long as prerequisites are met.

² Not required for degree. May assist in completion of bachelor's degree.

Respiratory Therapy Program

Admission Criteria

Applicants to the respiratory therapy programs are encouraged to apply prior to completing pre-requisites. Admission requirements are subject to change. A student must meet the admission requirements in effect for the class and year students are entering. The program follows a selective admission process.

To be eligible for evaluation and selection, all required information must be included in the student's folder at application deadline, which is June 1 of the year the student wishes to enter the respiratory therapy program. Applicants enrolled in any pre-requisite classes that finish after the June 1 deadline but before the start of fall semester may still be considered for admission to the program contingent upon completion with "C" or better in the missing pre-requisite class(es). However, the total points for admission will be considered only for coursework that is completed by June 1st.

For a student to be considered for the program the MCCC Division of Health Sciences requires:

1. Graduation from high school or successful completion of the GED (General Education Development) test. Official transcripts from high school must be sent to the MCCC Admissions Office. Official transcripts from all colleges or universities, if transfer credit is desired, must be sent directly to the MCCC Registrar's Office.
2. Completion of CHEM 150, Fundamental Principles of Chemistry, or a higher-level (e.g. 151, 152, etc.) chemistry course with a "C" or better. A challenge exam is available for CHEM 150 through the MCCC Credit by Examination process (Please contact the Science-Mathematics Division for details of this exam at 734-384-4233.). It is required that chemistry be repeated if it has not been taken within 10 years of the application deadline. Completion of BIOL 157 or BIOL 158 within five years of the application deadline with a "C" or better will waive the requirement to repeat chemistry older than 10 years.
3. Completion of one year of high school-level biology or BIOL 151, Biological Sciences I or BIOL 152 if taken prior to the Fall 2008 Semester with a "C" or better. It is required that biology be repeated if it has not been taken within 10 years of the application deadline date. Completion of BIOL 157 or BIOL 158 within five years of the application deadline with a "C" or better will waive the requirement to repeat biology that is older than 10 years.
4. Completion of MATH 151, Intermediate Algebra with a "C" or better. It is required that algebra or a higher math be repeated if it has not been taken within 10 years of the application deadline. A score of 54 or higher on the algebra section of the COMPASS exam will waive the requirement that math be repeated if it has not been taken within 10 years of the application deadline.
5. Completion of the computer skills graduation requirement. This can be done by completing CIS 130, WPR 102, WPR 110, MDTC 160 or achieving a satisfactory score on the computer skills assessment (Please contact the Admissions and Guidance Office for details of this assessment at 734-384-4104).
6. Completion of BIOL 157 (Anatomy and Physiology I) or MCCC equivalent. It is required that anatomy and physiology be repeated if it has not been taken within five years of the application deadline and the applicant is unable to achieve a satisfactory score on an exam of the respiratory therapy program's choosing (such as the NLN Anatomy and Physiology exam). Please direct inquiries to the respiratory therapy program director for further information. Students who have taken anatomy and physiology at another accredited institution of higher learning that does not transfer as equivalent to the MCCC course will have their course(s) evaluated on an individual basis.
7. MELAB (80 percentile) or IBN TOEFL (79-80) tests may be required to show proof of English language proficiency for individuals whose native language is not English.
8. Students in the respiratory therapy program must consent to a criminal history check to comply with the Michigan Compiled Laws, Section 333.20173. No student will be admitted to the program if convicted of a felony or attempt/conspiracy to commit a felony within 15 years preceding the date of admission, or a misdemeanor conviction involving abuse, neglect,

assault, battery or criminal sexual conduct or fraud or theft (or similar misdemeanor in state of federal law) against a vulnerable adult within 10 years of the date of admission. Any cost incurred with the criminal check is the student's responsibility.

Selection of qualified respiratory therapy applicants is done with a numerical process. Meeting the minimum requirements for admission does not insure admission to the program. Applicants to the program tend to be well qualified and only the top 30 candidates are selected each year. For specific information on the point-based selection criteria, please contact the Admissions and Guidance Office.

A physical examination, immunizations and drug screening are required of students selected for the program at the student's expense to verify capabilities and general health status. A positive drug screening may render the student ineligible for the program pending further evaluation.

The position of a registered respiratory therapist involves providing direct care to individuals. As such, it is characterized by the application of verified knowledge in the skillful performance of respiratory care modalities.

Technical standards are defined by the Monroe County Community College respiratory therapy faculty as the functional abilities determined to be essential to the scope of practice in respiratory care.

The purpose of this document is to notify prospective and current respiratory therapy students of these technical standards to enable them to make an informed decision regarding enrollment and continued participation in the respiratory therapy program at Monroe County Community College.

The delivery of safe, effective respiratory care requires that students be able to perform functions related to the technical standards. The inability of a student to perform these functions may result in the student being unable to meet course objectives and to progress in the respiratory therapy program. Additionally, if a student is unable to perform these required functions, the student may pose a risk of harm to the patient(s) for whom care is provided.

The following list outlines the technical standards and the related functions required by the Monroe County

Community College respiratory therapy program. Examples of each standard are available at: http://www.monroecc.edu/health_sciences/respiratory_therapy.htm

- **Motor**

The student will have sufficient:

- Strength, mobility, flexibility and coordination necessary to perform client care activities and emergency procedures.
- Gross and fine motor skills necessary to perform clinical skills and techniques safely and effectively.

- **Sensory**

The student will have sufficient function to:

- See
- Hear
- Touch
- Smell

- **Communication**

The student will have adequate ability to:

- Read, write, interpret, comprehend and legibly document in multiple formats using standard English.
- Recognize, interpret and respond to nonverbal behavior of self and others.
- Accurately elicit information.

- **Professional Behavior**

The student will demonstrate the appropriate behavior(s) to:

- Establish effective, compassionate relationships with clients, families, staff and colleagues with varied socioeconomic, emotional, cultural and intellectual backgrounds.
- Accept accountability and responsibility for one's actions.
- Effectively work independently and in team situations.
- Comply with the ethical and legal standards of the respiratory care profession and policies of the respiratory therapy program.
- Respond appropriately and effectively to criticism.
- Display integrity, honesty and responsibility.
- Demonstrate professionalism with intimate physical care of clients.

- **Critical Thinking**

The student will have sufficient problem-solving skills to:

- Make safe, immediate, well-reasoned judgments often in unpredictable situations.
- Perform mathematical computations associated with respiratory care.

- **Emotional, Psychological, Mental Stability**

The student will display:

- Effective and empathetic behaviors under stressful and rapidly changing situations while interacting with diverse individuals and groups.

A prospective student or participant in the program with an approved documented disability can request reasonable accommodations to meet these standards. The College will provide appropriate accommodations, but is not required to substantially alter the requirements or nature of the program. Requests for accommodations should be directed to a Disability Services counselor in the Learning Assistance Laboratory (C-218). To make an appointment, please call 734-384-4167.

Applicants should have reasonable expectations that they can complete the program of study and meet the educational objectives. Accommodations are unreasonable if they essentially impair or change the curriculum. Questions should be directed to the special populations coordinator in the Learning Assistance Laboratory. In addition to the general college rules, respiratory therapy students are required to adhere to policies and procedures outlined in the Respiratory Therapy Student Handbook.

TEACHER PARAPROFESSIONAL

Science/Mathematics Division

This program leads to the associate of applied science degree and will fulfill the requirements of the No Child Left Behind legislation. After completing these program requirements, graduates will be able to apply for teacher paraprofessional positions in K-12 school districts. Also, because many of these courses transfer to four-year institutions, students interested in becoming certified teachers will be able to benefit from this program. Check with your advisor and planned transfer school for more details about transferring.

	Credits
Required General Education Courses	19
ENGL 151 (English Composition I)	3
ENGL 152 (English Composition II)	3
POLSC 151 (Introduction to Political Science)	3
Science with Lab	4
† CIS 130 (Introduction to Computer Information Systems)	3
A mathematics course numbered MATH 150 or higher.	3

Required Core Courses	26
ART 158 (Art for Elementary Teachers)	3
EDUC 151 (Exploring Teaching)	3
ENGL 256 (Children's Literature)	3
HPE 151 (First Aid and Safety)	2
ECDV 150 (Nutrition, Health & Safety for Early Childhood Education)	3
MUSIC 165 (Music for Classroom Teachers)	3
PSYCH 251 (Child Psychology)	3
PSYCH 156 (The Exceptional Person)	3
SPCH 151 (Communication Fundamentals)	3

Electives	15
<i>(must choose from at least two different subjects)</i>	
ECDV 105 (Child Growth and Development)	3
ECDV 106 (Observing/Recording Child Behavior)	3
ECDV 207 (Methods/Materials Early Childhood Education)	3
ENGL 261 (Creative Writing)	3
HIST 151 (Western Civilization to 1650)	3
HIST 152 (Western Civilization, 1650 to Present)	3
HIST 154 (History of the U.S., 1607-1877)	3
HIST 155 (History of the U.S., 1877 to Present)	3
HIST 255 (History of East Asia)	3
HIST 256 (African-American History)	3
HPE 158 (Effective Coaching for Team Sports)	3
HUMAN 151 (Introduction to Humanities)	3
HUMAN 152 (Exploring Creativity)	3
MATH 156 (Math for Elementary Teachers I)	3
MATH 166 (Math for Elementary Teachers II)	3
PSYCH 151 (General Psychology)	3
SOC 151 (Principles of Sociology)	3
SOC 251 (Modern Social Problems)	3
SOC 252 (Juvenile Delinquency)	3
SWK 106 (Child Welfare)	3

Total Degree Requirements	60 credits
Total Degree Cost	60 minimum billable contact hours

† Tech Prep course. See page 15.

WELDING TECHNOLOGY

Industrial Technology Division

The associate of applied science degree with specialization in welding technology parallels the highly technological demands of industry. The welding laboratory contains state-of-the-art equipment for shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux cored arc welding (FCAW), gas tungsten arc welding (GTAW), submerged arc welding (SAW), plasma arc cutting and oxy-fuel cutting (OFC). Virtually all modern production welding practices are covered.

The subject matter and laboratory experiences in the welding program provide training for the serious welding technologist, with emphasis on welding skill development, welding metallurgy, weldment evaluation and testing, and related technical courses. Students are prepared for many welding-related careers, including welding inspection, sales, service, design, maintenance and engineering. The college offers state and American Welding Society (AWS) welder certification testing. Graduates of this program will be prepared for entry-level employment in the following areas:

- Welder/fabricator
- Welding metallurgy technician
- Welding sales/service technician
- Engineering technician
- Pipefitter
- Weld inspector
- Production welder

For welding courses 102, 104 and 106, it is possible to enroll for specific subdivisions of the courses. As an example, WELD 102, Advanced SMAW, is shown as a single, six credit-hour course. The course can be subdivided into WELD 102A, Multi-Pass Arc Welding – two credits; WELD 102B, Code Welding Techniques – two credits; and WELD 102C, Multi-Pass Pipe Fillet Welding – two credits. This allows greater flexibility in terms of advanced placement for those with prior welding experience/training and also in the amount of time one has to commit to class during any one semester. Similar options exist in GMAW and GTAW Applications. See the division dean or faculty member for more information.

Another important feature of the program is the individual progress, audio-tutorial approach to mastering welding skills. Students may come in and, within certain parameters, progress at their own rate of speed. This allows students to complete course requirements based on their own ability rather than being locked into a set rate of progress for a given class.

Welding majors will be required to purchase related equipment for the program. A list is available from the college.

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

	Credits
Required General Education Courses	
	21
ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition I)	3
¹ MATH	6
POLSC 151 (Introduction to Political Science)	3
² Social Science/Humanities Elective	3
PHY 101, 151, or CHEM 150 or 151	4
³ Computer Skills Elective	2
 Required Core Courses	
	41
1st Semester	
MATL 101 (Industrial Materials)	3
WELD 100 (Introduction to Welding Processes)	4
2nd Semester	
WELD 110 (Welding Symbols and Blueprint Reading)	2
WELD 114 (GMAW and GTAW Applications)	6
3rd Semester	
METC 220 (Statics & Strength of Materials)	4
WELD 102 (Advanced SMAW)	6
WELD 103 (Weldment Evaluation and Testing)	3
4th Semester	
WELD 105 (Welding Metallurgy)	3
WELD 106 (Basic Pipe Welding)	6
Spring	
WELD 216 (Basic Pipefitting)	4
 Total Degree Requirements	
	62 credits
Total Degree Cost	
	78 minimum billable contact hours

¹ See page 39 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.

² See the social science/humanities alternatives listed on page 39.

³ See the computer skills alternatives listed on page 40.



■ COURSE DESCRIPTIONS

Course Numbering System

090-099	Developmental courses that carry institutional credit only and do not apply towards graduation.
100-149	Freshman Career
150-199	Freshman University Parallel
200-249	Sophomore Career
250-291	Sophomore University Parallel
295-299	Field Trips, Seminars, Workshops, Independent Study, Co-ops

ACCOUNTING (ACCTG)

110 Applied Office Accounting 3 Credit Hours 3 Billable Contact Hours

Prerequisite: BSMTH 101 or MATH 121 or MATH 150 or higher.

This introductory course is designed to provide an overview of accounting concepts and principles for non-accounting majors. Two mini-practice sets provide students with real-world experience using the accounting cycle.

151 Accounting Principles 4 Credit Hours 4 Billable Contact Hours

Prerequisite: Completion of, or co-register in BSMTH 101, MATH 150 or higher, or achieve a score on the COMPASS or ACT which satisfies current college general education requirements for graduation F, W

The study of accounting theory and principles is applied to service and merchandising enterprises, including special journals and ledgers, adjusting and closing procedures, preparation of financial statements, promissory notes, inventory control and valuation, depreciation, payroll and an introduction to cash control.

152 Accounting Principles 4 Credit Hours 4 Billable Contact Hours

Prerequisite: ACCTG 151 F, W
This course is a continuation of Accounting 151. The concepts and principles of partnership and corporate accounting, introduction to manufacturing and cost accounting, management analysis and interpretation of financial data are covered in this course.

201 Microcomputer Accounting I 3 Credit Hours 3 Billable Contact Hours

Prerequisite: ACCTG 151 and CIS 109 F
This course is an introduction to computerized accounting emphasizing the application of accounting principles to microcomputers. Microcomputers will be used to maintain general and subsidiary ledgers

205 Microcomputer Accounting II 3 Credit Hours 3 Billable Contact Hours

Prerequisite: ACCTG 152 and ACCTG 201 W
This course is a continuation of Microcomputer Accounting I. Using a software package, students will review and apply basic accounting principles, record transactions and generate computer documents for various types of business organizations.

220 Payroll Accounting 3 Credit Hours 3 Billable Contact Hours

Prerequisite: ACCTG 151
This course covers the analysis and recording of payroll transactions and the filing requirements of payroll reports. It will also focus on the various phases of Social Security taxes, federal income taxes, state income taxes and unemployment compensation and the laws relating to them. A payroll project is required, during which students will apply analytical and procedural skills learned in this course.

251 Intermediate Accounting I 4 Credit Hours 4 Billable Contact Hours

Prerequisite: ACCTG 152 F
This course is a detailed analysis of accounting problems as they relate to the valuation of assets. The course begins with a review of the fundamental accounting process and preparation of financial statements. The concept of present value is then introduced, followed by a comprehensive study of the asset section of the balance sheet.

252 Cost Accounting 4 Credit Hours 4 Billable Contact Hours

Prerequisite: ACCTG 152 W
This course is an introductory course designed to provide practical knowledge of cost accounting systems and procedures. The course begins with an overview of the nature and purpose of cost accounting and follows with the basic concept that cost flow matches work flow. The major areas of cost accounting are covered, including job order cost accounting, process cost accounting, budgeting, standard costs, direct costing and nonmanufacturing costs.

254 Intermediate Accounting II 4 Credit Hours 4 Billable Contact Hours

Prerequisite: ACCTG 251 W
This course is a continuation of Intermediate Accounting I. The emphasis is on the liabilities and stockholders' equity sections of the balance sheet. Additional topics such as statement of cash flows and analysis and interpretation of financial statements are also covered in detail.

255 Introduction to Taxation 3 Credit Hours 3 Billable Contact Hours

Prerequisite: ACCTG 151 F
This course deals with the broad concepts of taxation. Topics include a working definition of taxation and tax bases. Tax concepts for both individual and corporate taxation are covered. Since income tax laws are constantly changing, this course is not designed to teach individuals how to be tax accountants or prepare individual income tax returns. The emphasis will be on broad, general concepts and on such topics as gross income deduction, credits and payments, expenses, capital gains and tax planning.

ADMINISTRATIVE PROFESSIONAL (ADMN)

101 Introduction to Today's Office 1 Credit Hour 1 Billable Contact Hour

F, W
This introductory course provides an overview of the administrative professional program. Content includes communication techniques and use of resources. Proofreading, spelling, grammar and punctuation skills are emphasized.

102 Keyboarding 1 Credit Hour 1 Billable Contact Hour

F, W
Keyboarding is designed to teach touch operation of the computer keyboard. The purpose of the course is to enable students to input and access information accurately and efficiently. Note: Students who have received credits for ADMN 131, 135; EOS 121, 131, 135, 139; or WPR 103 or 104 will not receive credit for this course. This class may not be taken concurrently with any of the above courses.

104 Legal Specialty 3 Credit Hours 3 Billable Contact Hours

Prerequisite: ADMN 119 or EOS 119 F, W
This course is a comprehensive study of legal procedures and terminology. Content includes basic areas of law. All material is transcribed from recorded media. Legal Specialty is offered through the Regional Computer Technology Center and the Business Learning Lab on a self-paced basis.

105 Medical Specialty 3 Credit Hours 3 Billable Contact Hours

Prerequisite: EOS 119 or ADMN 119 and HLTSC 110 F, W
This course is a comprehensive study of medical terminology and transcription of operative reports, discharge summaries, pathology reports, etc. All material is transcribed from recorded media using the computer. The course is offered through the Regional Computer Technology Center and the Business Learning Lab on a self-paced basis using self-instructional materials.

106 Numeric Keypad **1 Credit Hour**
1 Billable Contact Hour
F, W, Sp

Numeric Keypad teaches the touch operation of the computer ten-key pad. This course is designed for the development of speed and accuracy in entering data. Numeric Keypad is offered through the Regional Computer Technology Center and the Business Learning Lab on an individualized, self-paced basis.

119 Machine Transcription **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: EOS 135 or ADMN 135

Machine Transcription provides practice in processing communication from verbal to printed form by transcribing from recorded media. Students develop proficiency in the technical skill of transcribing business documents while strengthening punctuation, spelling, grammar, vocabulary, listening, editing and proofreading skills.

131 Beginning Keyboarding **3 Credit Hours**
3 Billable Contact Hours

This course teaches the touch method of computer keyboard operation and provides practice techniques for building speed and accuracy. Content includes keying letters, memos and reports.

131B Keyboarding Skills Enhancement **1 Credit Hour**
1 Billable Contact Hour

Prerequisite: EOS 102 or ADMN 102 or touch keyboarding skills of 30 nwpm F, W

This course presents proven techniques for increasing keyboarding speed and accuracy. The student will complete lessons following a routine of focusing on one letter and completing 15-second, 30-second, and one- and two-minute timings which enforce that letter. This is a self-paced course in the Regional Computer Technology Center and the Business Learning Lab using a Web site specifically created for skill building.

135 Intermediate Keyboarding **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: Touch keyboarding skills of 40 nwpm F, W

Intermediate Keyboarding is taught with word processing-like software. The course includes the development of speed and accuracy and the production of business letters, memos, tables and manuscripts.

201 Integrated Office Software **4 Credit Hours**
4 Billable Contact Hours

Prerequisite: CIS 109 and CIS 112 and WPR 102 W
Integrated Office Software provides instruction in the use of current office suite software packages. The course includes simulation exercises designed to develop proficiency in organizing, sorting, managing and presenting information with word processing, spreadsheet, database and presentation software programs. The course also includes complex, hands-on projects that represent day-to-day administrative management activities.

ANTHROPOLOGY (ANTHR)

152 Introduction to Cultural Anthropology **3 Credit Hours**
3 Billable Contact Hours
F, W, Sp

This course provides a foundation of knowledge and appreciation of the range and variety of human life styles on a global basis. It describes and seeks general understanding about human customs or cultural behavior. This course provides the conceptual tools to understand cultural diversity and to help individuals to gain enlarged and enhanced perspectives on their own lives as well as the lives of others.

155 Introduction to Archaeology **3 Credit Hours**
3 Billable Contact Hours
F

This course is designed to provide a thorough introduction to the history, methods and theories of archaeology. Emphasis will be on a North American perspective, although examples of archaeological research/reasoning from around the world will be discussed, as appropriate. Case studies will be employed to illustrate major trends or concepts. Lectures, demonstrations, slide shows and hands-on experiences and exercises will be used to facilitate the learning experience.

165 Eastern North American Archaeology **3 Credit Hours**
3 Billable Contact Hours
W, Sp, Su

This course is designed to provide a thorough introduction to the archaeology of eastern North America from the initial Native American occupations to the early Euro American settlement of the area. Case studies will be employed to illustrate major trends or concepts. Lectures, demonstrations, slide shows and hands-on experiences and exercises will be used to facilitate the learning experience.

ART (ART)

151 Art Fundamentals **3 Credit Hours**
6 Billable Contact Hours
F, W

This is an introductory course for all art students, especially those who are interested in taking a basic art class. The student will be exposed to the elements of two-dimensional form structure, the principles of organization, art terminology, materials and techniques and forms of artistic expression.

155 Art Appreciation **3 Credit Hours**
3 Billable Contact Hours
F, W, Sp

The student will be exposed to the fundamental principles governing art in its various forms. Slide lectures, class discussions, presentations by visiting artists, films and studio projects are designed to meet the needs of general students in understanding and appreciating the fine and applied arts.

158 Art for Elementary Teachers **3 Credit Hours**
3 Billable Contact Hours
F, W, Sp

This course is designed for the student who is pursuing a career in elementary education. It will focus on the various strategies that are required to produce a qualitative art program at the primary grade levels. Emphasis will be placed on teaching art production, writing instructional objectives for lesson planning and reviewing the fundamentals of art.

160 Two-Dimensional Design **3 Credit Hours**
6 Billable Contact Hours
F, Sp

This course studies the principles of two-dimensional design for an understanding of its nature and expressive possibilities. It allows for the opportunity to develop a creative approach in working with its elements. Emphasis will be placed on developing an awareness of composition and the principles of organization involving creativity and intuition. This course is viewed as a continuation of Art Fundamentals.

165 Illustration Techniques **3 Credit Hours**
6 Billable Contact Hours

This course introduces the art student to the many drawing and painting techniques used by professional illustrators. The student will simulate the demands and deadlines faced in the advertising world. The exploration of ideas and images, recognition, media selection, step-by-step work-ups and presentation of final work is of utmost importance and will be developed thoroughly by the student. This course is viewed as a continuation of ART 160.

170 Life Drawing **3 Credit Hours**
6 Billable Contact Hours

Prerequisite: ART 151 or ART 180

This is an introductory course in drawing the human figure from a live model. Numerous approaches, including varied media and drawing techniques, as well as the examination of human anatomy and its structure, will be discussed and explored. Understanding of the various attitudes of the human form will be emphasized.

180 Drawing I **3 Credit Hours**
6 Billable Contact Hours
F, W

This is a comprehensive course covering the mechanics and techniques of drawing. The student will become aware of the various dry media used in drawing. Concentration on expressive line quality, mass, value, proportion and visual awareness will be of primary concern.

181 Drawing II **3 Credit Hours**
6 Billable Contact Hours
F, W

Prerequisite: ART 180

In this course, mixed media, self-expression, draftsmanship, composition, content and subject awareness will be emphasized. The student will be placed in a situation where self-discipline, analysis of composition and the development of creative imagery are of the utmost importance. This course is a continuation of ART 180.

190 Painting I **3 Credit Hours**
6 Billable Contact Hours
F, W

This is an introductory course in painting. The selection of subject, composition, investigation of the many techniques (glazing, scumbling, dry brush, wet on wet, impasto, etc.) and preparation of painting surfaces will be explored thoroughly. Acrylic paint will be the media of choice in this class.

191 Painting II **3 Credit Hours**
6 Billable Contact Hours
F, W

Prerequisite: ART 190

Emphasis is placed upon individual problems and the further development of techniques and approaches gained in Painting I. This course is a continuation of ART 190.

250 Watercolor Painting I **3 Credit Hours**
6 Billable Contact Hours
F, W

This is an introductory course designed to familiarize the beginning student with the many technical and creative approaches to watercolor painting. Investigation of papers and watercolor tools, exploration of the medium, demonstrations, slide lectures and critiques will give the student in this class a more than adequate understanding of waterbase media.

251 Watercolor Painting II **3 Credit Hours**
6 Billable Contact Hours
F, W

Prerequisite: ART 250

Emphasis will be on composition and individual expression. This course is a continuation of ART 250.

252 Studio Art **3 Credit Hours**
6 Billable Contact Hours
F, W

Prerequisite: ART 181 or ART 191 or ART 251
Studio Art is a non-transferable course for the student/artist who has completed all the art offerings in a given discipline but still wishes to utilize the studio space, facilities and instructor's expertise to gain further knowledge. This will be done with the permission and under the supervision of an instructor. The student receives "P" or "F" rather than a letter grade for the course since it is not intended to transfer.

270 Ceramics I **3 Credit Hours**
6 Billable Contact Hours
F, W

This course introduces the student to the nature of clay and how it can be formed. An emphasis will be placed on hand-building methods; coil and slab methods will also be investigated. The intent of the course is to develop techniques of the artist/craftsman in each student. Fundamentals of design and glazing are also covered.

271 Ceramics II **3 Credit Hours**
6 Billable Contact Hours
F, W

Prerequisite: ART 270

This course continues the study of clay and the methods of using it as an art form. The objectives will be to develop one's skill in wheel throwing and to increase the student's awareness of the aesthetic nature of good ceramics. This course is a continuation of ART 270.

272 Ceramics III **3 Credit Hours**
6 Billable Contact Hours
F, W

Prerequisite: ART 271

This course continues the study of clay and the methods of using it as an art form. The objectives will be to increase one's skill in wheel throwing, analyze and to make more complicated forms, experiment in combining techniques and increase the student's awareness of the aesthetic nature of good ceramics. This course is a continuation of ART 271.

273 Ceramics IV **3 Credit Hours**
6 Billable Contact Hours
F, W

Prerequisite: ART 272

This course emphasizes self-expression, craftsmanship and studio practices. Glaze calculations and kiln firing procedures will also be covered. This course is a continuation of ART 272.

**274 Studio Practices Ceramics 3 Credit Hours
6 Billable Contact Hours**

Prerequisite: ART 273 F, W

This is a non-transferable course for the artist who has completed all the art offerings in a given field but still wishes to use the studio space and instructor's expertise to gain further knowledge. This will be done with the permission and under the supervision of an instructor. This course is not designed as part of a transfer program. The student receives "P" or "F" rather than a letter grade.

**280 Art History: 3 Credit Hours
Prehistoric to Gothic 3 Billable Contact Hours**

This course examines the art of the ancient western world beginning with pre-historic man and concluding with the Medieval Gothic Era. The periods covered include pre-historic, Mesopotamian, Egyptian, Greek, Roman, early Christian, Byzantine and Gothic.

**281 Art History: 3 Credit Hours
Renaissance to Baroque 3 Billable Contact Hours**

This course is an exploration of the artists and ideals which mark the development of early Renaissance art and its subsequent developments in Northern and Southern European art to the eighteenth century. Focus will be placed on the individual artists from the early Renaissance period up to the Baroque

**282 Art History: 3 Credit Hours
Neo-Classical/Early Modern 3 Billable Contact Hours**

This course traces the early movements of modern art, showing the progression of thought and the change of styles from the Neo-Classical period through the early twentieth century. Focus will be placed on specific artists who had leading roles in these developments.

ASTRONOMY (ASTRN)

**151 Introduction to Astronomy 4 Credit Hours
4 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests

This course is a non-mathematical introduction to the principles of the astronomical universe. It is a general education course designed to be of interest to the individual without a scientific background who wishes to study the interrelation of the parts of the universe. Major areas of study include historical overviews, stars, stellar evolution, galaxies, cosmology and the solar system. Some laboratory work and day/evening outside observing may be required.

AUTOMOTIVE ENGINEERING TECHNOLOGY (AUTO)

**101 Internal Combustion Engines 4 Credit Hours
6 Billable Contact Hours**

This course covers the operating principles and design considerations of internal combustion engines typically encountered in the transportation field. Included will be two and four stroke-cycle gasoline and diesel engines, the Wankel and gas turbine engines. Emphasis will be on four stroke-cycle gasoline engines.

**102 Automotive Electricity 4 Credit Hours
6 Billable Contact Hours**

Prerequisite: ELEC 125 W

The practical application of electrical principles will be studied and include theory of operation, design and troubleshooting of starting motors, alternators, regulators and the complex electrical accessories found on modern automobiles. Use of automotive electrical test equipment will be stressed.

**103 Fuel and Emission 4 Credit Hours
Control Systems 6 Billable Contact Hours**

This course covers the design theory, construction, operation and maintenance of fuel pumps, fuel injection and emission control systems. Principles of fuel distribution, manifolds and carburetors are studied. Students will develop skills in the use of diagnostic equipment to test and calibrate fuel and emission control systems.

**104 Automotive Ignition Systems 3 Credit Hours
4 Billable Contact Hours**

Prerequisite: ELEC 125 F

This course covers the operating principles of electronic and computer controlled ignition systems. Dynamometers are used to determine ignition timing curves for various operating conditions. Diagnostic procedures and the use of testing equipment will be stressed.

**105 Automotive Transmissions 3 Credit Hours
4 Billable Contact Hours**

This course covers the construction, operation and maintenance of standard and automatic transmissions and overdrive units. Troubleshooting, adjustment and maintenance of the various transmissions is covered in detail.

**107 Automotive Chassis Units 4 Credit Hours
6 Billable Contact Hours**

This course covers the design theory, construction, operation and maintenance of basic chassis components. Differentials, propeller shafts, springs, suspension, alignment and brake systems are studied. Use of road simulators with accelerometers and load cells are used to study vehicle dynamics.

**109 Welding for Automotive 3 Credit Hours
Technicians 4 Billable Contact Hours**

This course is an in-depth introduction to the technical concepts pertaining to the more common automotive welding and cutting processes. Machine functions and filler metal chemistry will be emphasized as well as procedure requirements for stainless steel and aluminum. Welding/cutting processes covered (including laboratory applications) include: oxy-fuel cutting (OFC), plasma arc cutting (PAC), gas tungsten arc welding (GTAW) and gas metal arc welding (GMAW).

114 Auto Instrumentation and Testing **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: AUTO 101 and AUTO 103 and AUTO 104

W

This course is designed to further develop students' understanding and ability to set up and conduct laboratory investigations applicable to automotive research and development. Emphasis will be placed on defining the scope of a project, evaluation of investigation procedures, setting up and conducting tests, gathering and analyzing data and the production of final reports. Hardware and procedures will include computerized data collection, application of thermocouples, pressure transducers, strain gauges and similar devices applied to components undergoing tests on chassis and engine dynamometers, flow benches and related equipment.

201 Automotive Digital Electronics **3 Credit Hours**
4 Billable Contact Hours

Prerequisite: ELEC 125

W, Sp

An introduction to digital theory, components, circuitry and systems as they relate to automotive applications. Topics covered are: basic microprocessor theory, the address bus, the data bus, control lines, memory, output systems, input systems, inherent instructions, extended instructions and applications.

BIOLOGY (BIOL)

151 Biological Sciences I **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 and MATH 150 or qualifying scores on ACT or COMPASS tests

F, W, Sp

General Biology is designed to cover selected biological topics which should help the student gain an understanding and appreciation of basic life functions, man's relationship to the environment and the application of biological data to effective decision making. The class will cover molecular biology, cell structure and function, metabolism, Mendelian and population genetics, evolutionary theory and ecology. This is the first semester of a two-semester sequence. Course requires laboratory work. Dissection of preserved animal specimens may be required. This course is not open to students who have previously taken BIOL 152.

152 Biological Science **4 Credit Hours**
6 Billable Contact Hours

This course is designed to cover selected biological topics which should help the student gain an understanding and appreciation of basic life functions, man's relationship to the environment and the application of biological data to effective decision making. Units include modern cell biology, chemistry, metabolism, genetics, ecology, and the taxonomy and evolution of major phyla. Course requires laboratory work.

153 Biological Sciences II **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: BIOL 151 or BIOL 152

W

General Biology is designed to cover selected biological topics which should help the student gain an understanding and appreciation of basic life functions, man's relationship to the environment and the application of biological data to effective decision making. The class will cover plant and animal anatomy, physiology and diversity. This is the second semester of a two- semester sequence. Course requires laboratory work. Dissection of preserved animal specimens is required.

154 Introduction to Environmental Science **4 Credit Hours**
4 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests

A non-mathematical introduction to ecology and environmental science stressing fundamental concepts and principles of ecology/ecosystems, population dynamics, resources and pollution. Topics include land use, food resources, mineral resources, energy, air, water and the causative interrelationships between human values and socio-economic, political and environmental problems. This course is open to both science- and non-science majors.

155 Allied Health Anatomy and Physiology **4 Credit Hours**
5 Billable Contact Hours

Prerequisite: CHEM 150 or BIOL 151 or high school biology or chemistry.

A one-semester course which surveys the fundamental concepts of cellular structure and human body organization. Basic anatomy and physiology of the 10 body systems is integrated with laboratory exercises using models and microscope slides to illustrate human anatomy. This course cannot be used to meet the anatomy and physiology requirements of the nursing or respiratory therapy associate degree programs. Course requires laboratory work. Dissection of preserved animal specimens is required.

157 Anatomy & Physiology I **4 Credit Hours**
5 Billable Contact Hours

Prerequisite: BIOL 151 or CHEM 150 or high school biology and chemistry within the last five years.

Fundamental concepts of cellular structure and human body organization. Emphasis on cellular structure and function and anatomy and physiology of the following human organ systems: integumentary, skeletal, muscular, nervous and special senses. Integrated principles of chemistry, biology and embryology are covered. This course is required for all students in the Health Sciences curriculum. Course requires laboratory work. Dissection of preserved animal specimens is required.

158 Anatomy & Physiology II **4 Credit Hours**
5 Billable Contact Hours

Prerequisite: BIOL 157

A continuation of Biology 157, this course covers the anatomy and physiology of the human endocrine, circulatory, respiratory, digestive, renal and reproductive systems. This course is required for all students in the Health Sciences curriculum. Course requires laboratory work. Dissection of preserved animal specimens is required.

160 Biology of Aging **3 Credit Hours**
3 Billable Contact Hours

This course presents the essential biological changes which occur as part of the aging process, in particular, those pathological conditions which are common in later life. It includes current theories of biological aging with special attention to the implications of those changes in serving the needs of older adults. It is designed to meet the needs of students preparing for careers in working with older adults.

251 Elements of Botany **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: BIOL 151 or BIOL 152

W

A detailed study of plant forms from the primitive groups to the higher seed plants. Morphology and physiology, taxonomy, evolution, ecology and economics will be studied. Course requires laboratory work.

252 Elements of Zoology 4 Credit Hours**6 Billable Contact Hours****Prerequisite:** BIOL 151 or BIOL 152. F

A detailed study of invertebrate and vertebrate animals. Emphasis is placed on morphology and physiology, taxonomy, evolution, economics and ecology. Some of the more important cases under these topics will be discussed and explored. This course requires field work outside of the normal laboratory hours throughout the semester. Dissection of preserved animal specimens is required.

259 Introduction to Pathophysiology 4 Credit Hours**4 Billable Contact Hours****Prerequisite:** BIOL 158 and BIOL 260

A study of the fundamental mechanisms and manifestations of disease. The course covers basic principles of human pathophysiology, including infectious disease, immunopathology, congenital and hereditary disorders and neoplasia. Disorders of the major organ systems are emphasized: cardiovascular, respiratory, nervous, endocrine, renal, urologic and gastrointestinal/biliary pathophysiology. This course is designed for students in occupational programs relating to the health sciences.

260 General Microbiology 4 Credit Hours**6 Billable Contact Hours****Prerequisite:** BIOL 151 or CHEM 150 or NURS 105

An introductory course designed to present the basic concepts, techniques and applications of microbiology. It will include detailed discussion of the characteristics of bacteria, fungi, algae, protozoa, helminthes and viruses in terms of morphology, chemical and biological properties, control techniques, disease and applications. Course requires laboratory work.

264 Fundamentals of Genetics 4 Credit Hours**6 Billable Contact Hours****Prerequisite:** BIOL 151 or BIOL 152

This course provides an introduction to the principles of the transmission of inherited characteristics and the underlying molecular mechanisms of the regulation of expression of genetic information. Topics will include: classical genetics, molecular genetics, biotechnology and genetic engineering, genetics of cancer and population genetics.

BUSINESS ADMINISTRATION (BUSAD)**151 Introduction to Business 4 Credit Hours****4 Billable Contact Hours**

F, W

This course surveys the field of business, focusing on problems, practices and procedures. The scope includes environmental aspects, organization, marketing and sales promotion, production, personnel, labor relations and finance. This course is required by most business curricula and should be taken in the first year. This course is also highly recommended for any non-business major who wishes to explore the field of business.

170 Small Business and Entrepreneurship**3 Credit Hours**
3 Billable Contact Hours

This course introduces students to small business entrepreneurship. It is designed for students interested in starting or working for a small business, those interested in freelance or private contracting work (artists, caterers, daycare operators, welders, electricians, photographers, etc), business majors, and others interested in small business and entrepreneurship. Course topics include funding a business, developing a business plan, franchising, hiring and managing employees, marketing, personal selling, and ethics. The focus of this course is on the types of small businesses that students might actually start versus high-growth businesses reliant on venture capital. It covers practical aspects of small business management, including part-time businesses, Internet businesses, and the unique challenges and opportunities presented by family-owned businesses. Recognizing that entrepreneurs may start multiple businesses over the course of a lifetime, this course covers the entire business life-cycle from business idea formulation and evaluation to harvesting or closing a business.

BUSINESS LAW (BSLW)**251 Business Law****4 Credit Hours**
4 Billable Contact Hours

F, W

This course addresses various legal principles: law of contracts, agency, negotiable instruments and banking. Some of the more important cases under these topics will be discussed and explored.

BUSINESS MANAGEMENT (BMGT)**160 Managing in the Digital Enterprise****3 Credit Hours**
3 Billable Contact Hours

F, W

This course provides students with the skills and knowledge to work in and understand the challenges managers face in an increasingly digital world. The course includes an introduction to managing activities in the digital enterprise, including how the work of managers has changed as more employees and customers migrate to online. The hands-on portion of the course will include suite software, e-commerce, digital communications (including mobile devices), the Internet, e-mail and other networked resources used to turn data into commercial information. Keyboarding skills will be beneficial.

201 Principles of Management**3 Credit Hours**
3 Billable Contact Hours

F, W, Sp

This course emphasizes the basic principles of management. The course topics include functions of management, decision-making, leading, communicating, controlling, planning, human resources and organizing. Managerial functions are discussed within the framework of contemporary business organizations.

220 International Business**3 Credit Hours**
3 Billable Contact Hours**Prerequisite:** BMGT 201 and ECON 251

International Business introduces the process of globalization and its implications for business firms and their managers. Course content includes the social, political and economic environments of the multinational firm, with emphasis on management strategies across cultural and national boundaries.

251 Human Resource Management **4 Credit Hours**
4 Billable Contact Hours

Prerequisite: BUSAD 151 or BMGT 201 W

The focus of this course is on business organization and management as they apply to the personnel functions of recruitment, selection, placement, orientation and training. Attention is given to job analysis and evaluation, morale measurement and maintenance, union-management relationships and employees' economic and physical security.

BUSINESS MATH (BSMTH)

101 Business Mathematics **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: MATH 090 or pass the Math Assessment F, W

This course covers practical application of addition, subtraction, multiplication, division, decimals, fractions, percentages, discounts, simple interest, compound interest, present value, discounting notes, interest on installment loans and amortized mortgage loans to the problems of everyday business and accounting.

CHEMISTRY (CHEM)

150 Fundamental Principles of Chemistry **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 and MATH 150 or qualifying scores on ACT or COMPASS tests

An introduction to the fundamental concepts and applications of general chemistry and description of chemical compounds. Detailed discussions include: measurement, atomic structure, nuclear change, the periodic law, bonding, nomenclature, chemical reactions, mass relationships, solutions, acids and bases and other selected topics. The course is designed for majors in health, elementary education and technical programs and as an elective for non-science majors. Course requires laboratory work.

151 General College Chemistry I **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: MATH 151 or qualifying score on ACT or COMPASS test and CHEM 150 or one year of high school chemistry F

A study of the basic principles of general chemistry including classification and characterization of chemical particles, chemical bonding and molecular structure, chemical reactions, oxidation-reduction processes, reaction stoichiometry, inorganic nomenclature and the qualitative behavior of common metals and their cations. Course requires laboratory work.

152 General College Chemistry II **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: CHEM 151 W

A continuation of Chemistry 151 which includes obtaining and applying quantitative information in the laboratory to the basic interrelationships among solution chemistry, chemical thermodynamics, chemical kinetics, chemical equilibria and electrochemistry. Course requires laboratory work.

160 Fundamentals of Health-Science Chemistry **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: CHEM 150 or CHEM 151 or high school chemistry W

A study of organic and biochemistry as it applies to the health sciences. The course is designed for majors in occupational programs relating to the health sciences that require a basic understanding of organic and biochemistry. Course requires laboratory work.

251 Organic Chemistry I **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: CHEM 152 F

The preparation, properties, structures and reactions of aliphatics, alcohols, ethers, aldehydes, ketones and carboxylic acids. Laboratory develops basic organic chemistry techniques as well as instrumental methods, including chromatography and spectroscopy. The course includes three hours of lecture and three hours of laboratory each week.

252 Organic Chemistry II **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: CHEM 251 W

A continuation of Chemistry 251 with consideration of enols, polyenes, amines, heterocyclics, carbohydrates, amino acids and macromolecular species. Laboratory develops basic organic chemistry techniques as well as instrumental methods, including chromatography and spectroscopy. The course includes three hours of lecture and three hours of laboratory each week.

COLLEGE SUCCESS SKILLS (COLL)

145 College Skills **2 Credit Hours**
2 Billable Contact Hours

This course is recommended for beginning college students seeking study skills for academic success. The instruction provides skills for students to use for achieving classroom excellence and independent learning, including textbook mastery and lecture synthesis. Special emphasis includes study applications in critical thinking. The Humanities Division offers this course in order to assist students in achieving academic goals efficiently. Although skills for effective communication during class meetings are included, the general education skill emphasized in this course is critical thinking.

COMMUNICATION (COMM)

151 Introduction to Mass Media **3 Credit Hours**
3 Billable Contact Hours

F, W

Formerly called Intro to Radio & TV, this course is designed to introduce students to the mass media in all their forms, from print to broadcast and the Internet. It covers media effects, the roles and influence of mass media in society, and the various forms of media messages, from news to entertainment, public relations and advertising. It introduces students to key issues in media law, governance and ethics, and gives them a chance for hands-on contact with a newspaper newsroom and radio and TV studios.

250 Radio Programming 3 Credit Hours**3 Billable Contact Hours****Prerequisite: COMM 151 F, W, Sp, Su**

This course is designed to provide students with a broad understanding of radio production theory and practice. It combines lectures on radio production techniques, radio marketing, and technology and equipment with studio practice. Students will produce simulated programs. Students also learn FCC rules regarding program content and community service.

251 Television Programming 3 Credit Hours**3 Billable Contact Hours****Prerequisite: COMM 151 W**

This course is designed to provide students with a broad understanding of television production theory and practice. It combines lectures on television technology and production techniques with studio production. Students will produce simulated programs in the studio laboratory.

260 Advanced Radio I 2 Credit Hours**3 Billable Contact Hours****Prerequisite: COMM 250 F, W, Sp, Su**

This course is the first in a series of two radio workshops that give students on-air experience. Level I students will learn the basics necessary to produce a weekly two-hour radio show. Emphasis will be on following the scheduled programming and learning how to adjust the scheduled music to hit specific breaks on time. The class will participate in the planning of a remote broadcast. This remote broadcast may be scheduled on a weekend. Students enrolled in this course will be required to record a brief newscast to be recorded for playback during their radio show. Students will develop announcing skills appropriate to specific program content and format. A two-hour weekly lab section must be arranged at the first class meeting.

261 Advanced Radio II 2 Credit Hours**3 Billable Contact Hours****Prerequisite: COMM 260 F, W, Sp, Su**

A continuation of COMM 260, this course gives students additional time to develop their on-air delivery while expanding on topics learned, such as remote broadcasting, promotion and marketing. A detailed emphasis on the planning and implementing of special programming for WYDM will be a major portion of the one-hour weekly meeting. Students will continue to develop announcing abilities. A two-hour weekly lab section must be arranged at the first class meeting. Students who successfully complete COMM 261 are ready for independent on-air time.

265 Radio Lab I 1 Credit Hour**2 Billable Contact Hours****Prerequisite: COMM 261 F, W, Sp, Su**

This is an independent lab that allows students to further develop both practical skills and their understanding of how programming, production, news and community service are all needed to operate a radio station successfully. Students enrolled in this lab will be assigned as assistants to programming, production, news or community affairs work. This may include peer mentoring for COMM 260 and COMM 261 classes. This lab allows students the opportunity to apply knowledge gained in prior coursework. Students will also serve as on-air talent as needed. Individual emphasis will be on producing up-to-date audio demo tapes of projects and air-checks of programs on WYDM.

266 Radio Lab II**1 Credit Hour****2 Billable Contact Hours****Prerequisite: COMM 261 F, W, Sp, Su**

This is an independent lab that allows students to further develop both practical skills and their understanding of how programming, production, news and community service are all needed to operate a radio station successfully. Students enrolled in this lab will be assigned as assistants to programming, production, news or community affairs work. This may include peer mentoring for COMM 260 and COMM 261 classes. This lab allows students the opportunity to apply knowledge gained in prior coursework. Students will also serve as on-air talent as needed. Individual emphasis will be on producing up-to-date audio demo tapes of projects and air-checks of programs on WYDM.

267 Radio Lab III**1 Credit Hour****2 Billable Contact Hours****Prerequisite: COMM 261 F, W, Sp, Su**

This is an independent lab that allows students to further develop both practical skills and their understanding of how programming, production, news and community service are all needed to operate a radio station successfully. Students enrolled in this lab will be assigned as assistants to programming, production, news or community affairs work. This may include peer mentoring for COMM 260 and COMM 261 classes. This lab allows students the opportunity to apply knowledge gained in prior coursework. Students will also serve as on-air talent as needed. Individual emphasis will be on producing up-to-date audio demo tapes of projects and air-checks of programs on WYDM.

270 Advanced Television I**2 Credit Hours****3 Billable Contact Hours****Prerequisite: COMM 251 F, W, Sp, Su**

This course is the first in a series of two television workshops that give students on-air experience. The class works as a team to produce 30-minute community affairs programs that will air on Monroe Public Access Cable Television (MPACT). Five shows will be produced during each semester. Time required may occasionally exceed the contact hours of the course. A two-hour weekly lab section must be arranged at the first class meeting.

271 Advanced Television II**2 Credit Hours****3 Billable Contact Hours****Prerequisite: COMM 270 F, W, Sp, Su**

A continuation of COMM 270, students in this course further develop their production skills. The class works as a team to produce weekly 30-minute news programs that will air on Monroe Public Access Cable Television (MPACT). Emphasis is on developing news, sports, community events and interview segments. Work includes planning, interviewing and production of live-to-tape shows. A weekly lab section must be arranged at the first class meeting. Time required may exceed the contact hours of the course.

275 Television Lab I**1 Credit Hour****2 Billable Contact Hours****Prerequisite: COMM 271 F, W, Sp, Su**

This is an independent lab that allows students to further develop both practical skills and their understanding of how television programs are produced. Students enrolled in this lab will be assigned as assistants to programming and production work. This may include peer mentoring for COMM 270 and COMM 271 classes. This lab allows students the opportunity to apply knowledge gained in prior coursework. Specific tasks may include production of B-roll footage, producing and/or updating the PSA database and other recordings used by MPACT members. Students will also assist in the production of special programs scheduled during the semester for which they are enrolled.

276 Television Lab II **1 Credit Hour**
2 Billable Contact Hours
F, W, Sp, Su

Prerequisite: COMM 271

This is an independent lab that allows students to further develop both practical skills and their understanding of how television programs are produced. Students enrolled in this lab will be assigned as assistants to programming and production work. This may include peer mentoring for COMM 270 and COMM 271 classes. This lab allows students the opportunity to apply knowledge gained in prior coursework. Specific tasks may include production of B-roll footage, producing and/or updating the PSA database and other recordings used by MPACT members. Students will also assist in the production of special programs scheduled during the semester in which they are enrolled.

277 Television Lab III **1 Credit Hour**
2 Billable Contact Hours
F, W, Sp, Su

Prerequisite: COMM 271

This is an independent lab that allows students to further develop both practical skills and their understanding of how television programs are produced. Students enrolled in this lab will be assigned as assistants to programming and production work. This may include peer mentoring for COMM 270 and COMM 271 classes. This lab allows students the opportunity to apply knowledge gained in prior coursework. Specific tasks may include production of B-roll footage, producing and/or updating the PSA database and other recordings used by MPACT members. Students will also assist in the production of special programs scheduled during the semester for which they are enrolled.

COMPUTER INFORMATION SYSTEMS (CIS)

109 Spreadsheet Software **3 Credit Hours**
3 Billable Contact Hours
F, W

This course familiarizes students with electronic spreadsheets, spreadsheet graphics and data management systems. The various applications to business and general management systems will be discussed. Hands-on experience will be provided utilizing a popular spreadsheet software package such as Excel.

112 Database Software **3 Credit Hours**
3 Billable Contact Hours
F, W

This course familiarizes students with the basic models and capabilities of standard database management systems. Students will have hands-on experience in creating and using databases on a microcomputer. Skills will be obtained primarily through the use of a common database software package.

118 Windows Operating System **1 Credit Hour**
1 Billable Contact Hour
F, W

This course will focus on the Windows operating environment. Topics include working with files and folders, customizing the Windows environment, managing programs, using Windows accessories and utility programs, transferring data between applications, managing printing options and performing disk maintenance.

123 PowerPoint Presentation Software **3 Credit Hours**
3 Billable Contact Hours
F, W

The student will learn to transform data into professional presentations using a sophisticated PC-based software package. The course will start with simple presentations moving to the more complex projects involving animation and sound. Students will create and design charts, graphs and other visual elements which will be integrated with text to effectively communicate ideas.

130 Introduction to Computer Information Systems **3 Credit Hours**
3 Billable Contact Hours
F, W, Sp

This course provides students with basic knowledge of computer information systems and includes both computer concepts and hands-on use of various computer applications. Computer concepts include computer system basics of hardware, software, files and data storage. The hands-on portion consists of using the operating system, spreadsheets, word processing, databases, presentation software, e-mail and the Internet.

132 Computer Programming Concepts **3 Credit Hours**
3 Billable Contact Hours
Prerequisite: BSMTH 101 or MATH 121 or higher or qualifying score on ACT or COMPASS test which satisfies the mathematics general education requirement. **F, W**

This course provides an introduction to computer programming design and the coding of computer programs. Students will design solutions to computer problems using pseudocode, flowchart symbols and hierarchy charts. These solutions will then be coded, executed and debugged.

140 Help Desk Concepts **3 Credit Hours**
3 Billable Contact Hours

This course covers help desk technology, tools, techniques and customer service skills that are essential to any effective help desk. In this course, students are introduced to the service concepts of "soft skills" and "self-management skills" as well as the operation of a help desk and possible career paths.

142 Help Desk Troubleshooting **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: CIS 130

This course covers application and operating system troubleshooting and problem-solving techniques. Real-world case studies will be fielded by students to provide them with challenges they can expect to encounter in a day-to-day help desk support situation. In addition, this course will help to prepare students to successfully pass the Help Desk Analyst Certification Exam.

150 Computer Science I **3 Credit Hours**
3 Billable Contact Hours
F, W

Prerequisite: CIS 132
This course focuses on the design stage of computer program development and coding of programs using the C++ programming language. Students will diagram solutions to a variety of computer problems using ANSI standard flowcharting symbols, structure charts and other design methods. Utilizing microcomputers, these solutions will then be coded, executed and debugged.

152 Visual Basic Programming 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 132 F, W
This course uses VISUAL BASIC to develop Windows applications. Utilizing microcomputers, students will design, build, run, save, modify and debug VISUAL BASIC applications using VISUAL BASIC interfaces, tools, forms, controls, properties and code.

155 Database Management 3 Credit Hours
Systems 3 Billable Contact Hours

Prerequisite: CIS 112 F
This course covers the process of database design, development, implementation and management. Topics covered include relational database model, object-oriented database model, structured query language, entity relationships, normalization, database life cycle and distributed database management systems.

167 Discrete Structures 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 250 and MATH 159 or MATH 164
This course covers mathematical principles and techniques required for analysis, proofs and general understanding of algorithms used in computer science. Topics include: algorithms, combinatorics, sets, functions, mathematical induction and understanding and doing proofs. Also covered are "big oh," omega and theta notations for the growth of functions, graphs, trees and Boolean Algebra.

170 Web Design for Non-Designers 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 130 or MDTC 160 or WPR 102 or WPR 110 W
This course covers basic skills and concepts in Dreamweaver, Flash and Photoshop. This course is designed for students in disciplines outside of MCCC's graphic and web design programs who desire and/or need skills in multiple Web software applications for the purposes of creating and editing graphic content for and adding content to an existing Web site. Examples of such disciplines include but are not limited to journalism and the administrative professional degree program.

171 Using the Internet 1 Credit Hour
1 Billable Contact Hour

This course will teach students how to use the Internet as a resource and research tool. Students will learn various ways of accessing the Internet and communicating with other users via the Internet. In addition, students will learn advanced search tools and other resources to retrieve information. Course coverage will include browsers, search engines, FTP, e-mail and Internet security. Operating system file management skills and basic knowledge of the Internet are required for this course. Students who do not have these skills and knowledge should enroll in CIS 130 prior to this course.

172 Web Design Concepts 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 130
This course covers the fundamentals of designing informative, attractive and efficient Web pages. It includes issues of design techniques, browsers and computing platforms, typography, color selection, navigation and storyboarding.

174 Dreamweaver Web Design 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 130 and two of the following: CIS 172, CIS 176, CIS 177, CIS 182, CIS 184, CIS 185, CIS 186, CIS 187, or CIS 189 W
This course covers the use of one of today's most powerful Web design tools, Dreamweaver. Students will cover the Dreamweaver topics and skills necessary to build and manage attractive, dynamic professional Web sites.

175 Java Programming 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 150
Java is an object-oriented programming language that can be used to create stand-alone applications and applets. Java applications are platform-independent programs that will run on any computer that supports Java. Java applets are used to enhance World Wide Web pages. By using applets, Web pages can include audio, animation, interactivity, video and even three-dimensional imaging. This course includes coverage of the Java language and Object-Oriented Programming.

176 Web Animation (Flash) 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 130 and one of the following: CIS 172, 182, 184, 185, 186, 187 or 189. F
This course covers the skills and techniques for producing and delivering high-impact Web sites using Flash. Students will be incorporating musical tracks, sound effects and advanced animations to create effects that are viewable across numerous Web platforms with efficient download speeds.

177 Markup Languages 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 130
This course covers XHTML and introduces XML. Students will be using a case-oriented, problem-solving approach to create Web pages using these Web development markup languages.

179 Web Script Programming 3 Credit Hours
3 Billable Contact Hours

Prerequisite: Take either CIS 176 and CIS 177 or CIS 132 and CIS 177
This course covers the creation of dynamic Web pages using the popular Web scripting languages including JavaScript. Students will build applications from the bottom up. Client-side scripting will be explored. The goal of this course is to create Web pages that have dynamic and interactive content.

180 Graphic Design Concepts 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 130 F
This course covers print design, layout, typography and related publishing concepts. It contains essentials of print design layout, typographic composition, font selection, scanning techniques and the printing of professional-looking publications.

182 Illustrator Graphics 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 130
This course covers the tools and techniques of vector-based drawing software using Adobe Illustrator.

184 PhotoShop Graphics 3 Credit Hours
3 Billable Contact Hours

Prerequisite: CIS 130
This course covers the tools and techniques of the image-editing software Adobe PhotoShop.

185 Web Graphics **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: CIS 130

This course focuses on designing and creating professional-looking Web graphics to be incorporated into Web sites. Included in this course are techniques for creating image maps, rollover effects, icons and buttons for the Web. This course uses Fireworks. Knowledge of Adobe Photoshop and/or Adobe Illustrator are recommended for this course.

186 Multimedia Development **3 Credit Hours**
(Adobe After Effects) **3 Billable Contact Hours**

Prerequisite: CIS 130 **W**

This course covers the tools and techniques of the production tool Adobe After Effects. This development platform will stress the incorporation of sound, graphics, animation and video that can be deployed on the Web, on DVD and with other multimedia applications.

187 Digital Video Editing **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: CIS 130 **W**

This course provides skills and knowledge of digital video basics. Topics will include editing, transitions, audio, adding motion and other multimedia components involving digital video. This course is applicable to Web designers, graphic designers, video production artists or home digital video camera users.

188 InDesign Desktop Publishing **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: CIS 130 or WPR 102

InDesign Desktop Publishing is a comprehensive desktop publishing course which provides instruction in the use of sophisticated page composition software. Class projects range from simple, one-page documents to multi-page documents produced with imported text and graphics. Final class projects involve the conceptualization and creation of a variety of complex publications.

189 3D Animation **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: CIS 130 and one of the following: CIS 176, 182, 184, 185, 186 or MDTC 228 **F**

This course is an introduction to 3D animation for character animation, visual effect and 3D solid modeling. Software used includes a complete set of tools for drawing and animating 3D models and characters. Students will create objects with a variety of surfacing materials, textures and effects. Students will create and animate digital models/objects.

205 System Analysis and Design **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: CIS 130 **F**

This course is designed to guide the student in developing a system where computer hardware and/or software is to be installed or updated. The student will consider problems of data flow through the system. The student will undertake case studies involving data collection, current system analysis, recommendations, design, development and implementation of a new or updated computer system. Students may be required to design a full or partial system.

208 PC Operating Systems **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: CIS 130 **F**

This course emphasizes the study of operating systems for personal computers. Topics include: Command Line vs. Graphical User Interfaces, batch and configuration files, disk utilities, disk operation, installing and uninstalling applications, multitasking, security, configuration and network operating systems. Operating systems discussed in this course will include Windows 9x, 2000, MS-DOS, Linux/Unix and others. This course will enhance students' understanding of PC operations.

209 Network Concepts **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: CIS 130

This course provides students with the basic networking concepts needed as an information technology professional. Topics include: networking technologies and topologies on a network, wireless networking, Web-based networks, virus security, broadband/DSL, troubleshooting tools, cabling, switching technologies, and equipment and technologies used in LANs and WANs. TCP/IP, along with the OSI communication model, will be discussed in detail. Aside from learning the technologies involved in networking, students will get to understand the daily tasks involved with managing and troubleshooting a network. Students will have a variety of hands-on and case project assignments that reinforces the concepts covered in each chapter.

216 Introduction to **4 Credit Hours**
Computer Security **4 Billable Contact Hours**

Prerequisite: CIS 208 and CIS 209 **W**

This course provides students with a fundamental understanding of network security principles and implementation. Students will learn about authentication, types of attacks and malicious code that may be used against a network, threats and countermeasures for e-mail, Web applications, remote access, and file and print services. A variety of security topologies are discussed, as well as technologies and concepts used for providing secure communications channels, secure internetworking devices and network medium. Aside from learning the technologies involved in security, students will get to understand the daily tasks involved with managing and troubleshooting those technologies. Students will have a variety of hands-on and case project assignments that reinforce the concepts covered in each chapter.

220 Hardware Maintenance **4 Credit Hours**
4 Billable Contact Hours

Prerequisite: CIS 208 **W**

This course develops a student's knowledge of micro-computer hardware for the purpose of installation and maintenance at the equipment level. Students will learn to install, protect and troubleshoot CPUs, disk drives, memory, circuit boards, video adapters, displays, CD-ROM drives and more. Students will learn how to use the Internet to upgrade and maintain computers. This course will also bring together all the physical components of equipment evaluation for purchase, future maintenance and growth. In addition, this course will help to prepare students to successfully pass the A+ certification exam.

228 Linux Administration **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: CIS 208

This course covers installing, configuring and managing a multi-user UNIX/Linux computer system. Topics covered include: file systems, disk management, user management, configuration, remote access, remote desktop, customizing and kernel customizing. Students will perform a number of hands-on activities to reinforce classroom discussions.

**230 Windows Server 3 Credit Hours
3 Billable Contact Hours**

Prerequisite: CIS 208

In this course, students learn to perform post-installation and day-to-day administration tasks in a single-domain or multiple-domain Microsoft Windows-based network.

**234 Advanced Windows Server 4 Credit Hours
4 Billable Contact Hours**

Prerequisite: CIS 230

This course provides a training solution for support professionals working in a Microsoft Windows Server-based enterprise environment. Students must have previous experience supporting a Windows Server-based network. Students learn to design, implement and support the Windows 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. In addition, this course will help to prepare students to successfully pass the MCSE certification exam.

**250 Computer Science II 3 Credit Hours
3 Billable Contact Hours**

Prerequisite: CIS 150

This course continues the exploration of computer science begun in CIS 150, Computer Science I. Topics to be covered include: object-oriented programming in C++, pointers, recursive algorithm design and implementation, sorting, searching and file processing. Data structures studied include: stacks, queues and linked-lists. This course is designed for students who wish to continue their computer science education beyond the community college level.

**252 Advanced Visual Basic Programming 4 Credit Hours
4 Billable Contact Hours**

Prerequisite: CIS 152

This course expands on the programming topics covered in CIS 152. After a rapid review of fundamentals, students will be introduced to more advanced techniques in Windows' Forms and Web-based applications. Students will work with objects, classes, data structures and relational databases using ADO.NET and ASP.NET technology. Course structure will be orientated to project work.

**255 Microsoft SQL 4 Credit Hours
4 Billable Contact Hours**

Prerequisite: CIS 155

In this course, students will learn how to develop relational database applications using Microsoft SQL client/server database. Concepts to be covered include creating and modifying database tables and data using SQL command-line environment. Additional topics will involve creating queries, transaction management, managing files and file groups and security management. The student will also learn how to install Microsoft SQL and perform day-to-day administration tasks in a Microsoft Windows based network.

**266 Windows Programming in C++ 3 Credit Hours
3 Billable Contact Hours**

Prerequisite: CIS 150

Students will design and implement programs for Windows using RAD tools and C++. The speed and ease of use for RAD tools combined with the power of C++ will be utilized to create complete Windows applications. Programs will be developed that utilize many GUI features found in Windows such as buttons, menus, windows, scroll bars, text areas, etc.

**267 Beginning Game Programming 3 Credit Hours
3 Billable Contact Hours**

Prerequisite: CIS 250

This course will cover the fundamental principles and practices of designing and programming computer games. Students will design and implement several 2D and 3D games utilizing a variety of programming techniques and tools, including: C++ programming language, operating systems, graphics API, computer graphics, audio editing software, 3D modeling software and 3D collision detection.

**268 Assembly Language and Computer Architecture 4 Credit Hours
4 Billable Contact Hours**

Prerequisite: CIS 150

This course covers computer programming in one of its most basic forms and introduces computer architecture. The understanding and appreciation of assembly language is the foundation for the understanding of the digital computer and its programming. Assembly language is just one step removed from machine language, the language directly understood by the CPU. This course will cover: computer architecture, data representation, instruction sets, addressing modes, assembly language programming techniques, interrupts and exceptions, assemblers, peripheral programming and the relationship between assembly language and high-level languages.

**272 Database Web Development 3 Credit Hours
3 Billable Contact Hours**

Prerequisite: CIS 174 or CIS 177

This course covers the creation of Web sites that can display, insert, update and delete data from a database. It includes working with relational databases and other software and programming tools such as: SQL, MySQL, PHP, HTML, client-side and server-side scripts and advanced Dreamweaver MX 2004 development features to create dynamic e-commerce Web sites. (It is recommended that CIS 179 be completed prior to taking this course.)

**274 Advanced Database Web Development (with ASP.NET) 3 Credit Hours
3 Billable Contact Hours**

Prerequisite: Two computer programming courses from CIS 132, CIS 150, CIS 152, CIS 175 or CIS 179 or any 200-level programming course

This course covers advanced topics in the design and maintenance of interactive and dynamic Web applications using the server-based scripting environment. It will cover Web programming concepts and advanced topics, such as ASP.NET (Active Server Pages). CIS 112, CIS 177 and CIS 272 are recommended prior to enrolling in this course. Note: CIS 177 does not meet the programming language requirement for this course.

**275 Advanced Java Programming 3 Credit Hours
3 Billable Contact Hours**

Prerequisite: CIS 175

This course is a continuation of CIS 175. Topics include exceptions, cloning and RTTI, file I/O, object serialization, multithreading, GUI programming using Java, JavaBeans, Network Programming and Programming Server-Side Java.

**276 Web Administration 3 Credit Hours
3 Billable Contact Hours**

Prerequisite: CIS 208 or CIS 230

This course focuses on setting up and maintaining a World Wide Web server. Topics include putting pages on the site, Internet protocols, assigning user rights, network security and the basic setup of one or more HTTP servers. As new technologies emerge, these will be addressed and discussed.

CONSTRUCTION MANAGEMENT TECHNOLOGY (CONM)

100 Introduction to Design and Construction **3 Credit Hours** **4 Billable Contact Hours** **F**

Based on experiences in the field of architecture and construction, this course explores the work of architects and their relationships with the various supporting technicians. Consideration is given to historical, aesthetic, functional, structural and economic aspects of design.

101 Materials of Construction **3 Credit Hours** **4 Billable Contact Hours**

A study of natural and manufactured building materials, including concrete and masonry, steel and non-ferrous metals, wood and composition materials, glass and plastics and exterior and interior finishing materials. In laboratory sessions, the physical properties of materials and methods of assembly are studied using material samples.

102 Construction Practices **3 Credit Hours** **4 Billable Contact Hours**

This course develops those supporting skills essential to the organization and management of construction projects, including bidding procedures, organization and interpretation of specifications, function preparation and use of the various construction documents, scheduling of construction operations and familiarization with building codes and zoning regulations.

103 Residence Drafting **4 Credit Hours** **6 Billable Contact Hours**

Prerequisite: CONM 110 or MDTC 101 or MDTC 151 or MDTC 160 or concurrent registration in CONM 110
Complete working drawings are developed for one building of frame construction, with emphasis on the interrelationships of the various views, including site and floor plans, exterior and interior elevations, sections and details. Accuracy of linework, lettering and scale are stressed.

105 Mechanical Building Systems and Equipment **4 Credit Hours** **6 Billable Contact Hours**

Prerequisite: CONM 110 or MDTC 101 or MDTC 151 or MDTC 160

The focus of the course is on water distribution and waste systems, calculation of heat losses and gains, "wet heat" and air handling comfort systems, including air conditioning, electrical power and lighting. Mechanical and electrical layouts are developed.

107 Surveying **3 Credit Hours** **4 Billable Contact Hours**

Prerequisite: High school or college trigonometry **Sp**
Theory and field practice in using tapes, levels and transits in land survey, building layout and contours and drainage are covered. This course includes a study of building site conditions and practice in taking field notes and in translating them into drawings.

110 Construction Blueprint Reading **3 Credit Hours** **4 Billable Contact Hours**

Covered in this course are fundamentals of construction blueprint reading: interpretation of basic symbols, terminology organization of construction drawing, sketching and material quantity takeoff.

120 Introduction to AutoCAD for Architecture **3 Credit Hours** **4 Billable Contact Hours**

Prerequisite: CONM 103 or CONM 110
This course is an introduction to computer aided design as it applies to the architecture and construction industry. The content examines typical hardware requirements and basic software (AutoCAD) commands used to create, edit and plot 2D architectural drawing files.

201 Site Planning and Development **3 Credit Hours** **3 Billable Contact Hours** **W**

This course studies the processes required to develop a functional site plan, including basic designs of pavements, parking lots layout, storm drainage, public utilities, landscaping consideration and zoning requirements.

202 Construction Safety **3 Credit Hours** **3 Billable Contact Hours** **F**

This course is designed to provide students with an opportunity for an in-depth study of construction safety and the importance of employee safety and health in the construction industry. The code of federal regulations (29 CFR 1926) and MIOSHA construction standards are examined. Emphasis will be placed on the interpretation and application of government regulations. Students who successfully complete the course will receive an OSHA 30 hour completion card.

240 Construction Planning and Scheduling with Primavera **3 Credit Hours** **3 Billable Contact Hours** **W**

Prerequisite: CONM 101 and CONM 110
This is a comprehensive course which introduces proper project planning, scope and schedule development. Topics include: activity durations and the methods of determining them, PERT, precedence, linear scheduling, resource allocation development of a work breakdown structure, resource loading, cost loading and resource leveling. The students will identify required activities, resources and costs required to monitor a project throughout the construction process. Students will be required to complete both manual and computerized scheduling assignments. Students will use Primavera scheduling software to complete assigned projects.

242 Construction Documents and Law **3 Credit Hours** **3 Billable Contact Hours** **F**

Prerequisite: CONM 240
This course will examine the relationship between the construction contract documents and the construction process. The focus will be on the rights, duties and responsibilities of the owners, contractors and suppliers. Topics covered include: standard document forms, specifications, bonding, insurance, claims, disputes and payments. Legal issues and disputes resulting from changing conditions, delays, changes to work and differing site conditions are also explored.

244 Construction Estimating **3 Credit Hours** **3 Billable Contact Hours** **W**

Prerequisite: CONM 101 and CONM 110
This course covers the processes used to tabulate accurate construction cost estimates. Quantity survey techniques are used to determine equipment, labor and material costs. A detailed cost estimate and bid package will be developed using computer database and estimating software. Conceptual cost estimating is introduced.

248 Case Studies in Construction Management **1 Credit Hour**
1 Billable Contact Hours **F**

Prerequisite: CONM 242

This course is designed to explore actual construction project case studies related to planning, scheduling, estimating and contract administration.

COOPERATIVE EDUCATION (CO-OP)

Cooperative Work Experience 1 to 4 Credit Hours

Cooperative education is for students interested in an introduction to the world of work. It is designed to give on-the-job experience which is related to the student's program of study. The co-op experience may be on a half-time or full-time basis. If employed from 15 to 20 hours per week in an approved coordinated program, the student is entitled to two hours of credit upon successfully completing the semester. Full-time status generally represents 40 hours per week of coordinated work. Students electing full-time co-op should plan to limit their campus schedule to one or two courses. Arrangements for the co-op program must be made through the proper co-op coordinator or division dean.

CULINARY SKILLS AND MANAGEMENT (CSM)

Enrollment in any CSM course is restricted to students who have been accepted into the Culinary Skills and Management Program.

Food Preparation I

101A Introduction to Culinary Arts 4 Credit Hours
5.6 Billable Contact Hours

Prerequisite: CSM 111

F

Students learn the fundamentals of food preparation in the food service business, including safety skills, modern kitchen tools and equipment, properties and composition of food and basic knowledge of meats, poultry and seafood. The study of basic cooking principles, weights and measures, and vegetables and starch preparation, along with basic recipe understanding, are all stressed in this course to help prepare students for culinary careers. Students are required to register for all modules of CSM 101 concurrently.

101B Basic Restaurant Production 2 Credit Hours
2.8 Billable Contact Hours

F

Students study and demonstrate, through extensive hands-on training, daily food service production. Through rotations of training stations, students maintain and operate entree production, garnishes and salads, soups, stocks and sauces, beginning baking and basic food preparation. Students are required to register for all modules of CSM 101 concurrently.

101C Baking I 2 Credit Hours
2.8 Billable Contact Hours

F

Students study and demonstrate, through daily production, the basic baking skills used in modern food service establishments. This includes principles and mixing procedures for quickbreads and yeast doughs, weighing and portioning, recipe conversions and types of ingredients. The use of yeast doughs and sweet doughs is an important objective of this course. Students are required to register for all modules of CSM 101 concurrently.

101D Soups, Stocks and Sauce Production 2 Credit Hours
2.8 Billable Contact Hours **F**

In modern food service, a thorough understanding of soups, stocks and sauce production is vital for the successful cook. Through daily production, students demonstrate the proper preparation of stocks, reductions and glazes, as well as convenience bases. Roux and other thickening agents are taught with uses in sauce production. Soups, classifications and varieties such as bisque, consommé, puree soup and chowders are regularly prepared. Students are required to register for all modules of CSM 101 concurrently.

111 Food Sanitation 2 Credit Hours
2 Billable Contact Hours **Su**

This course is an operations-centered certification course which will provide culinary students with basic principles of sanitation for food service. The course will include ways to apply these principles to practical situations, as well as methods of training and motivating employees to follow good sanitation practices. Students will study the laws and regulations related to safety, fire and sanitation and adhere to them in the food service operation. Upon successful completion of this course, students may take the examination for an Applied Foodservice Sanitation Certificate, which meets or exceeds FDA recommendations on content for sanitation courses. This is the most universally recognized and accepted sanitation certification. Students may also receive the State of Michigan Sanitation Certificate.

114 Nutrition 2 Credit Hours
2 Billable Contact Hours

Prerequisite: CSM 116A and CSM 116B and CSM 116C and CSM 116D

Sp

The objectives of this course are designed to make the food service student aware of nutrient needs throughout the life cycle and to apply those principles to menu planning and food preparation. Students also learn the characteristics, functions and food sources of the major nutrient groups and how to maximize human health.

Food Preparation II

116A Introduction to Buffet Preparation 4 Credit Hours
5.6 Billable Contact Hours

Prerequisite: CSM 101A and CSM 101B and CSM 101C and CSM 101D

W

Students will obtain cooking and learning experience in this course, including the demonstration and practical application of preparing and serving salads and salad dressings, sandwiches and hors d'oeuvres, along with an introduction to food garnishing. The importance of breakfast is thoroughly covered, including breakfast cooking, dairy products, cheese, coffee and tea. Students also demonstrate how to cook with herbs and spices and wines and spirits, along with an introduction to ice carving. Students are required to register for all modules of CSM 116 concurrently.

116B Beginning Pastries 2 Credit Hours
2.8 Billable Contact Hours

Prerequisite: CSM 101A and CSM 101B and CSM 101C and CSM 101D

W

This course is designed to introduce the student to the wide range of pastries used in commercial food service establishments. The preparation and uses of puff dough, Danish dough, French pastries and international pastries are studied and demonstrated by the student. Students also learn about and produce gateaus, wedding cakes, chocolate work, cookies and candies. Specialty pastry areas such as pulled and spun sugar are introduced. Students are required to register for all modules of CSM 116 concurrently.

116C Baking II **2 Credit Hours****2.8 Billable Contact Hours****Prerequisite:** CSM 101A and CSM 101B and CSM 101C and CSM 101D **W**

Students study and demonstrate, through daily production, the basic baking skills used in modern bakery facilities, including the principles and mixing methods of pies and cakes. Weighing and portioning, recipe conversions and the study of ingredients are also explored. Students will prepare and bake pies, as well as finish cakes with different icings and decorations. Students are required to register for all modules of CSM 116 concurrently.

116D Institutional Food **2 Credit Hours****Preparation** **2.8 Billable Contact Hours****Prerequisite:** CSM 101A and CSM 101B and CSM 101C and CSM 101D **W**

Through daily hands-on production, students study and demonstrate the proper techniques of institutional food preparation. This area of food service is becoming more upscale every day. Areas of study include an emphasis on international and regional cuisines, as well as working with flavoring, portion control and proper handling of convenience food products in food service today. Students are required to register for all modules of CSM 116 concurrently.

119 Bar Management **1 Credit Hour****1 Billable Contact Hour****Prerequisite:** CSM 201A and CSM 201B and CSM 201C and CSM 201D and CSM 201E **W**

This course familiarizes the student with laws related to serving alcohol along with the server's responsibilities, basic mechanics and principles of bartending. Students also study the processes that produce different alcoholic beverages, such as beer, wines, spirits and liqueurs.

Advanced Food Preparation I**201A Introduction to** **2 Credit Hours****Hospitality Industry** **3 Billable Contact Hours****Prerequisite:** CSM 116A and CSM 116B and CSM 116C and CSM 116D **F**

This course is designed to introduce the student to the wide range of businesses in the hospitality industry. Students study various food service organizations and career opportunities which include business organizational structures and basic functions of departments within food service establishments. A close study of catering services, including on- and off-premise catering, is also emphasized in this course. Students are required to register for all modules of CSM 201 concurrently.

201B Dining Room Procedures **1 Credit Hour****1.5 Billable Contact Hours****Prerequisite:** CSM 116A and CSM 116B and CSM 116C and CSM 116D **F**

Through daily operations of the Cuisine 1300 restaurant, students learn the various types of dining service appropriate for different food service operations. Students also learn how to service the public, including tableside cookery, taking orders, serving food, and, through use of a modern computer cash register system, cashing out and end-of-the-day sales mix. Students are required to register for all modules of CSM 201 concurrently.

201C Menu Planning I**1 Credit Hour****1.5 Billable Contact Hours****Prerequisite:** CSM 116A and CSM 116B and CSM 116C and CSM 116D **F**

This course introduces students to one of the most important aspects of the food service industry. The principles of menu planning for various types of facilities are applied. The course covers menu layout, selection and development and pricing/food cost structure. Students plan, cost and determine the menu used in the Cuisine 1300 restaurant. Students are required to register for all modules of CSM 201 concurrently.

201D Purchasing and Receiving **1 Credit Hour****1.5 Billable Contact Hours****Prerequisite:** CSM 116A and CSM 116B and CSM 116C and CSM 116D **F**

Students learn the principles and practices concerned with the purchasing and receiving of food, supplies and equipment for various food service operations. The importance of developing a purchasing system, an effective storeroom and proper use of checklists and bid sheets are all covered in detail. Students are required to register for all modules of CSM 201 concurrently.

201E a la Carte Food Preparation **3 Credit Hours****4.5 Billable Contact Hours****Prerequisite:** CSM 116A and CSM 116B and CSM 116C and CSM 116D **F**

This course prepares the student for the wide variety of a la carte food service establishments in the modern industry. Through daily operations of the Cuisine 1300 kitchen facility, students rotate through various stations, obtaining vital hands-on experience and training. The principles of a la carte food preparation, such as menu development and food/labor costs, are also emphasized to the student. Students are required to register for all modules of CSM 201 concurrently.

207 Restaurant Management **3 Credit Hours****and Supervision** **3 Billable Contact Hours****Prerequisite:** CSM 201A and CSM 201B and CSM 201C and CSM 201D and CSM 201E **W**

This course provides instruction in the management techniques involved in modern food service operations. Particular topics include the study of restaurant and menu planning. Through the assembly of a semester-long project, students learn the tasks and responsibilities of operating a restaurant from "conception to opening day." This includes areas such as market surveys, scheduling needs and management and supervisory concepts.

Advanced Food Preparation II**216A Garde Manger****2 Credit Hours****3 Billable Contact Hours****Prerequisite:** CSM 201A and CSM 201B and CSM 201C and CSM 201D and CSM 201E **W**

This course is designed to teach the student the art of garde manger and food presentation. The focus is on specialty work, including ice and butter sculptures, vegetable carving, salt dough, charcuterie and tallow sculpturing. Through a series of elaborate theme buffets, students also are introduced to platter presentation and salon competitions. Students are required to register for all modules of CSM 216 concurrently.

216B Menu Planning II 1 Credit Hour**1.5 Billable Contact Hours****Prerequisite: CSM 201A and CSM 201B and CSM 201C and CSM 201D and CSM 201E W**

Students take the menu role and concept one step further in this course. Students develop menus for buffets and utilize them in the Cuisine 1300 restaurant and buffet operations. Students learn to utilize past menus and buffet statistics to aid in forecasting and planning. Students are required to register for all modules of CSM 216 concurrently.

216D Advanced Buffet Preparation 3 Credit Hours**4.5 Billable Contact Hours****Prerequisite: CSM 201A and CSM 201B and CSM 201C and CSM 201D and CSM 201E W**

This course is designed to teach the student the art of creating and displaying hot and cold foods and to exhibit these foods. Emphasis of this course is on artistic presentation and layout of foods prepared for theme buffets that are served in the Cuisine 1300 restaurant. These popular buffets are open to the public and feature such items as ice carvings, charcuterie products and classical foods and pastries. Students are required to register for all modules of CSM 216 concurrently.

216E Contemporary Food Design & Architecture 2 Credit Hours**3 Billable Contact Hours****Prerequisite: CSM 201A and CSM 201B and CSM 201C and CSM 201D and CSM 201E W**

This course is designed to introduce and familiarize students with the art of plate and platter design for fine cuisine. The scope includes international and cultural food preparation and display, molecular gastronomy and food architecture. The course must be taken in conjunction with all other CSM 216 courses.

DANCE (DANCE)**151 Ballet I****1 Credit Hour****2 Billable Contact Hours****W**

The purpose of this course is to introduce the student to the study of classical ballet through traditional ballet bar, center floor and traveling ballet exercises and combinations. Included in the class is basic alignment principles, ballet vocabulary and steps and beginning combinations of ballet technique. Music accompaniment will enhance and complement the types of movements inherent to ballet dance. Emphasis is on personal growth with each class and assignment being a new challenge. Proper attire, terminology and health and safety issues are discussed. Written and skills tests are part of this course. Due to the fact that ballet dance has aerobic components, a medical release may be required. This class may be repeated for credit twice (total 3 credits).

152 Modern Dance I**1 Credit Hour****2 Billable Contact Hours****F**

The purpose of this course is to introduce the student to the principles of modern dance techniques designed for the inexperienced dancer. Toning, stretching and strengthening exercises are incorporated to promote the investigation of the body's overall range of motion. Music accompaniment may be utilized to complement the movement. Emphasis is on personal growth with each class and assignment being a new challenge. Attire, terminology, and health and safety issues are explained and discussed. Written and skills tests are part of this course. Due to the fact that modern dance can be aerobic, a medical release may be required. This class may be repeated for credit twice (total 3 credits).

153 Jazz I**1 Credit Hour****2 Billable Contact Hours****W**

The purpose of this course is to introduce the student to the study of jazz through movement, vocabulary and toning, isolations in jazz techniques and stretching and strengthening exercises inherent to this form of dance. Music will be utilized in each class to complement the jazz dance styles chosen for study. Emphasis is on personal growth with each class and assignment being a new challenge. Attire, terminology, and health and safety issues are explained and discussed. Written and skills tests are part of this course. Due to the fact that jazz dance is aerobic by nature, a medical release may be required. This class may be repeated for credit twice (total 3 credits).

155 Dance Improvisation I**1 Credit Hour****2 Billable Contact Hours****F, W**

The purpose of this course is to create an atmosphere in which students can realize and enhance their own creative resources by utilizing the dance medium. This course provides students with opportunities to discover the skills of creative thinking through problem-solving exercises which are designed to uncover spatial, kinesthetic and emotional awareness, as well as the discovery of movement qualities. Emphasis is on personal growth with each class and assignment challenging the student's own initiative to move physically and think quickly. Attire, terminology and health and safety issues are explained and discussed. Written and creatively challenging skills tests are part of this course. Because some of the class content may involve aerobic components, a medical release may be required. This class may be repeated for credit twice (total 3 credits).

170 Dance Composition I**2 Credit Hours****2 Billable Contact Hours****Prerequisite: DANCE 152 and DANCE 155****F**

The purpose of this course is to introduce the student to the study of dance composition. The semester will be spent with the intent to obtain an understanding of the elementary components that may be utilized in choreographing a dance. The concept of dance language and symbol system will be introduced. Emphasis is on one's individual growth process in relation to the concepts of this course as presented in class. Written and skills tests are a part of this course. Because some creative processes are aerobic by nature, a medical release may be required. This class may be repeated for credit twice (total 6 credits).

219 Methods of Teaching**Activities and Fundamental 2 Credit Hours****Movements 2 Billable Contact Hours****F, W**

This course will develop knowledge and increase skills in basic locomotor and axial movements with an emphasis on rhythmic patterning and interactive activities. The student will gain experience in teaching, performance, movement analysis and evaluation of dance skills with the goal of confidently planning and implementing them within a K-12 or recreational classroom setting.

251 History of Dance**3 Credit Hours****3 Billable Contact Hours****F, W**

The purpose of this course is to give the student a foundation in which to develop a greater understanding of dance as a medium of expression. The student will examine dance as it has served as ritual, play and art from the past to the present.

EARLY CHILDHOOD DEVELOPMENT (ECDV)

105 Child Growth and Development **3 Credit Hours** **3 Billable Contact Hours**

This course is intended to present to the student a comprehensive analysis of children from conception to eight years old. The student will gain an understanding of child development in all of the following areas: physical growth, cognitive development, psychological development, nutritional needs and socialization processes. The purpose of this course is to focus on enhancing child care skills as a practical application of the theoretical structure of the course.

106 Observing and Recording Child Behavior **3 Credit Hours** **3 Billable Contact Hours**

Prerequisite: ECDV 105

Students develop appropriate skills and experience for conducting objective child observations. Observation in a child care center and a case study are required. The physical, emotional, social, cognitive, language and creative needs of pre-schoolers will be analyzed in relation to sound child guidance techniques. Thirty clock hours of observation experiences will be required.

107 Programs for Young Children Birth to Age 5 **5 Credit Hours** **5 Billable Contact Hours**

Prerequisite: ECDV 105

The development of curricula and activities for use with children from birth to age five will be emphasized in this course. Students will design a safe environment and plan developmentally appropriate activities. This course will include 60 contact hours of field experience.

110 Infant and Toddler Development and Care **3 Credit Hours** **3 Billable Contact Hours**

This course focuses on the development and care of children birth to three years old. The course will cover all aspects of infant and toddler curriculum including: developmental milestones, how young children learn, the principles of active learning, effective adult/child interaction strategies, supportive caregiving policies, enriching learning environments, schedules and routines, appropriate assessment and observation, relationships with parents/families and developmentally appropriate cognitive, physical, social and emotional growth activities. This course requires 15 observation hours at a site approved by the instructor.

150 Nutrition, Health and Safety for Early Childhood Education **3 Credit Hours** **3 Billable Contact Hours**

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.

207 Methods and Materials for Early Childhood Education **5 Credit Hours** **5 Billable Contact Hours**

Prerequisite: ECDV 105

The course is designed to develop students' skills in planning, implementing and evaluating developmentally appropriate learning experiences in children from kindergarten to age eight. A variety of curriculum areas—science, math, creative art, sensory, gross and fine motor and language arts—are covered. Basic skills and concepts, resource materials and teaching methods are explored for each curriculum area. Community involvement, school partnerships and standards for school-age child care programs are also considered. This course will include 60 contact hours of field experience.

210 Administration of Child Care Programs **3 Credit Hours** **3 Billable Contact Hours**

Prerequisite: ECDV 105 and ENGL 101 or ENGL 151

This course will enhance the student's understanding of the total range of administrative responsibilities in early childhood programs. It is designed to offer an overview of interpersonal communication, financial responsibilities, licensing, personnel certification, staffing and evaluation of overall programs. Students will be responsible for developing budgets, job descriptions, health and safety programs and a variety of other materials used in administration.

218 Early Childhood Development Externship **5 Credit Hours** **5 Billable Contact Hours**

Prerequisite: ECDV 106 and ECDV 107 and ECDV 207

The Early Childhood Development Externship is intended for students to gain practical experience while working under supervision in a child care facility. In addition to weekly class meetings, a minimum of 150 hours of supervised experience in a licensed child care facility are required during the semester. The student will apply theories learned in the prerequisite classes to their field work.

EARTH SCIENCE (ESC)

151 Earth Science **4 Credit Hours** **5 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests

An introduction to earth sciences for beginning students. The course is designed to show the numerous and important ways in which geology and some aspects of meteorology, oceanography and solar-system astronomy interrelate with humankind and our environment. Emphasis is on broad concepts and fundamental principles of earth science and their application to environmental considerations. Course requires laboratory work.

ECONOMICS (ECON)

251 Principles of Macroeconomics **3 Credit Hours** **3 Billable Contact Hours** **F, W**

This course is a survey of the economic system, including ideas relating to production, national income, national growth, money and banking, markets and prices and the distribution of income. This is a macro-economics course designed for both the student who needs one semester in economics and the student who will take further courses in the field.

252 Principles of Microeconomics 3 Credit Hours
3 Billable Contact Hours
F, W

This is a survey course of the microeconomic system, including ideas relating to pricing and output determination, factor income, economic development, international economics and market structures.

EDUCATION (EDUC)

151 Exploring Teaching 3 Credit Hours
3 Billable Contact Hours
F, W

This course is designed primarily for students who are considering entering the teaching profession. The course involves a minimum of 60 hours of field work where the student will have the opportunity to observe and participate in a public school as an aide to the professional staff. All students meet together on campus for 1.5 hours each week to hear guest speakers, discuss classroom experiences and review relevant readings. Placement schedules are worked out in cooperation with the participating teacher. Time in the host school averages about six hours per week. This course fulfills similar pre-teaching experiences required by several universities. Check with the college counselor regarding transfer to the university you plan to attend.

ELECTRONICS AND COMPUTER TECHNOLOGY (ELEC)

125 Fundamentals of Electricity 3 Credit Hours
4 Billable Contact Hours
Prerequisite: One year high school algebra
F, W, Sp

This course is designed as a survey for electronics majors and non-majors. It covers safety, basic electrical theory (AC and DC), Ohm's Law, reading schematic drawings, electrical component identification and functions, sources of electrical power, motors, power distribution and basic solid-state devices. Laboratory exercises will include measurement of resistance, voltage and current with analog and digital meters; basic oscilloscope use; relays and transformers; circuit design and construction; and component testing.

127 AC/DC Motors 3 Credit Hours
4 Billable Contact Hours
Prerequisite: ELEC 125

This course is designed to provide students with knowledge of DC and AC motor operating characteristics and control circuits. It will provide hands-on experience with wiring control circuits, checking the operational characteristics of motors and use and installation of circuit protection devices. Concepts and applications of three-phase power, including wye and delta configurations as well as basic operation and circuit characteristics of three-phase alternators and transformers will be covered. The construction and operation of three-phase induction motors and their related starting, control and protection circuits along with variable-frequency drives will also be addressed. Development and application of ladder and logic theory, diagrams and circuits will be included.

130 Introduction to Programmable Logic Controls 3 Credit Hours
4 Billable Contact Hours
F, W

Prerequisite: ELEC 125
The course introduces the concepts and applications of the control and protection of industrial machines and systems through the use of programmable logic controllers (PLCs).

132 Electronics I 4 Credit Hours
6 Billable Contact Hours
W

Prerequisite: ELEC 125
This course is an introduction to basic, solid-state electronic circuits. Elementary mathematical techniques are used to analyze circuit performance, and coordinated laboratory activities verify these predictions. Topics covered include diodes, basic power supplies, transistors and amplifiers in the common-emitter and common-base and common-collector configurations, as well as field-effect transistors, basic operational-amplifier circuits and electronic properties of digital ICs.

133 Circuit Analysis 4 Credit Hours
6 Billable Contact Hours
Prerequisite: ELEC 125 and MATH 124 or MATH 151 or MATH 159 or MATH 164 or MATH 171
F

Topics covered are: phasor analysis of series AC circuits, both resistor-capacitor and resistor-inductor; phasor analysis of parallel AC circuits, both RC and RL; magnetism; magnetic field in a coil (inductor); inductive transient response to switched DC; impedance of complex AC circuits; oscilloscope phase measurement techniques; power factor in AC circuits; series-resonant LC circuits; parallel-resonant LC circuits; filtering using resonant LC circuits; the j-operator; voltage-division in DC and AC; bridge circuit analysis in DC and AC; Thevenin's theorem in DC and AC; and computer-aided circuit analysis in DC and in AC frequency domain.

134 Electronics II 4 Credit Hours
6 Billable Contact Hours
F

Prerequisite: ELEC 132
A continuation of Electronics I. Topics covered include: decibels, multistage and differential amplifiers, negative feedback, frequency limitations, op-amp applications, special-purpose ICs, oscillators, power amplifiers, regulated power supplies and an introduction to radio-frequency techniques. An important part of the course is the construction of a variable-regulated power supply which the student may keep upon payment of the approximately \$50 parts cost.

135 Digital Electronic Logic 4 Credit Hours
6 Billable Contact Hours
Prerequisite: ELEC 125. Taking ELEC 132 concurrently is recommended.
W

An introduction to digital components, circuitry and systems. Topics covered are: logic gates, networks and truth tables; logic-network description and simplification using Boolean algebra; binary and hexadecimal numbers and arithmetic; various types of integrated-circuit flip-flops; digital counters and registers; digital arithmetic circuits; astable clocks; one-shots; decoders; memories and display devices.

136 Instrumentation 3 Credit Hours
4 Billable Contact Hours
W

Prerequisite: ELEC 132
This course examines the characteristics and limitations of common electronic instruments. Topics covered include safety and lab techniques, op-amp circuits, AC and DC meters, digital multimeters, oscilloscopes, potentiometers and potentiometric bridges, transducers, signal-processing circuits, fiber optics and automatic test equipment.

137 Microprocessors 4 Credit Hours**6 Billable Contact Hours****Prerequisite: ELEC 135 F**

This course is devoted to assembling and programming microprocessor/microcontroller systems with an emphasis on using the 68HC11 microcontroller. Covered are: computer architecture, memory types, interfacing techniques and components and machine-language programming. Flowcharting, computerized program assembly, and proper hardware and program documentation are emphasized. Lab projects include, but are not limited to, an electronic "player-piano," programmable timing circuits and an autonomous robot.

138 Machinery and Power Control 4 Credit Hours**6 Billable Contact Hours****Prerequisite: ELEC 132 W**

This course deals with rotating machines and their control and industrial machine control systems. Topics covered include: construction and operating principles of DC generators and DC motors; voltage-vs.-current characteristics of various types of DC generators; speed-vs.-torque and current-vs.-torque characteristics of various types of DC motors; switchgear starting and control circuits; power control with silicon controlled rectifiers (SCRs) and triacs; characteristics of unijunction transistors (UJTs), diacs and other thyristors; construction and operating principles of single-phase and three-phase alternators and three-phase AC induction motors; power measurement in three-phase systems; three-phase transformers, and programmable logic controller (PLC) operation.

141 Industrial Automation and Process Control 3 Credit Hours**4 Billable Contact Hours****Prerequisite: ELEC 125 W**

Topics covered: the three subsystems in industrial control systems--information-gathering, logic and output; some typical industrial control systems for machine tool processes and materials handling; programmable logic controllers; the differences between open-loop and closed-loop control; terms used in industrial closed-loop control; the five modes of control; effects of varying proportional band, integral (reset) time-constant and derivative (rate) time-constant; operating principles and applications of electrical transducers (thermocouples, photocells, tachometers, etc.); output devices (valves and valve-operators, AC and DC motors etc.); and principles and applications of DC drive systems.

144 PC-Based Data Acquisition Control 2 Credit Hours**3 Billable Contact Hours****Prerequisite: ELEC 132 W**

This course will provide students with the necessary background, theory and laboratory experience to utilize Windows-based computers, LabView software, interface hardware and software for data recording, analysis and on-line control of industrial processes. Multiple inputs and data logging, A/D conversion and various computer interface bus standards are discussed and implemented.

200 Electronic and Electrical Troubleshooting 4 Credit Hours**6 Billable Contact Hours****Prerequisite: ELEC 132**

This course introduces the logic and concepts of systematic approach to troubleshooting and repair of a variety of electrical and electronic equipment.

211 Medium Voltage Power 3 Credit Hours**Distribution System 3 Billable Contact Hours****Prerequisite: ELEC 125**

The course deals with industrial applications of power distribution and circuit applications of voltages of 480 volts and higher. Safety is emphasized throughout the course. National Electrical Code requirements are referenced in all application areas.

214 National Electrical Code 2 Credit Hours**2 Billable Contact Hours****Prerequisite: ELEC 125 W**

This course is a study of the current National Electrical Code for the installation of electrical equipment and electrical systems. Topics covered include wiring methods and materials, general use materials, special occupancies, equipment for special conditions, requirements for communication systems and use of the tables and examples.

ENGLISH (ENGL)

Students who score below specified minimums on the ACT or COMPASS English placement test must successfully complete English 090 prior to enrolling in a 100-level or higher English course.

090 Basic Writing Skills 3 Credit Hours**3 Billable Contact Hours**

This course does not count towards graduation
F, W, Sp, Su

This is a basic writing course that examines the elements of sentence structure with some emphasis on grammar and punctuation, proceeding to topic sentence analysis, paragraph and essay development. The purpose of this course is to develop the writing skills necessary to perform acceptably in English 101 or English 151. This course does not count toward graduation. English 090 is meant for students whose first language is English.

101 Written and Oral Communication 3 Credit Hours**3 Billable Contact Hours**

This course is designed for, but not limited to, students in technical and business career programs. It helps students develop their written and oral communication skills with the emphasis on writing.

102 Business Writing 3 Credit Hours**3 Billable Contact Hours****Prerequisite: ENGL 101 or ENGL 151 F, W, Sp**

This course emphasizes communication skills for business and technical careers. Special emphases include preparing a resume, oral briefing and practicing skills for effective job interviews. Students will also develop skills in writing all types of business letters and reports.

151 English Composition I 3 Credit Hours**3 Billable Contact Hours****F, W, Sp, Su**

This is the core course in English composition. It covers primarily expository writing, grammar, analysis and punctuation. Emphasis is placed on structure, style and appropriate usage. This course transfers to most four-year colleges and universities as the introductory writing course. Students will produce and edit a variety of written documents.

152 English Composition II 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151 F, W, Sp, Su

The emphasis of this course is on research and writing the research paper. Writings include topics taken from a variety of selected readings. The course is a continuation of English 151.

155 Technical Writing 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 101 or ENGL 151 and basic word processing skills F, W, Sp, Su

Students will learn to analyze and interpret technical information and to communicate effectively and efficiently in writing using the vocabulary of the business and technical worlds. Writing assignments and projects will include a variety of business and technical applications and report writing. Conducting research, analyzing various writing, writing correspondence and instructions, preparing an oral briefing and engaging in group projects will promote critical thinking and teamwork.

240 African American Literature 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151 F

This is a survey course of major literary works by African American authors, mainly from the 19th and 20th centuries. This class is designed to develop critical reading proficiency and to better understand our multicultural society.

251 Introduction to Poetry and Drama 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151 F, W, Sp, Su

The course examines selected poetry and drama, emphasizing the development of critical attitudes needed to understand and enjoy these literary forms. About half a semester is spent on each form.

252 Introduction to Short Story and Novel 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151 F, W

This course includes reading and analysis of short stories and novels of major authors in order to develop the critical attitudes needed for understanding and enjoyment of these literary forms. This course will include writing assignments and library work.

253 American Literature 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151 F, W

This is a survey course of major literary works, mainly of 19th- and 20th- century authors, designed to develop the ability to read critically with understanding and appreciation.

254 Advanced Composition 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151. Faculty nominated and instructor approved. F, W

This course offers selected students theory and practice in peer tutoring and advanced composition. Emphasis is placed on student writing conferences, process writing and standard research methods. All students enrolled in this course work as tutors in the Writing Center.

255 Women's Writings 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151 F, W

This course will introduce the student to women's writings from diverse cultures. Beginning with the 18th century, this course will trace the development of women's writings in a variety of genres-novels, short stories, poetry, diaries, journals and essays. The student will also be introduced to the social context of these writings as well as a number of critical approaches to their interpretations.

256 Children's Literature 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151 F, W

This course is intended for prospective teachers, as well as students preparing for careers in child care. Students will survey a wide variety of children's books (classic and contemporary) and will learn methods for introducing literature to children from pre-school age to high school. Coursework will include writing assignments, class presentations and library research.

260 Introduction to Shakespeare 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151

This course is a study of Shakespeare through reading and discussion of six to nine plays selected from the comedies, histories, tragedies and romances. The class may view videos of plays being studied or attend a live performance. The purpose of this course is to present the mastery of Shakespeare's artistry in light of his world and ours.

261 Introduction to Creative Writing 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151 F, W

This course will introduce the student to the art and craft of creative writing. Each student's work will receive attentive individual scrutiny by the instructor and will be discussed in class and in individual conferences. In addition, the course will include analytic reading of the work of other students and of professional writers.

266 Non-Western Literature 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151

This is a survey course that examines cultures and literatures from outside the Euro-American tradition. Through the use of selected genres (poetry, drama, short story, and novel), students will become familiar with 20th century authors, representing multiple voices from multiple countries. Included as readings are texts from Africa, the Middle East, India, Southeast Asia, China, and Japan.

267 British Literature: Anglo Saxon to 18th Century 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151 F

This course is a survey study of the literature of England from the Anglo-Saxons through the eighteenth century. Emphasis will be given to the major writers of the British canon from the Beowulf poet to Samuel Johnson. Examples of different genres (poetry, prose, drama, etc.) will be read and discussed. Students will also explore the various literary movements that shaped those writers.

268 British Literature: Romantic to Modern 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** ENGL 151 W

This course is a survey study of the literature of England from the Romantic writers through the 20th century. Emphasis will be given to the major writers of the British canon from William Wordsworth to Samuel Beckett. Examples of different genres (poetry, prose, drama, etc.) will be read and discussed. Students will also explore the various literary movements that shaped those writers.

FINANCE (FIN)

151 Wealth Building Principles 3 Credit Hours 3 Billable Contact Hours

This course--formerly Personal Financial Planning--lays out practical methods to increase one's net worth over time by utilizing sound principles of money management and understanding how money behaves. No knowledge of accounting or business principles is required. Topics include compounding and the "time value" of money, investments, wills and estates, cohabitation and divorce, taxes, mortgages, retirement plans and insurance.

FRENCH (FREN)

151 Elementary French I 4 Credit Hours 4 Billable Contact Hours F

This course is an introduction to the French language. The emphasis will be on learning to read and interpret French. Students will study elementary grammar, pronunciation and basic vocabulary. Language laboratory work and/or instructional aids will be included.

152 Elementary French II 4 Credit Hours 4 Billable Contact Hours W

This course is a continuation of French 151. There will be emphasis on aural and oral practices. Also, there will be a study of French contemporary life and reading selections. There will be instructional aids included. The primary purpose of this course is to have the students read and write the French language at a fluent elementary level, with comprehension at the same level.

251 Second Year French I 4 Credit Hours 4 Billable Contact Hours F

Prerequisite: FREN 152 or two years high school French

This course will be a review of grammar and practice in oral and written French, based on selected readings and lectures. This course emphasizes writing and reading skills. Short papers and essays will be written in French. This class will culminate in the writing of a research paper in French.

252 Second Year French II 4 Credit Hours 4 Billable Contact Hours W

Prerequisite: FREN 251 or three years high school French

This course is a continuation of French 251. There will be emphasis on aural and oral practices. Also, there will be a study of French contemporary life and literature. There will be instructional aids included. This course emphasizes reading French literature and will culminate in the writing of a report on a piece of French literature. Several pieces of French literature will be read during the course. The primary purpose of this course is to have the students read and comprehend French literature at a fluent intermediate level.

GEOGRAPHY (GEOG)

151 Elements of Physical Geography 4 Credit Hours 4 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests

An introductory study of geography's physical elements. Topics include sun-earth relationships, maps, plate tectonics, climate, landforms, erosion, soils, rocks and minerals.

152 World Regional Geography 3 Credit Hours 3 Billable Contact Hours

This course provides a world regional survey emphasizing regional distinctions including population characteristics, environmental features, basic resources, political structure and economic activity within the major geographical regions with a focus on cause and effect and man/land relationships.

GERMAN (GERMN)

151 Elementary German I 4 Credit Hours 4 Billable Contact Hours F

This beginning course in German provides an introduction to German language and culture. The student will learn basic structures and vocabulary of the target language as well as practice the four basic language skills: reading, writing, listening and speaking.

152 Elementary German II 4 Credit Hours 4 Billable Contact Hours W

Prerequisite: GERMN 151 or one year high school German

The student will learn more advanced structures of the target language and additional vocabulary. The proficiency orientation of the class allows extensive practice in the four basic language skills: reading, writing, listening and speaking. This course is a continuation of GERMN 151.

251 Second Year German I 4 Credit Hours 4 Billable Contact Hours F

Prerequisite: GERMN 152 or two years high school German

The student will learn additional structures and vocabulary of the target language and will continue practicing the four basic language skills: reading, writing, listening and speaking. Students will be introduced to authentic materials and literature. This course is a continuation of German 152.

252 Second Year German II 4 Credit Hours 4 Billable Contact Hours W

Prerequisite: GERMN 251 or three years high school German

The student will continue exploring authentic materials and literature. Practice of the four basic language skills--reading, writing, listening and speaking will continue at an advanced level. This course is a continuation of German 251.

HEALTH SCIENCES (HLTSC)

110 Medical Terminology 2 Credit Hours 2 Billable Contact Hours F, W, Sp

The purpose of this course, designed primarily for health and business students, is to provide basic medical terminology information including Greek and Latin derivations, prefixes, suffixes, root words and combining forms. It provides practice in building and defining medical terms and emphasizes correct spelling and pronunciation of medical words. Basic anatomy and physiology of systems is reviewed with an emphasis on disease conditions and diagnostic tests.

120 Pharmacology **2 Credit Hours**
2 Billable Contact Hours
Prerequisite: BIOL 158 or admission to PN program.
F, W, Sp

This course for nursing and allied health students is designed to introduce the major drug classifications, prototype and common drugs within those classifications, and the specific drug actions and interactions. The course also emphasizes the physiologic effects of drugs on the human body, identifying therapeutic usefulness, adverse effects and contraindications.

151 Principles of Nutrition and Diet Therapy **3 Credit Hours**
3 Billable Contact Hours
F, W, Sp, Su

The purpose of this course is to study the role of nutrition in promoting health throughout the life cycle. Basic nutrition concepts are discussed, with emphasis placed on the nutrition needed for the maintenance of health and the prevention of disease. Personal nutritional practices are analyzed in light of nutritional theory.

156 Phlebotomy Basics **6 Credit Hours**
8 Billable Contact Hours
Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests
F, W

The purpose of this class is to prepare students for the role of the phlebotomist and to be a member of the health care team. Infection, quality control and safety, specimen collection, techniques for venipuncture and dermal or capillary puncture, specimen transport and processing, and legal, ethical and professional conduct will be presented.

157 Phlebotomy II **3 Credit Hours**
6.33 Billable Contact Hours
Prerequisite: HLTSC 156 with a "C" or better.
W, Sp

The purpose of this class is to apply venipuncture and dermal puncture skills in the clinical setting. Students will work 120 hours in the clinical setting and must be at least 18 years old.

160 Perspectives of Aging **3 Credit Hours**
3 Billable Contact Hours
F, W, Sp, Su

This course introduces students to the multiple dimensions of aging--physiologic, psychological, cognitive and social. The broad demographic, political and social frameworks and policy considerations that impact the aging population are also introduced.

HEALTH-PHYSICAL EDUCATION (HPE)

150 Personal Health **2 Credit Hours**
2 Billable Contact Hours
F, W, Sp

This is a basic course designed to provide college students with fundamental concepts and practices relating to healthful living. Personal, local, state and national health problems are studied in an effort to provide the student with a broad knowledge and understanding of vital health issues as they impact on the physical, mental, emotional, spiritual and social well-being of the individual. Areas of health which are studied include: chemical dependency; cancer; heart disease and its related factors, such as exercise, nutrition, weight management and hypertension; and marriage, and family relationships. The critical thinking skill in this course will coincide with the student's ability to think critically in order to solve problems related to the health, wellness and safety of individuals and society as a whole.

151 First Aid and Safety **2 Credit Hours**
2 Billable Contact Hours
F, W, Sp

The First Aid and Safety course will provide the student with a basic knowledge and understanding of accidents, illness and injuries that most commonly occur at home, work, school, play or while traveling. The student is given opportunities to analyze specific emergency situations with emphasis on treatment, prevention and protection. Major areas include: wounds; injuries to muscles, bones and joints; shock; poisoning; burns; sudden illnesses; heart attacks; and respiratory emergencies. Rescue breathing, choking and CPR skills are learned and applied to adults, children and infants.

153 Mental Health **3 Credit Hours**
3 Billable Contact Hours
W, Sp, Su

The purpose of this class is to develop a concept of mental health and to increase awareness of mental health issues. Students will examine the principles of mental health, including risk factors associated with mental illness and factors which lend toward positive mental health. Various mental illnesses and treatment strategies will also be explored. The education and roles of mental health professionals will be reviewed, as well as mental health facility options. Societal issues concerning mental health status will also be discussed.

159 The History and Foundations of Physical Education **2 Credit Hours**
2 Billable Contact Hours

This course introduces students to the history, philosophy, and foundations of physical education and sport. From the ancient non-western civilizations to current times, students will learn the contributions of cultures, individuals and events to the physical education and sport field. Through lecture, reading sources and class discussions, students will gain a better understanding of the physical education disciplines, the scope of related physical education disciplines, and the future direction for physical education and sport.

177 Weight Training **1 Credit Hour**
2 Billable Contact Hours
F, W, Sp

The purpose of this course is to provide students with an opportunity to learn weight training skills and the knowledge and understanding of concepts related to those skills. Course content will include: components of physical fitness, selection of clothing, equipment, terminology, fundamental weight training skills and safety. Written and/or skills tests are a part of the course. Weight training skills will be centered on using Nautilus/Stairmaster resistance exercise machines. Emphasis will be placed on increasing muscle tones and strength through a circuit routine of one set of 8-12 repetitions at 60-85 percent of one repetition max. Students' strength and endurance will be assessed through a weight training program designed to meet class and personal objectives.

178 Weight Lifting **1 Credit Hour**
2 Billable Contact Hours
 F, W, Sp, Su

The purpose of this course is to provide students with an opportunity to learn weight lifting skills and the knowledge and understanding of concepts related to those skills. Course content will include: components of physical fitness, selection of clothing, equipment, terminology, fundamental weight lifting skills and safety. Written and/or skills tests are a part of the course. Weight lifting skills will be centered on using Hammer plated resistance equipment. Emphasis will be placed on increasing muscle size, power and strength through routines of three-to-four sets of three-to-four repetitions for each set at 85-100 percent of one repetition max. Student's size, power and strength will be assessed through a weight lifting program designed to meet class and personal objectives.

185 Snowboarding **1 Credit Hour**
2 Billable Contact Hours
 W

This course provides students an opportunity to learn snowboarding skills along with the knowledge and understanding of concepts related to snowboarding. Course content will include: selection of clothing and equipment, terminology, fundamental skills of snowboarding and safety. Written and/or skills tests are a part of this course. Students will benefit from the emphasis on individual lifetime sport and recreation activity while receiving one hour of credit toward a degree. This course meets off campus and will require significant physical effort. Students must be at least 18 years of age and be in good physical condition to participate.

193 Snow Skiing **1 Credit Hour**
2 Billable Contact Hours
 W

Course content for physical education activities will include: selection of clothing, equipment, terminology, fundamental skills and safety. Written and/or skills tests are a part of each course. The purpose of this course is to provide students an opportunity to learn snow skiing skills and the knowledge and understanding of concepts related to snow skiing. Students will benefit from today's emphasis on lifetime individual sport and recreational activities while receiving one hour elective credit for either their associate's degree or for personal enjoyment. This course is also transferable to many four-year institutions as a physical education credit for those students seeking a baccalaureate degree.

285 Intermediate Snowboarding **1 Credit Hour**
2 Billable Contact Hours
 W

Prerequisite: HPE 185

This course provides students an opportunity to improve and advance snowboarding skills learned in HPE 185 Snowboarding. Course content will start with a review of basics, such as selection of clothing and gear, terminology, the basic skills of snowboarding in theory and then practice. New, advanced skills of snowboarding will follow, along with a more sophisticated look at the sport. Written and performance based tests are a part of this course. Students will benefit from advanced training in an individual lifetime sport and recreational activity while receiving one hour of credit toward a degree. This course will require significant physical effort. Student must be at least 18 years of age and be in good physical condition to participate.

293 Intermediate Snow Skiing **1 Credit Hour**
2 Billable Contact Hours
 W

Prerequisite: HPE 193

Course content for physical education activities will include a review of basics regarding: selection of clothing, equipment, terminology, fundamental skills, and safety. Written and/or skills tests are a part of each course. The purpose of this course is to provide students an opportunity to advance snow skiing skills and the knowledge and understanding of concepts related to more advanced skiing. Students will benefit from today's emphasis on lifetime individual sport and recreational activities while receiving one hour elective credit for either their associate's degree or for personal enjoyment. This course is also transferable to many four-year institutions as a P.E. credit for those students seeking a baccalaureate degree. Students should progress from basic snow skiing skills to intermediate level snow skiing or an appropriate level of skill determined by mutual student and faculty analysis.

297 Inter Hiking and Backpacking **1 Credit Hour**
2 Billable Contact Hours
 Sp, S

Prerequisite: HPE 197

The purpose of this class is to continue to develop skills related to hiking and backpacking. Content will include a review of equipment and clothes needed, assessment of physical status, application safety measures, environmental responsibilities, actual packing and planning for an extended trip, and the actual hiking and overnight camping in a wilderness area. Students need to be prepared for poor weather and the strenuous activity.

100 Level — Activity Courses **1 Credit Hour**

Course content for physical fitness and aerobic activities will include: selection of clothing and equipment, terminology, components of fitness, benefits of exercise, basic fundamental skills and safety. Course content for individual and team sports activities will also include rules of play, scoring and a basic understanding of offensive and defensive strategy. Written and/or skills tests are a part of each course.

Skills require some physical exertion, gross and fine motor coordination, and sufficient intellectual and emotional functions to implement skills and sufficient visual and auditory acuity to communicate needs in the activity. All students must sign a waiver to do activities, and a doctor's permit may be needed.

Please consult the latest class schedule for current information on offerings.

163 Golf	Sp, S
165 Karate	F, W
167 Physical Fitness	F, W, Sp, Su
170 Exercise Walking	F, Sp, Su
171 Jogging	F, Sp, Su
173 Aerobics	F, W, Sp, Su
174 Tae Kwon Do	Sp, Su
175 Kick Boxing	F
177 Weight Training	F, W, Sp
178 Weight Lifting	F, W, Sp
181 Volleyball	F, W
184 Basketball	F, W
185 Snowboarding	W
193 Snow Skiing	W

200 Level — Continuing Courses 1 Credit Hour**Prerequisite:** appropriate 100-level beginning course

Course content includes a review of what was offered in the corresponding beginning course, along with more advanced skills. A greater emphasis will be on offensive and defensive strategies, with an in-depth evaluation of the individual skills and abilities for individual and team sport activities. For physical fitness and aerobic activities, more emphasis will be placed on individual goals that will challenge students' upper-level skills and abilities. Written and/or skills tests are a part of each course.

Skills require some physical exertion, gross and fine motor coordination, and sufficient intellectual and emotional functions to implement skills and sufficient visual and auditory acuity to communicate needs in the activity. All students must sign a waiver to do activities, and a doctor's permit may be needed.

265 Intermediate Karate W, Sp, S
285 Intermediate Snowboarding W
293 Intermediate Snow Skiing W

HISTORY (HIST)

151 Western Civilization to 1650 3 Credit Hours
3 Billable Contact Hours
 F, Sp

This course introduces the cultural and institutional development of Western civilization from its beginning to 1650. It emphasizes the contributions of past civilizations to the present. Students planning a major in history should elect both Western Civilization 151 and Western Civilization 152 in their freshman year.

152 Western Civilization: 1650 to Present 3 Credit Hours
3 Billable Contact Hours
 W

This course, a continuation of Western Civilization 151, introduces the cultural and institutional development of post-1650 Western civilizations. Understanding the contributions these civilizations made to the present is emphasized.

153 History of Michigan 3 Credit Hours
3 Billable Contact Hours
 W

This course is a survey of Michigan history from the French exploratory period to the present. It will examine how the economic, political and social development of Michigan relates to American history. Local history and the collection and interpretation of primary historical materials are emphasized. This includes utilizing primary historical materials and fitting this information into a local and a national context.

154 History of the U.S.: 1607-1877 3 Credit Hours
3 Billable Contact Hours
 F, Sp

This course is a survey of American history from the time of exploration and the Colonial Era to the end of Reconstruction. It will examine the institutions of the peoples of America--native and immigrant--and the changes fashioned in the new environment. Special emphasis is placed on the growth and development of American democracy. The purpose of this course is to have the student understand the complexity and essential content of the American past.

155 History of U.S.: 1877-Present 3 Credit Hours
3 Billable Contact Hours
 W, Su

This course is a survey of American history from the end of Reconstruction to the present. It will examine industrialization; urbanization; ethnic and racial diversity; economic conditions; political, social, cultural and intellectual trends; the growth of America as a world power; the Cold War; and the growth of the federal government. The purpose of this course is to have the student understand the historical roots of modern America.

158 World History to 1500 3 Credit Hours
3 Billable Contact Hours
 F, Sp

This course introduces the social, economic and cultural development of world history from its beginning to 1500. It emphasizes the formation of world empires and imperialism, contours of world religions and movement of goods and people from a comparative perspective.

159 World History: 1500 to Present 3 Credit Hours
3 Billable Contact Hours
 W, Su

This course introduces the social, economic and cultural development of world history from 1500 to the present. It gives a comparative overview of the movement of goods and people, revolutions, technological developments and new regional and public identities in the modern world.

160 Civil War and Reconstruction 3 Credit Hours
3 Billable Contact Hours

This course is a survey of the Civil War era in U.S. history. Special emphasis is on modernization, slavery, the causes of the war, the military aspects and the reconstruction process.

255 History of East Asia 3 Credit Hours
3 Billable Contact Hours
 F

This course surveys the history of East Asia from its beginning to modern times. It emphasizes the social, political and economic institutions that have shaped the civilization of this region.

256 African-American History 3 Credit Hours
3 Billable Contact Hours
 F

This course examines the history of African-Americans from their African origins to the present. Special emphasis is placed on the cultural development and contributions of black Americans and the ever-changing dimensions of racism and discrimination in American society. This course will help the student understand the integral role that African-Americans have played in our nation's history, and to perceive that the very foundation of the American experiment rests on cultural diversity.

HUMANITIES (HUMAN)

151 Introduction to Humanities 3 Credit Hours
3 Billable Contact Hours
 F, W

This course is a survey of the humanities that focuses on painting, poetry, drama and music with emphasis placed on what the humanities tell us about human values. Extra cost may be incurred for field trips. Schedules may have to be adjusted because of field trips, which may be on weekends.

152 Exploring Creativity **3 Credit Hours**
3 Billable Contact Hours
F, W

This class will examine, in detail, the creative process and the factors that surround it. Beginning with the trinity of creation--the person, the process and the product--the course will explore those characteristics of creative people that enhance creativity and also those elements that inhibit it. The class will be based on the experiences of those who are productive creators. We will note their thinking and feeling habits, examine their products, discover their processes and understand how creativity is part of everyone. Creative and lateral thinking processes will also be explored. A creativity project will be presented to the class by each student.

250 Visual Media Literacy **3 Credit Hours**
3 Billable Contact Hours
F, W

Prerequisite: ENGL 151

This class will acquaint the student with the cultural messages that are created and manipulated by movies and television programming. Each student will be provided with the vocabulary and critical tools necessary for discussing and writing about these vital media. Upon successful completion of this course, the student will be able to analyze the visual media and their role in shaping his or her world.

256 Film and American Society **3 Credit Hours**
1920s - Early 1960s **3 Billable Contact Hours**
Prerequisite: ENGL 151

This course is a chronological survey of the development of American cinema from the 1920s through the early 1960s. Changes in the productive forces and social relations will be identified and discussed in terms of their influence on the kinds and content of movies produced in the United States during this period. At the same time, the course will explore the various ways in which filmmakers adapted to and/or criticized these same influences.

257 Film and American Society **3 Credit Hours**
1960s to Present **3 Billable Contact Hours**
Prerequisite: ENGL 151

This course is a chronological survey of the development of American cinema from the mid 1960s to the present. Changes in the productive forces and social relations will be identified and discussed in terms of their influence on the kinds and content of movies produced in the United States during this period. At the same time, the course will explore the various ways in which filmmakers adapted to and/or criticized these same influences.

HUMAN SERVICES PARAPROFESSIONAL (HSP)

100 Nurse Aide Practice **5 Credit Hours**
8 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests

This course is designed to prepare an individual to fulfill the role of direct caregiver/nursing aide. The course emphasizes the skills and behaviors that are significant to employers of nurse aides, including cardiopulmonary resuscitation. This course includes classroom activities, skills, practice time in the laboratory and supervised clinical practice at a long-term care facility. Written assignments and tests (both written and performance testing) are a part of this course. Upon completion of this course, students will be eligible to take the clinical and written exams required for certification as a nurse's aide.

INDEPENDENT STUDY

1 to 4 Credit Hours

Prerequisite: approval of the respective division dean

A student may have an interest in a topic or an area of specialization not covered by regular MCCC class offerings. In order to further the student's learning in these areas, the divisions (Business, Health Sciences, Humanities/Social Sciences, Industrial Technology and Science/Mathematics) may offer an Independent Study class in which the student would complete selected readings, research projects and/or papers under the guidance of an instructor.

JOURNALISM (JOURN)

161 Introduction to Journalism **3 Credit Hours**
3 Billable Contact Hours
F, W

Students in this course will learn how to determine what is newsworthy, as well as the basics of news and feature writing, journalistic style, copy editing and gathering of information with an emphasis on interviewing techniques. Students may hear presentations by professional journalists and/or visit a newspaper operation.

162 Journalism Workshop I **3 Credit Hours**
3 Billable Contact Hours
F, W

Prerequisite: JOURN 161

In this course, students will be given practical experience in journalistic writing, photography, layout procedures and newspaper production. They will have the responsibility for producing the college newspaper, The Agora.

181 New Media Journalism **3 Credit Hours**
3 Billable Contact Hours
W

Prerequisite: JOURN 161

This course is designed to introduce students to the wide variety of digital story-telling tools. As consumers turn from traditional news sources to the World Wide Web, journalists need to learn a new portfolio of skills, from handling breaking news in real time to blogs, tweets, podcasts, video, audio, multi-media, linking, geomapping and more. Students will be exposed to a wide range of digital news presentation methods, while learning new media skills needed to compete in this rapidly changing and highly competitive career field. The course will emphasize using traditional journalism conventions, such as accuracy, fairness and comprehensive news gathering and reporting, while using digital new media tools.

261 Journalism Workshop II **3 Credit Hours**
3 Billable Contact Hours
F, W

Prerequisite: JOURN 162

This course is a continuation of Journalism 162.

262 Journalism Workshop III **3 Credit Hours**
3 Billable Contact Hours
F, W

Prerequisite: JOURN 261

This course is a continuation of Journalism 261.

MANUFACTURING TECHNOLOGY (MECH) **(See Product and Process Technology)**

MARKETING COMMUNICATIONS (MCOM)

201 Principles of Marketing **3 Credit Hours**
3 Billable Contact Hours
F, W

The focus of this course is the study of the fundamental marketing principles. Topics include the marketing environment, marketing planning and research, consumer behavior, market segmentation, international marketing and the marketing mix.

MATERIALS TECHNOLOGY (MATL)

101 Industrial Materials **3 Credit Hours**
4 Billable Contact Hours
F, W

Prerequisite: One year high school algebra
This course presents an introduction to materials of industry, including iron and steel, nonferrous metals, plastics and ceramics, from the standpoint of properties and applications. Major topics include material classification, mechanical and physical properties, metallurgy and heat treating. Laboratory experience will be gained in mechanical testing, microscopy, heat treating and materials identification.

121 Nuclear Plant Materials **3 Credit Hours**
4 Billable Contact Hours
F, W

This is an introductory course on materials for nuclear power plants. The major topics include the atomic structures, phase diagrams, types and classification of alloys, mechanical properties with emphasis on the brittle fracture, effect of environment on the degradation of properties and how to evaluate the safe working stresses. Plant material problems and selection of appropriate materials for various components will also be discussed. Laboratory experience will be gained in mechanical testing, microscopy, corrosion testing, etc.

215 Metallurgy **3 Credit Hours**
4 Billable Contact Hours

Prerequisite: MATL 101
This course builds on the foundation of Industrial Materials (MATL 101) to explore, in-depth, the physical and mechanical properties of metals and alloys. Laboratory work will include industrial metallographic techniques and metals testing.

225 Plastics and Ceramics **3 Credit Hours**
4 Billable Contact Hours

Prerequisite: MATL 101
This course builds on the foundation of Industrial Materials (MATL 101) to explore, in-depth, the physical and mechanical properties of plastics and ceramics. Laboratory work will include processing and testing techniques of polymers, composites and ceramics.

MATHEMATICS (MATH)

Students who score below specified minimums on the ACT or COMPASS math placement test must successfully complete MATH 090 prior to enrolling in a 100-level or higher math course.

090 Basic Mathematics Skills **3 Credit Hours**
3 Billable Contact Hours

This class does not count toward graduation. Internet access is mandatory.

Basic Mathematics Skills will provide instruction in elementary arithmetic skills and mathematical operations and their applications, with early introduction to integers and algebraic concepts. This approach provides students with the necessary tools to succeed in developmental math and prepares them for future math courses. The content of the course includes operations with whole numbers, whole-number and decimal fractions, ratio and proportion, percent, introduction to variables and algebraic concepts, emphasis on problem-solving skills, vocabulary comprehension, real-world applications and calculator fundamentals. Some topics must be completed without the use of a calculator. The purpose of the course is to prepare students for the transition from arithmetic to algebra. The Basic Mathematics Skills course will be graded on a pass/fail mastery basis. The institutional credits earned in this course do not count toward graduation. This course does not fulfill the math competency requirements. Internet access is mandatory.

119 Elementary Technical Mathematics **2 Credit Hours**
2 Billable Contact Hours
Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests **F**

This course provides basic mathematics preparation for students in technology programs. It emphasizes fundamental operations of algebra and the solution of linear equations relating to technical applications. The course also includes estimation, scientific and engineering notation, proportion and variation, measurement systems and conversion methods, precision, accuracy and error. The purpose of this course is to acquaint students with the type of mathematics that is used in the technical area.

124 Technical Mathematics II **4 Credit Hours**
4 Billable Contact Hours

Prerequisite: MATH 119
This course is designed to provide advanced mathematics preparation for students in technology programs. It emphasizes concepts and applications of algebra, geometry and trigonometry to technical areas. The course includes geometry, graphs and charts, functions and graphs, trigonometry, vectors and polar coordinates, systems of equations, logarithms and statistics.

125 Mathematics for Allied Health **3 Credit Hours**
3 Billable Contact Hours
Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests

This course covers practical application of addition, subtraction, multiplication, division, decimals, fractions, conversion of units, ratio and proportion problems, estimation (including reasonableness of numerical result), precision, accuracy, variation, measurement systems, conversion methods, review of the Roman numeral system, use of algebraic formulas and solving algebraic word problems as related to the medical profession. The purpose of this course is to give the student competency in the mathematics used in the medical profession.

150 Beginning Algebra 4 Credit Hours**4 Billable Contact Hours****Prerequisite:** RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests**Internet access is mandatory.**

This course covers fundamental concepts of algebra such as symbols, signed numbers, rational numbers, factoring and solutions to linear equations. It also includes solutions of rational equations, quadratic equations and systems of equations. This course is intended for students who have had no high school algebra or feel a need to review elementary algebra. Internet access is mandatory.

151 Intermediate Algebra 4 Credit Hours**4 Billable Contact Hours****Prerequisite:** RDG 090 and ENGL 090 and MATH 150 or qualifying scores on ACT or COMPASS tests**Internet access is mandatory.**

This course covers properties of real numbers, solutions of first- and second-degree polynomial equations and inequalities, systems of equations and their graphs, basic properties of logarithms, complex numbers, basic right triangle trigonometry and laws of sines and cosines. The purpose of this course is to prepare students for the transition to college algebra. Internet access is mandatory.

154 Mathematics Explorations 4 Credit Hours**4 Billable Contact Hours****Prerequisite:** MATH 151 or qualifying score on ACT or COMPASS test

This is a college-level course designed primarily for non-math and non-science transfer majors with the purpose of introducing them to the nature of mathematics as it applies to both the practical and the abstract. Students will gain understanding in the areas of sets, logic, probability, statistics, algebra, geometry and math as they apply to the modern world. The history and the future of mathematics will be interspersed throughout the course as they apply to each topic. Topics will be explored with the use of computers, problem solving, critical thinking and group/self-discovery.

156 Math for Elementary Teachers I 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** MATH 151 or qualifying score on ACT or COMPASS test

This course is an introduction to the theory of arithmetic to develop understanding and skill in mathematical processes. It consists of set theory, logic, number bases, properties of natural numbers, integers, and rational and real numbers. An emphasis is put on the use of manipulatives and problem solving. The purpose of the course is to provide the future elementary teacher with a perspective for understanding the mathematics taught in the elementary school.

157 College Algebra 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** MATH 151 or qualifying score on ACT or COMPASS test

This course covers the topics of polynomial equations, inequalities, exponential equations and logarithmic equations. Also included are systems of equations and complex numbers. The purpose of this course is to introduce students to college-level mathematics at a more gradual pace than MATH 164. MATH 157 and MATH 159 are the equivalent of MATH 164.

159 Trigonometry and 3 Credit Hours**Analytical Geometry 3 Billable Contact Hours****Prerequisite:** MATH 157

This course covers the topics of circular functions, trigonometric functions, inverse trigonometric functions, trigonometric identities, conic sections, polar coordinates, sequences and induction. The purpose of this course is to teach students trigonometry and conic sections so that the students will have the prerequisites needed for the study of calculus. MATH 159 is a continuation of MATH 157. MATH 157 and MATH 159 are the equivalent of MATH 164.

160 Math Applications in 2 Credit Hours**Engineering Technology 2 Credit Hours****3 Billable Contact Hours****Prerequisite:** MATH 124 or MATH 159 or MATH 164

This course is an introduction to the concepts of statistics and calculus as they apply to engineering technology, focusing on the application of spreadsheet and math analysis software. Computer resources provided include Microsoft Excel and the Maple computer algebra packages. Topics range from experimental data reduction to numerous examples from mechanical and electrical systems.

162 Introduction to Statistics 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** MATH 151 or 157 or 159 or 164 or 172 or 251 or 271 or 273 and RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

A basic course to acquaint the student with the theory and application of statistical methods to engineering, health, social and business problems. Topics considered are graphical representation of data, central tendency measures, bivariate data, probability, distribution, sampling, hypothesis testing and correlation aspects. Out of classroom use of microcomputers will be expected.

164 Precalculus 4 Credit Hours**4 Billable Contact Hours****Prerequisite:** MATH 151 or qualifying score on ACT or COMPASS Test

This course emphasizes the study of polynomial, exponential, logarithmic and trigonometric functions. Other topics considered are complex numbers, trigonometric identities, systems of equations and analytic geometry. The purpose of this course is to provide knowledge and skills in mathematics of advanced algebraic and trigonometric concepts for applications in situations that require the use of quantitative processes. This course serves as a core requirement in many baccalaureate programs and provides prerequisite concepts and skills needed in business, mathematics, engineering and in the physical sciences for continued study in calculus.

166 Math for Elementary Teachers II 3 Credit Hours**3 Billable Contact Hours****Prerequisite:** MATH 156

This course is a study of elementary probability and statistics, geometry, computer and calculator applications. An emphasis is put on the use of manipulatives and problem solving. The purpose of this course is to provide the future elementary school teacher with a perspective for understanding the mathematics taught in the elementary school.

171 Calculus I 4 Credit Hours**4 Billable Contact Hours****Prerequisite:** MATH 159 or MATH 164 or qualifying score on ACT or COMPASS test

An introductory course in the study of single variable calculus covering both differentiation and integration. The types of functions covered include algebraic and transcendental. The purpose of the course is to study analysis of single variable functions primarily through differentiation and integration.

172 Calculus II **4 Credit Hours**
4 Billable Contact Hours

Prerequisite: MATH 171

This course is a continuation in the study of calculus with an emphasis upon integration. Topics included are algebraic and transcendental functions, techniques of integration, improper integrals, infinite series, plane analytic geometry, parametric equations and polar equations. The purpose of the course is to continue the study of calculus of single variable functions with a more in-depth study of integration and various infinite series.

251 Introduction to Linear Algebra **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: MATH 171 **W**

This course is an introduction to linear algebra. The content of the course includes methods for solving systems of equations, matrices, vector spaces, inner product spaces, eigenvalues and eigenvectors and linear transformations. The purpose of this course is to introduce students to linear algebra. Specifically, the course prepares students to work with abstract mathematical structures and multivariate problems.

271 Calculus III **4 Credit Hours**
4 Billable Contact Hours

Prerequisite: MATH 172 **F**

Calculus III is the continuation of the principles of calculus applied to multivariable functions. The content of the course includes partial differentiation, multiple integration and vector analysis. The purpose of the course is to continue the analysis of functions with calculus to multivariable functions.

273 Introduction to Differential Equations **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: MATH 172 **W**

This is an introduction to ordinary differential equations. The content of the course includes methods for solving first- and second-order ordinary differential equations, systems of differential equations, power series solutions and Laplace transforms. The purpose of this course is to introduce students to the theory and application of differential equations. Specifically, the course prepares students to apply differential equations to scientific, engineering and economic problems.

MECHANICAL DESIGN TECHNOLOGY (MDTC)

109 Mechanical Blueprint Reading **2 Credit Hours**
2 Billable Contact Hours
F, W

This course covers the basic principles essential for interpretation of blueprints and engineering drawings. Fundamental symbols, signs and techniques, as well as size and shape description, are emphasized.

116 Plant Layout and Material Handling **3 Credit Hours**
3 Billable Contact Hours
Prerequisite: MDTC 101 or MDTC 109 or MDTC 151 or MDTC 160 or MDTC 161

This course is an introduction to the practices and procedures for developing optimum plant layouts for production and material handling. Students will follow the process of analyzing and developing information to produce a plant layout. Print reading skills will be developed with an emphasis on reading industrial equipment drawings for equipment installation and movement of materials including conveyers.

152 Descriptive Geometry **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: MDTC 160 or MDTC 151 **W**

This course consists of lectures, discussions, and home and classroom drawings. Major topics and applications will include: fundamental theory of the point, line and plane with application to solids, generation and classification of lines and surfaces, tangent planes, sections, intersections, development and applications to engineering problems.

160 Mechanical Drafting and CAD I **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: Students who have taken MDTC 101 and MDTC 121 should not take MDTC 160 **F, W**

This course is a first exposure to the drafting and design field. Sketching, drafting equipment, basic drafting techniques, geometry, multiview drawings, dimensioning and sectional views will be taught using both sketching techniques and computer aided drafting (CAD) software. A major emphasis will be placed on current drafting standards and procedures.

161 Mechanical Drafting and CAD II **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: MDTC 160 or MDTC 101 or MDTC 121 or two years high school mechanical drafting and CAD. Students who have taken MDTC 151 and MDTC 122 should not take MDTC 161. **F, W**

This course is designed as a continuation of the Mechanical Drawing and CAD I course. Auxiliary views, fasteners, pictorial drawings and working drawings will be taught using both sketching techniques and computer aided drafting (CAD) software. 3D concepts and solid modeling will also be included in this course.

226 Geometric Dimensioning and Tolerancing **3 Credit Hours**
3 Billable Contact Hours
Prerequisite: MDTC 101 or MDTC 151 or MDTC 160 **F**

This course covers fundamental concepts and applications relating to geometric dimensioning and tolerancing (GD&T). This includes tolerance of form, profile, orientation, runout and location as they relate to the ANSI/ASME Y14.5M-1994. Emphasis is placed on how GD&T is utilized by engineering, manufacturing and inspection departments.

228 Introduction to Solid Modeling-SolidWorks **3 Credit Hours**
3 Billable Contact Hours

The Solid Modeling-SolidWorks course is designed for SolidWorks students, designers and engineers. This course is the first step toward becoming a proficient SolidWorks user. It covers the core concepts of 3D parametric modeling, common part design, assembly creation, and drawing generation. Additionally, the course is designed to help users prepare and successfully pass the Certified SolidWorks Associate (CSWA) exam.

240 Tool and Die Design 4 Credit Hours**6 Billable Contact Hours****Prerequisite: MDTC 152 and MDTC 226 and MDTC 228** W

Keeping pace with the latest advances in jigs and fixtures, this course covers thoroughly how and why jigs and fixtures are designed and built. From simple template and plate-type workholders to complex channel and box-type tooling, economy and simplicity in tool design is stressed throughout. This course is also a step-by-step introduction to the design of stamping dies including material, punches, die sets, stops, strippers, gages, pilots and presses. Special attention is given to the use of standard parts catalogs. The function of the course is to call upon the knowledge and skills acquired by the student in supporting and related courses to analyze and solve specific design problems. CAD lab is required to complete drawings. Students who have successfully completed both MDTC 229 and MDTC 230 may not enroll for credit in this course.

242 Mechanical Design 4 Credit Hours**Capstone Project 6 Billable Contact Hours****Prerequisite: MDTC 226 and MDTC 228** W

This course is a capstone experience for the final semester of the associate degree in mechanical design technology. Students will demonstrate the collected knowledge, skills and techniques acquired in previous courses by creating and presenting a representative design project to a panel of their peers, instructors and representatives from industry. Emphasis is placed on the use of design principles and computer technology in planning, managing and completing a design project. Team design projects will be integrated into the course.

MECHANICAL ENGINEERING TECHNOLOGY (METC)**100 Introduction to Engineering and Technology 3 Credit Hours****3 Billable Contact Hours****Prerequisite: High school algebra (equivalent COMPASS score in pre-algebra)** F, W

This course introduces the field of engineering and technology. Concepts related to the engineering profession are presented, including economics, ethics, research, problem solving, communication and typical engineering problems. A major component of this course includes presentation of mathematic and scientific tools that have utility in future engineering courses and the engineering career, including computer software. Historic examples are used throughout the course to demonstrate the typical problems that were successfully solved, as well as engineering failures, and the impact of technology on society. Students are encouraged to communicate and collaborate with each other on problems. Group work is required, as well as participation in the course's discussion forum. The end goal of the course is to give the student a feel for the engineering experience.

170 Introduction to Parametric CAD/CATIA 3 Credit Hours**6 Billable Contact Hours****Prerequisite: MDTC 121 or MDTC 160**

In this course, students learn concepts in the use of profiles and parametric features as building blocks for 3D solid models, using the CATIA/DELMIA part and assembly modeling software. Advanced topics of NURBS surfacing and assemblies, as well as the creation of 2D drawings will be discussed. Software specific topics of Boolean Operations and best practices will also be explored.

172 Introduction to Parametric CAD/ProE 3 Credit Hours**6 Billable Contact Hours****Prerequisite: MDTC 121 or MDTC 160**

In this course, students learn concepts in the use of profiles and parametric features as building blocks for 3D solid models using the Pro Engineer part and assembly modeling software. Advanced topics of NURBS surfacing and assemblies, as well as the creation of 2D drawings will be discussed. An analysis of models using Finite Elements Analysis (FEA) tools will be attempted, time permitting.

180 Statics 1 Credit Hour**2 Billable Contact Hours****Prerequisite: MATH 124 or MATH 159 or MATH 164** F, W

This course is an introduction to the concepts of vector resultant and equilibrium of coplanar force systems, solution of truss problems by method of joints and method of sections, and calculation of static friction. The course is intended to expand on the related material from METC 208 Strength of Materials (which includes determination of area centroids and moments of inertia).

208 Strength of Materials 3 Credit Hours**3 Billable Contact Hours****Prerequisite: MATH 124 or MATH 151 or higher** F, W

This course is concerned with the selection of machine and building members of adequate strength and rigidity and the investigation of existing load carrying members. Consideration is given to economy of weight and cost. Topics covered include: stress, strain and deflection calculations, shafts, centroids and moments of inertia, beams and columns, Mohr's circle and combined stress. Computer software resources will be available to assist students in completion of homework assignments.

210 Computer Applications in Machine Design 4 Credit Hours**6 Billable Contact Hours****Prerequisite: MATH 160 and METC 170 and METC 180 and METC 208. NOTE: METC 220 will replace METC 180 and 208.**

This course covers the application of the principles of engineering mechanics (stress/strain, impact, dynamic loading and fatigue) through computer analysis to the design and/or selection of machining elements. Components discussed include fasteners, springs, bearings, belt and chain drives, brakes and clutches, power screws and gears. Students are exposed to use of CAD to model designs, FEA stress verification and a variety of math tools to reproduce equations from industry handbooks and component supplier guides.

220 Statics and Strength of Materials 4 Credit Hours**6 Billable Contact Hours****Prerequisite: MATH 124 or MATH 151 or MATH 157 or MATH 160 or MATH 164 or MATH 172** F, W

This course introduces basic statics concepts for determining forces acting on rigid bodies. Concepts of vector resultants, equilibrium of coplanar force systems, solution of truss problems by method of joints and method of sections, and calculation of static friction are included. Supporting concepts of centroids and moment of inertia are introduced. The course then covers strength of materials subjects of normal and shear stress, strain, thermal stresses, stress concentration factors, factor of safety, torsion and power transmissions via shafts. Advanced topics include beam bending diagrams, beam deflection, combined stresses and Mohr's circle. All coursework is based on real-world examples and includes use of computer software where appropriate.

234 Thermodynamics and Fluid Sciences **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: MATH 124 or MATH 160 or MATH 164

W

This course presents the fundamental concepts of thermodynamics and heat transfer. The focus is on industrial applications and their basis in thermodynamic theory. Included are heat capacity, phase changes, thermal cycles, efficiency, power generation and refrigeration. Lab exercises will demonstrate some of these concepts, with computer simulations used to demonstrate where physical equipment is impractical for the classroom. In addition, fluid flow characteristics are presented where related to heat exchanger performance.

270 Advanced Parametric CAD **3 Credit Hours**
4 Billable Contact Hours

Prerequisite: METC 170

This course provides the dual opportunities to explore advanced topics in parametric CAD and to gain valuable design experience through its application to a team-based project. Topics begin with a brief review of the introductory course, METC 170. Participants will then choose to either complete a minimum of 10 additional topic modules through the use of tutorial exercises or to form teams that together will share these topic modules while applying the knowledge gained to a semester-long design project. A partial list of topics include top-down assembly modeling, surfacing, dynamic analysis of mechanisms, rendering and animation, sheet metal and plastics design techniques and fundamentals of Finite Element Analysis. The software of choice is currently CATIA-DELMIA, and students are encouraged to purchase student editions and to have a reliable Internet connection to enroll.

MEDICAL OFFICE ADMINISTRATION (MOAD)

101 Introduction to the Medical Office **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: ADMN 101 and ADMN 135 and HLTSC 110 and WPR 102

Students will study theory and participate in practical applications that will prepare them to successfully maintain a medical office reception area. This includes, but is not limited to, welcoming patients, scheduling appointments, creating medical office correspondence and managing electronic medical records. The use of computers in medical offices will be stressed throughout the course.

104 Medical Office Administration I **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: MOAD 101

An overview is presented of medical office procedures for the administrative medical assistant or the medical office coordinator. Students will study theory and participate in practical applications such as learning appropriate terminology for using computerized medical billing and scheduling software, transcribing medical documents, understanding how to correctly handle patient's protected health information and compliance with HIPPA regulations, as well as understanding the management of the electronic medical record. The use of computers in medical offices will be stressed throughout the course.

204 Medical Office Administration II **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: MOAD 104

A continuation of Medical Office Administration I which covers theory and practical applications, such as the use of clinical simulations and understanding of diversity and how it relates to the patient population and their care. Office management skills will be practiced, especially in the area of hiring a new medical office employee. These will be accomplished through lectures, guest speakers and field trips.

206 Medical Insurance Billing and Coding **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: MOAD 104

A hands-on approach to insurance coding and billing. Students will learn to use the Current Procedural Terminology (CPT-4) and International Classification of Diseases (ICD-9-CM) manuals to accurately identify medical procedures and assign the appropriate billing codes. Manual and computerized billing systems will be reviewed as well as third-party reimbursements. Students should have a thorough understanding of basic human anatomy and physiology and medical terminology to successfully complete this course.

MUSIC (MUSIC)

150 Agora Chorale **1 Credit Hour**
3 Billable Contact Hours

F, W

The Agora Chorale is a mixed vocal ensemble comprised of singers from the community and college. The Chorale presents concerts, no less than two each semester, both on and off campus. The class meets one evening each week and may be elected in sequence four times. The course is a requirement for students on a choir scholarship.

151 Agora Chorale **1 Credit Hour**
3 Billable Contact Hours

F, W

Prerequisite: MUSIC 150

The Agora Chorale is a mixed vocal ensemble comprised of singers from the community and college. The Chorale presents concerts, no less than two each semester, both on and off campus. The class meets one evening each week and may be elected in sequence four times. The course is a requirement for students on a choir scholarship.

152 Voice Class **2 Credit Hours**
2 Billable Contact Hours

This course is open to all students who wish to improve their singing abilities.

154 College-Community Symphony Band **1 Credit Hour**
3 Billable Contact Hours

F, W

The College-Community Symphony Band is open to instrumentalists having previous music experience. Membership includes college students and citizens from the community. The band performs for college functions and concerts as well as for community programs. Admission is by application and audition to the director. This course is a requirement for students on a band scholarship. The band rehearses once each week, and the course may be elected in sequence four times.

155 College-Community Symphony Band **1 Credit Hour**
3 Billable Contact Hours
F, W

The College-Community Symphony Band is open to instrumentalists having previous music experience. Membership includes college students and citizens from the community. The band performs for college functions and concerts as well as for community programs. Admission is by application and audition to the director. This course is a requirement for students on a band scholarship. The band rehearses once each week, and the course may be elected in sequence four times.

157 Listening to Classical Music **2 Credit Hours**
2 Billable Contact Hours

This class is designed for people seeking greater awareness of the aesthetic content of "classical" music. The forms, styles, methods of composition and composers are discussed and analyzed as a basis for intelligent listening and appreciation.

161I Applied Music Instrument **1 Credit Hour**
1 Billable Contact Hour
F, W

This course provides private lessons in piano, guitar, wind or percussion instruments (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student's ability to perform musically.

161V Applied Music Voice **1 Credit Hour**
1 Billable Contact Hour
F, W

This course provides private lessons in voice (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student's ability to perform musically.

162I Applied Music Instrument **1 Credit Hour**
1 Billable Contact Hour
F, W

This course provides private lessons in piano, guitar, wind or percussion instruments (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student's ability to perform musically.

162V Applied Music Voice **1 Credit Hour**
1 Billable Contact Hour
F, W

Prerequisite: MUSIC 161V
This course provides private lessons in voice (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student's ability to perform musically.

165 Music for Classroom Teachers **3 Credit Hours**
3 Billable Contact Hours
F, W

This course is highly suggested for future elementary teachers but open to all students. The instructor assumes the students have not had previous formal music instruction. The course covers basic knowledge and skills needed to incorporate music into the regular classroom as well as methods of using music to enhance teaching of academic subjects.

170 Introduction to Music Theory I **3 Credit Hours**
3 Billable Contact Hours
F

Music Theory I will examine the basic knowledge and skills of music theory in order that the student can understand and analyze musical compositions, write music in several classical styles and transcribe music played on a keyboard. The knowledge that the course will teach includes understanding the concepts and experiencing aurally the following: pitches, intervals, all types of triadic and seventh chords, voice leading, cadences and musical form. The ability to read and express music obtained from prior formal music instruction is essential for success in this course.

250 Agora Chorale **1 Credit Hour**
3 Billable Contact Hours
F, W

Prerequisite: MUSIC 151
The Agora Chorale is a mixed vocal ensemble comprised of singers from the community and college. The Chorale presents concerts, no less than two each semester, both on and off campus. The class meets one evening each week and may be elected in sequence four times. The course is a requirement for students on a choir scholarship.

251 Agora Chorale **1 Credit Hour**
3 Billable Contact Hours
F, W

Prerequisite: MUSIC 250
The Agora Chorale is a mixed vocal ensemble comprised of singers from the community and college. The Chorale presents concerts, no less than two each semester, both on and off campus. The class meets one evening each week and may be elected in sequence four times. The course is a requirement for students on a choir scholarship.

252 Voice Class **2 Credit Hours**
2 Billable Contact Hours

Prerequisite: MUSIC 152
This course is a continuation of Music 152.

254 College-Community Symphony Band **1 Credit Hour**
3 Billable Contact Hours

Prerequisite: MUSIC 155 **F, W**

The College-Community Symphony Band is open to instrumentalists having previous music experience. Membership includes college students and citizens from the community. The band performs for College functions and concerts as well as for community programs. Admission is by application and audition to the director. This course is a requirement for students on a band scholarship. The band rehearses once each week, and the course may be elected in sequence four times.

255 College-Community Symphony Band **1 Credit Hour**
3 Billable Contact Hours

Prerequisite: MUSIC 254 **F, W**

The College-Community Symphony Band is open to instrumentalists having previous music experience. Membership includes college students and citizens from the community. The band performs for College functions and concerts as well as for community programs. Admission is by application and audition to the director. This course is a requirement for students on a band scholarship. The band rehearses once each week, and the course may be elected in sequence four times.

261I Applied Music Instrument **1 Credit Hour**
1 Billable Contact Hour

Prerequisite: MUSIC 162I **F, W**

This course provides private lessons in piano, guitar, wind or percussion instruments (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student's ability to perform musically.

261V Applied Music Voice **1 Credit Hour**
1 Billable Contact Hour

Prerequisite: MUSIC 162V **F, W**

This course provides private lessons in voice (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student's ability to perform musically.

262I Applied Music Instrument **1 Credit Hour**
1 Billable Contact Hour

Prerequisite: MUSIC 261I **F, W**

This course provides private lessons in piano, guitar, wind or percussion instruments (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student's ability to perform musically.

262V Applied Music Voice **1 Credit Hour**
1 Billable Contact Hour

Prerequisite: MUSIC 261V **F, W**

This course provides private lessons in voice (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student's ability to perform musically.

265 History and Appreciation of Jazz **3 Credit Hours**
3 Billable Contact Hours

The emphasis of Music 265 is on the various styles of jazz that have shaped the history of jazz music from its roots in blues and ragtime to its inception as a distinct musical form and its evolution through to the present time. This will include dixieland, swing, bebop, cool and fusion. The course will also examine jazz within its historical and sociological contexts. The purpose of this course is to expand students' knowledge of a musical style indigenous to America that has helped to shape the nation's cultural history.

266 History of Rock Music **3 Credit Hours**
3 Billable Contact Hours

Music 266 will examine various styles of rock music, from its roots in blues, rhythm and blues and country to its inception as rock and roll and through various styles that have been popular through the late 1960s. This will include early rock and roll pioneers, folk-rock, the surf sound, the Motown sound, the British invasion and psychedelia. When possible, references and comparisons to more contemporary styles will be made. Styles and genres studied will be examined from a historical and sociological perspective.

268 Popular Music in America **3 Credit Hours**
3 Billable Contact Hours

The emphasis of Music 268 is upon the various styles of music that have been popular throughout America's history from the colonial period to the present. This will include folk, blues, jazz, country and rock. This course will also examine these musical styles from a sociological and historical perspective. The purpose of this course is to expand students' knowledge of styles of music that have been an integral part of America's cultural history.

NUCLEAR ENGINEERING TECHNOLOGY (NUET)

100 Nuclear Industry Fundamentals **2 Credit Hours**
2 Billable Contact Hours **F**

This course presents fundamental principles used throughout the nuclear industry as an essential part of daily operations. Focus areas include Introduction to Nuclear Power Plants, Human Performance Enhancement Fundamentals, Introduction to the Systematic Approach to Training (SAT), conduct of On the Job Training (OJT), Task Performance Evaluation (TPE), Foreign Material Exclusion (FME) and overview of a corporate safety manual, the concept of the Safety Conscience Work Environment, Conservative Decision Making, and Next General/Generation IV Reactors.

120 Radiation Protection 3 Credit Hours**4 Billable Contact Hours****Prerequisite: NUET 100****W**

This course presents the interaction of radiation with materials, including biological systems. This course covers the basic atomic and nuclear structures, including the physics of fission and radioactive decay, shielding and measurement of the various types of radiation. It also covers detection devices such as typical survey meters and personnel monitoring devices. The course will also discuss how exposure to radiation can be minimized and legal aspects of working with radioactive sources. Major radiation incidences and industrial operating experience will be discussed. Associated lab work will reinforce the principles of radiation detection.

130 Plant Systems I 3 Credit Hours**4 Billable Contact Hours****Prerequisite: NUET 100****W**

This course will introduce the students to various types of electrical and mechanical drawings which are commonly used in nuclear power plants. These drawings will then be the fundamental tools used to introduce the students to a large array of the various systems in the plant. Students will come to understand the concepts of standby safety-systems, electrical systems and sources of emergency electrical power, the power production systems such as Main Steam and Feedwater, and the electronic systems which provide indications and automated plant protection. The students will be challenged to understand many of the design attributes of these systems and to directly relate those attributes using the various systems drawings. Certain significant operating experience issues will be introduced, and the students will be challenged to relate these issues directly to the applicable plant systems and drawings. Schematic drawings of safety-significant, motor-operated valves will be covered in detail as an example of component electrical controls. This course will also introduce the students to the practice of using drawings to support the planning of maintenance activities and methods of tagging energy sources to protect personnel during maintenance.

205 Nuclear Plant Experience 2 Credit Hours**3 Billable Contact Hours****Prerequisite: NUET 100 and NUET 120 and NUET 130****Sp, S**

This course is held in cooperation with DTE's Fermi 2 Nuclear Power Plant Training Center. The course consists of 40 hours of training activities held on-site at Fermi 2. Training is conducted by instructors from the Nuclear Training Center. The emphasis is on hands-on maintenance training with the same facilities used by plant personnel. Training takes place over five consecutive days and includes a tour of the control room simulator and an instrumentation and Control walkdown in the plant. Five hours are planned for students to take the EEI Career Assessment and Diagnostic Instrument (CADI) test, including report out of results. This test gives feedback on how students compare to actual nuclear employees. This test assesses student career interest and is not part of the course grade.

220 Power Plant Components 3 Credit Hours**4 Billable Contact Hours****Prerequisite: NUET 100 and NUET 130 and ELEC 125 and ELEC 133****W**

This course presents the fundamental and specific details of power plant components. Course content will include component types and characteristics, principles of operation and failure mechanisms and how they relate to a system. Specific components discussed are compressors, diesel engines, heat exchangers, pumps, strainers, filters, turbines, valves, switchgear, transformers, circuit breakers, motors, relays, generators and valve actuators. Maintenance activities such as component tagging, disassembly, troubleshooting, lubrication, reassembly and testing are also covered.

230 Plant Systems 2 3 Credit Hours**4 Billable Contact Hours****Prerequisite: NUET 100 and NUET 130****F**

This course is a continuation of Nuclear Plant Systems I. The course will examine chemistry control systems, electrical power generation systems and emergency and backup systems. Systems specific to pressurized water reactors (PWR) will be introduced. Operating issues will continue to be examined and related to plant systems and drawings. This course will reinforce the practice of using drawings to support the planning of maintenance activities and methods of tagging energy sources to protect personnel during maintenance.

240 Reactor Theory, Safety and Design 3 Credit Hours**4 Billable Contact Hours****Prerequisite: NUET 100 and MATL 121 and PHY 151 and CHEM 151****W**

This course presents the fundamental concepts of nuclear reactor theory with a primary focus on light water cooled boiling water reactors. Concepts presented will include neutron interactions, nuclear fission and chain reactions in thermal light water cooled reactors; thermal diffusion and neutron thermalization; criticality and reactivity calculations, reactivity kinetics and feedback mechanisms; fission product daughter production and radionuclide transmutation; reactor safety principles, including emergency core cooling and engineered safety features; design basis accident and core damage mitigation; and case studies.

NURSING (NURS)**HSP 100 Nurse Aide Practice 5 Credit Hours****8 Billable Contact Hours****Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests****F, W, Sp, Su**

This course is designed to prepare an individual to fulfill the role of direct caregiver/nursing aide. The course emphasizes the skills and behaviors that are significant to employers of nurse aides, including cardiopulmonary resuscitation. This course includes classroom activities, skills practice time in the laboratory and supervised clinical practice at a long-term care facility. Written assignments and tests (both written and performance testing) are a part of this course. Upon completion of this course, students will be eligible to take the clinical and written exams required for certification as a nurse aide.

100 RN Student Nurse Success 1 Credit Hour**1 Billable Contact Hour**
F

Prerequisite: Admission to the RN program

This course provides an opportunity for students to learn the skills necessary to be successful in the nursing program. Nursing students often face multiple demands on their lives. This course will help the nursing student learn and implement effective study techniques, as well as learn to balance school and personal demands.

103 Adapting Throughout the Life Cycle 9 Credit Hours**17 Billable Contact Hours**
F, W

Prerequisite: Acceptance into the nursing program. Must also register for BIOL 157.

This course provides an introduction to the concepts of nursing practice. The program's organizing framework—based on the content threads of stress-adaptation, holistic health, nursing process, communication, human needs, growth and development, community and accountability—are introduced. Critical thinking, which is integral to the nursing process, will be emphasized as a means of facilitating the client's adaptation to stressors throughout the life cycle. Special focus will be placed on the needs, culture, and lifestyle and community resources available to the elderly. The clinical content will be applied 12 hours weekly utilizing the campus laboratory, hospital settings and nursing home settings.

104 Adapting to Common Stressors I: Psychiatric Nursing 4 Credit Hours**6.93 Billable Contact Hours**
F, W

Prerequisite: BIOL 157 and NURS 103. Must register for NURS 105.

This course utilizes a holistic view to study the nursing care of the adult, mentally ill client's adaptation to stressors and crises. The student will use critical thinking to integrate psychopathology in assessing, planning, implementing and evaluating care of clients with health care needs in the mental and spiritual spheres. Special focus will be placed on communication, therapeutic use of self, nurse-client relationship, stress adaptation and holistic health in the care of the mentally ill. During this course, the student will have 12 hours per week for five weeks of clinical instruction in the acute psychiatric care setting.

105 Adapting to Common Stressors II: Medical-Surgical Nursing 5 Credit Hours**10.53 Billable Contact Hours**
F, W

Prerequisite: BIOL 157 and NURS 103. Must also register for NURS 104.

This course utilizes a holistic view to study the adult client's adaptation to commonly occurring health problems. The student will use critical thinking to integrate holistic theory and basic pathophysiology in assessing, planning, implementing and evaluating care for clients with medical-surgical health care needs. Special focus will be placed on chronic illness and perioperative care. During this course, the student will have 12 hours per week for 10 weeks of clinical instruction in the acute care setting.

180 Pharmacology for Nursing Care 3 Credit Hours**3 Billable Contact Hours**

Prerequisite: BIOL 158 and Math Competency

This course focuses on the application of the nursing process to pharmacology, including the principles of pharmacology and drug classifications that are commonly part of medical regimens. Students need prerequisite skills to perform mathematical calculations commonly encountered in drug therapy. The purpose of this course is to prepare the nurse or practitioner to apply the nursing process during drug administration.

204 Family Adapting I: Obstetrical Nursing 4.5 Credit Hours**8.53 Billable Contact Hours**
F, W

Prerequisite: NURS 105

This course utilizes a holistic view to study the family and its adaptation to pregnancy and childbirth. Critical thinking skills are emphasized through the application of the nursing process. Core components of this course include family growth and development; health promotion and maintenance; cultural and ethnic variations regarding health and illness; psychological, social and spiritual stressors impinging on families; community resources available to families and disease pathologies in relation to the maternity cycle. During this course, students will have 12 hours per week of obstetrical nursing clinical instruction in the hospital and selected community settings.

205 Family Adapting II: Pediatric Nursing 4.5 Credit Hours**8.53 Billable Contact Hours**
F, W

Prerequisite: NURS 105

This course utilizes a holistic view to study the childrearing family and its adaptation to stressors. Critical thinking skills are emphasized through the application of the nursing process. The focus of this course includes child and family growth and development; health promotion and maintenance; cultural and ethnic variations regarding health and illness; psychological, social and spiritual stressors impinging on families; and community resources available to families. Special emphasis will be placed on pediatric pathophysiology. During this course, students will have 12 hours per week of pediatric clinical instruction in the hospital and selected community settings.

209A Adapting Multiple Stressors I 10 Credit Hours**18 Billable Contact Hours**
F, W

Prerequisite: NURS 205

This course utilizes the holistic view to study adult patients and their adaptation to severe stressors. The student will become increasingly sophisticated in the use of the nursing process and critical thinking skills to facilitate adaptation to serious physiologic insults. Students will have an opportunity to gradually increase organizational skills through an expanding client care workload in medical- surgical settings. During this course, students will have 12 hours per week of clinical instruction in the hospital, community or short stay settings.

209B Adapting Multiple Stressors II 3 Credit Hours**8 Billable Contact Hours**
W, Sp

Prerequisite: NURS 209A and NURS 210

This four-week capstone course provides theoretical content related to managing groups of clients and in communicating with health team members. During the final three weeks, students have the opportunity to increase their client-care workload in a medical-surgical setting utilizing a full-time preceptorship arrangement. Critical thinking skills continue to be emphasized through active clinical decision making. Clinical practice during this time will be full-time work for three weeks.

210 Nursing Seminar 3 Credit Hours**3 Billable Contact Hours**
F, W

Prerequisite: NURS 205

This course facilitates the student's socialization into the nursing profession. Critical thinking skills are emphasized through discussion related to the following topics: historical perspectives of nursing; nursing education; issues, trends and problems of health care and nursing practice, and legal, professional, ethical and social responsibilities of the nurse. Special focus will be on basic management skills, preparation for employment and career development.

220 Nursing Assessment 3 Credit Hours**3 Billable Contact Hours****Prerequisite: Admission to LPN to RN online program****F**

This course is designed to explore the nursing process in depth as a foundation for professional nursing practice. Methods for eliciting a sound health history and techniques for physical assessment will be introduced as a means of providing essential information for care planning. The course is designed to build on previous basic knowledge of the body's anatomy and physiology.

261 Nursing Care of the Adult I 4 Credit Hours**4 Billable Contact Hours****Prerequisite: Admission to the LPN to RN online program****F**

The course is designed to facilitate the student's use of the nursing process to care for adults who are acutely or chronically ill or who have multiple health problems. Nursing interventions to assist the client and family in their holistic adaptive responses to illness and stress are discussed. Emphasis is placed on the nurse's role in health care management (disease prevention, promotion and maintenance and teaching). Information is designed to build upon the theory learned in all completed courses and will enable the student to apply previously learned knowledge and skills.

262 Nursing Care of Adults I Clinical 2 Credit Hours**6 Billable Contact Hours****Prerequisite: NURS 220 and NURS 261****W**

This clinical course focuses on care of the adult client with commonly occurring health problems. The student will use critical thinking to integrate holistic theory and basic pathophysiology in assessing, planning, implementing and evaluating care for clients with medical-surgical health care needs. Special focus will be placed on the client with chronic illness. The student receives a "P" or "F" rather than a letter grade.

263 Nursing Care of the Adult II 4 Credit Hours**4 Billable Contact Hours****Prerequisite: NURS 220****W**

This course utilizes the holistic view to study adult clients and their adaptation to severe stressors. The student will become increasingly sophisticated in the use of the nursing process and critical thinking skills to facilitate client's adaptation to serious physiologic insults.

264 Nursing Care of Adults II Clinical 2 Credit Hours**6 Billable Contact Hours****Prerequisite: NURS 220 and NURS 263****Sp, Su**

This clinical course focuses on the care of the adult client and the client's adaptation to severe stressors. The student will become increasingly sophisticated in the use of the nursing process and critical thinking skills to facilitate the client's adaptation to serious physiologic insults. The student receives a "P" or "F" rather than a letter grade.

272 Nursing Care of Special**Populations: Obstetrics****2 Credit Hours****2 Billable Contact Hours****Prerequisite: Admission to the LPN to RN online program****F**

This course is designed to facilitate the student in using the nursing process to give care to special populations, specifically the childbearing family. Nursing interventions to assist the client and family in their holistic adaptive responses to growth and development, illness and stress are discussed. Emphasis is placed on the nurse's role in health care management (disease prevention, health promotion and maintenance and teaching). Information is designed to build upon the theory learned in all completed coursework and will enable the student to apply previously learned knowledge and skills.

273 Nursing Care of Special Populations:**Obstetrics Clinical****1 Credit Hour****3 Billable Contact Hours****Prerequisite: NURS 220 and NURS 272****Sp, Su**

This clinical course focuses on the practice of nursing of the childbearing family with emphasis on the maternity client. Critical thinking skills are used in the application of the nursing process. Nursing interventions will be developed and implemented to assist the maternity client and family in their holistic, adaptive responses to growth and development, illness and stress, health promotion and maintenance, community resources and cultural and ethnic variations of health and illness. Clinical instruction will take place in acute health care settings. The student receives a "P" or "F" rather than a letter grade.

274 Nursing Care Special**Populations: Pediatrics****2 Credit Hours****2 Billable Contact Hours****Prerequisite: Admission to the LPN to RN online program****F**

This course utilizes a holistic view to study the childrearing family and its adaptation to stressors. Critical thinking skills are emphasized through the application of the nursing process. The focus of this course includes child and family growth and development; health promotion and maintenance; cultural and ethnic variations regarding health and illness; psychological, social, and spiritual stressors impinging on families; and community resources available to families. Special emphasis will be placed on pediatric pathophysiology.

275 Nursing Care of Special Populations:**Pediatrics Clinical****1 Credit Hour****3 Billable Contact Hours****Prerequisite: NURS 220 and NURS 274****Sp, Su**

This clinical course focuses on the practice of nursing of the childrearing family with emphasis on the pediatric client. Critical thinking skills are used in the application of the nursing process. Nursing interventions will be developed and implemented to assist the pediatric client and family in their holistic, adaptive responses to growth and development, illness and stress, health promotion and maintenance, community resources, and cultural and ethnic variations of health and illness. Clinical instruction will take place in acute health care settings. The student receives a "P" or "F" rather than a letter grade.

**276 Nursing Care Special Populations:
Mental Health** **4 Credit Hours**
4 Billable Contact Hours W

Prerequisite: NURS 220

This is a course designed to facilitate the student in using the nursing process to give care to special populations, specifically those experiencing mental illness. Nursing interventions to assist the client and family in their holistic adaptive responses to growth and development, mental illness and stress are discussed. Emphasis is placed on the nurse's role in health care management (disease prevention, health promotion and maintenance and teaching) as it relates to psychiatric nursing. Information is designed to build upon the theory learned in all completed coursework and will enable the student to apply previously learned knowledge and skills.

**278 Nursing Care of Special Populations:
Mental Health Clinical** **2 Credit Hours**
6 Billable Contact Hours

Prerequisite: NURS 220 and NURS 276 Sp, Su

This clinical course focuses on the practice of nursing as it relates to the adult, mentally ill client's adaptation to stressors and crises. The student will use critical thinking to integrate psychopathology in assessing, planning, implementing and evaluating care of clients with health care needs in the mental and spiritual spheres. Therapeutic use of self and communication skills will be included in the provision of nursing care. Clinical instruction will take place in acute and chronic health care settings. The student receives a "P" or "F" rather than a letter grade.

290 Nursing Leadership **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: Admission to the LPN to RN online program.
This is an online class that is only available to students enrolled in the LPN to RN online program. W

This course explores the professional nurse's role in management, including priority setting, delegation, supervision and resource management in the health care setting. Content includes leadership/management issues, career development and current health care trends as they impact the professional nursing role.

PHILOSOPHY (PHIL)

151 Introduction to Logic **3 Credit Hours**
3 Billable Contact Hours F, W

This course includes basic and standard systems of formal and informal logic, embracing both logical theory and the practical application of logic. This course examines critical thinking and inductive and deductive analysis. Material includes the leading topics of traditional Aristotelian logic, together with insight into symbolic logic. This course will include writing assignments.

**152 Introduction to
Western Philosophy** **3 Credit Hours**
3 Billable Contact Hours F, W

This course provides an introduction to the types of philosophy and the study of the great thinkers' contributions to studies which investigate the principles and facts of reality, human nature and basic problems of conduct relevant to man. Emphasis is on early Greek philosophy: Plato and Aristotle. This course will include writing assignments.

**253 Introduction to the
Philosophy of Religion** **3 Credit Hours**
3 Billable Contact Hours F, W

This course presents an introductory inquiry into the study of religion and its meaning and truths, emphasizing the historical and structural aspects of religion, religious experience and religious symbols exemplified through various religious traditions. The concern of the course is not to inculcate any particular faith or doctrinal position but to develop an understanding and appreciation of basic religious concepts and ideas which influence our century.

PHOTOGRAPHY (PHOTO)

151 History of Photography **3 Credit Hours**
3 Billable Contact Hours

This course is an exploration of the photographers and evolution of the photographic process from its inception to the present. Emphasis will be placed on individual photographers and the various artistic photographic progressions.

PHYSICAL SCIENCE (PHYSC)

151 Physical Science **4 Credit Hours**
5 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 and MATH 150 or qualifying scores on ACT or COMPASS tests

This course serves as an introduction to physical science for both applied and non-science majors. Selected topics on astronomy, chemistry, geology and physics are included. Emphasis is placed on understanding the fundamental principles of the physical sciences. It will also include a discussion of the limitations and potential applications of the physical sciences. This course requires laboratory work.

PHYSICS (PHY)

101 Technical Physics **4 Credit Hours**
5 Billable Contact Hours

Prerequisite: MATH 124 or MATH 151 or higher and RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests W

This course is designed for technical majors to provide an understanding of physical principles and their application to industry and certain technical occupations. Topic coverage reflects the general needs of the various technician programs while giving a broad overview of the physical world around us. Topics included are measurement, kinematics, mechanics, rotational motion and dynamics, simple machines, matter, fluids and fluid flow, heat and thermodynamics, waves, sounds, optics and some electricity and magnetism. Course requires laboratory work.

151 General Physics I **4 Credit Hours**
6 Billable Contact Hours

Prerequisite: MATH 151 or high school algebra and trigonometry. Or qualifying score on ACT or COMPASS test. Recommended: MATH 157 and 159 or MATH 164. F

This is a liberal arts course in the fundamental principles of physics. Units include measurement, kinematics, mechanics, rotational motion, fluids, temperature and heat, and waves and sound. This course is designed to fulfill the physics requirement in pre-medicine, pre-dentistry, pre-law, pre-architecture, pre-chiropractic and similar pre-professional programs. This course should not be taken as a substitute for pre-engineering physics or other related disciplines. This course requires laboratory work.

152 General Physics II 4 Credit Hours

6 Billable Contact Hours

Prerequisite: PHY 151 W

This course is a continuation of General Physics I; units on electricity and magnetism, light and optical phenomena, relativity and atomic, quantum and nuclear physics are included. Course requires laboratory work.

251 Engineering Physics I 5 Credit Hours

7 Billable Contact Hours

Prerequisite: MATH 171. MATH 172 is highly recommended. F

This course is designed to satisfy the requirements of engineering and physics majors. It will include the development of ability to marshal physical principles and mathematical techniques in the solution of problems encountered in measurement, kinematics, mechanics, relativity, rotational and wave motion, waves, sound and fluid mechanics. This course requires laboratory work.

252 Engineering Physics II 5 Credit Hours

7 Billable Contact Hours

Prerequisite: PHY 251. MATH 251 and 273 are highly recommended. W

This course is a continuation of PHY 251 and is designed to satisfy the requirements of engineering and physics majors. Topics include temperature and heat, electricity and magnetism, electromagnetic waves, optics and quantum, atomic and nuclear physics. This course requires laboratory work.

POLITICAL SCIENCE (POLSC)

151 Introduction to Political Science 3 Credit Hours

3 Billable Contact Hours

F, W, Sp, Su

This course emphasizes American political institutions, policy formulation, diverse political groups and key issues. This course also provides a foundation for responsible citizenship. Emphasis is given to the federal level of government with a critical look at contemporary problems in American democracy.

154 Introduction to Law Enforcement 3 Credit Hours

3 Billable Contact Hours

F, W

This course addresses the basic elements of our legal system, the nature of crime and criminal responsibility, the criminal justice process and the role of the professionals in the criminal justice system.

156 Fundamentals of Criminal Investigation 3 Credit Hours

3 Billable Contact Hours

This course examines investigation procedures including the theory, conduct, collection and preservation of physical evidence.

211 Introduction to Comparative Politics 3 Credit Hours

3 Billable Contact Hours

W, Sp, Su

Prerequisite: POLSC 151
This course addresses key concepts, theories and academic approaches for the study of comparative politics and for understanding differences among governments and political systems in today's complex world. Students will explore concepts such as authoritarianism, democratization, legitimacy, sustainability, globalization and modernization and will understand how these concepts influence political activity within and among states. Examples of different government structures will be introduced, including the key factors that affect policy decisions within various government systems and structures and how those structures and decisions shape society. Students will also obtain a greater understanding of various political and social cultures from both Western and non-Western cultures. Whenever possible, students will research the Internet and museums and travel to enhance their learning of the differences between political systems and institutions.

221 State and Local Government 3 Credit Hours

3 Billable Contact Hours

W

Prerequisite: POLSC 151
This course is a study of state and local government units, including types of organizations and their structures, functions and activities. Students will explore and evaluate the everyday activities of local government units as well as special problems in local politics and policy development. Consideration is given to intergovernmental relations between the various local levels of government and the federal government.

251 Criminal Law 3 Credit Hours

3 Billable Contact Hours

F, W

This course traces the history and development of criminal law and gives attention to definitions of crimes and their elements, penalties and defenses.

252 International Relations 3 Credit Hours

3 Billable Contact Hours

Prerequisite: POLSC 151 or HIST 154 or HIST 155
Students will examine the fundamental and persistent forces which influence world politics and the foreign policies of states. Through theoretical, ideological and pragmatic approaches, students will explore the historical, economic, geographical, social and cultural phenomena that impact international politics.

255 Police Organization and Administration 3 Credit Hours

3 Billable Contact Hours

F, W

The administration of police-line operations, including patrol, investigative functions, traffic, vice control, youth services and non-crime functions are emphasized. The purpose of this course is to have the student understand the administrative role a police department has in order to provide police services to a community.

256 Police Operations 3 Credit Hours

3 Billable Contact Hours

W

This course focuses on the day-to-day line operation of the police department. Emphasis focuses on patrol, reports, communications, arrests, officer survival skills, community relations and jail operations.

PRACTICAL NURSING (PNUR)

100 PN Student Nurse Success 1 Credit Hour 1 Billable Contact Hour

Prerequisite: Admission to PN program; students should take course prior to starting PN program **W**

This course provides an opportunity for students to learn the skills necessary to be successful in the nursing program. Nursing students often face multiple demands on their lives. This course will help the nursing student learn and implement effective and efficient study techniques, as well as learn to balance school and personal demands.

120 Fundamentals of Practical Nursing for CNA 7 Credit Hours 11 Billable Contact Hours **W**

This course builds on the basic skills of a nurse's aide, but further examines the scientific principles and rationale for previously learned skills. This course serves as the foundation from which other courses will build and expand and introduces the role of the licensed practical nurse and concepts of nursing practice for the licensed practical nurse. The program's organizing framework, based on the Stress-Adaptation Model, holistic health, basic human needs, growth and development concepts, nursing process (clinical problem solving), communication and documentation, health promotion and maintenance (which includes psycho-socio-cultural awareness and teaching/learning sub-concepts) and accountability, is introduced. Meeting the needs of clients experiencing change in health status is the nursing focus. The course includes mathematics for medication administration and skills related to oral and parenteral administration as well as other routes. Additionally, special emphasis will be placed on the needs of the elderly and nutritional support for all clients. The clinical component will be applied in the campus laboratory, hospital and nursing home settings.

121 Fundamentals of Practical Nursing 9 Credit Hours 17 Billable Contact Hours **W**

This course serves as the foundation from which other courses will build and expand. This course includes skills and concepts basic to nurse and nurse aide training and also introduces the role of the licensed practical nurse and concepts of nursing practice for the licensed practical nurse. The program's organizing framework, based on the Stress-Adaptation Model, holistic health, basic human needs, growth and development concepts, nursing process (clinical problem solving), communication and documentation, health promotion and maintenance (which includes psycho-socio-cultural awareness and teaching/learning sub-concepts) and accountability, is introduced. Meeting the needs of clients experiencing change in health status is the nursing focus. The course includes mathematics for medication administration and skills related to oral and parenteral administration as well as other routes. Additionally, special emphasis will be placed on the needs of the elderly and nutritional support for all clients. The clinical component will be applied in the campus laboratory, hospital and nursing home settings.

123 Mental Health for Practical Nursing 2 Credit Hours 2 Billable Contact Hours **W**

This course introduces common mental illnesses and usual treatment modalities that a licensed practical nurse will commonly see in the hospital or nursing home. The course will also include nursing measures that support emotional, mental and social well being and coping and adaptation mechanisms that assist clients in adapting to disabilities, unexpected changes and stressful events. The student will have planned observational experiences in an acute care facility or clinics but no clinical experiences.

124 Practical Nursing Care of Adults I 6 Credit Hours 8 Billable Contact Hours **Prerequisite:** PNUR 120 or PNUR 121 **Sp, Su**

The focus of this course is the use of clinical problem-solving skills and nursing process to assist adults with common medical-surgical problems and select acute and chronic disorders in meeting health care needs. The course builds on the program's organizing framework. Students will study in the classroom and campus laboratory and provide basic nursing care to adults in medical-surgical acute care clinical settings.

125 Practical Nursing Care of Pediatric Clients 3 Credit Hours 5 Billable Contact Hours **Sp, Su**

Prerequisite: PNUR 120 or PNUR 121 **Sp, Su**
The focus of this five-week course is practical nursing care of hospitalized infants, children, adolescents, and their families and caretakers. Special emphasis will be placed on common pediatric disorders, prevention and early detection of disease, as well as growth and development of the pediatric client and the family. Pharmacologic and nutritional needs of the pediatric client and variations of diet are integrated into content. Students will study in the classroom, campus laboratory and clinical settings.

126 Practical Nursing Care of Obstetric Clients 3 Credit Hours 5 Billable Contact Hours **F**

Prerequisite: PNUR 125 **F**
The focus of this five-week course utilizes a holistic view of the childrearing family and its adaptation to pregnancy and childbirth. Practical nursing students will study the nursing care related to ante/intra/postpartum and newborn care. Basic family growth and development, family health promotion and maintenance, common cultural and ethnic variations in childrearing practices, common childrearing complications, influences of other health disorders and family planning are also covered. Students will study in the classroom, campus laboratory and clinical settings.

127 Practical Nursing Care of Adults II 4 Credit Hours 8 Billable Contact Hours **Prerequisite:** PNUR 124 and PNUR 125 **F**

The focus of this six-week course is the nursing care of clients with more demanding or acute health alterations and complications related to these pathologies. Concepts in this course build on previously learned material in Nursing 124 and continue to build on the program's organizing framework. Dealing with medical emergencies and complicated but common treatments and procedures for practical nurses will also be covered. Students will study in the classroom, campus laboratory and acute care settings.

128 Issues in Practical Nursing 2 Credit Hours
2 Billable Contact Hours

Prerequisite: PNUR 125 **F**
This course will focus on issues related to practice of the licensed practical nurse, such as legal and ethical practice issues, historical perspectives of LPN education, career development and job seeking, trends in health care and the professional responsibilities of being an LPN.

129 Management Concepts for the Practical Nurse 3 Credit Hours
8.66 Billable Contact Hours

Prerequisite: PNUR 125 **F**
This four-week capstone course will focus on managing multiple clients in the clinical setting, both theoretically and in practice. Students will care for increasing numbers of clients as their skill increases and will begin to manage care given by unlicensed assistive personnel. Communication, both oral and written, is a special emphasis in this course. Students will work collaboratively with registered and licensed practical nurses and nursing assistants. Supervised clinical practice for this course will take place in long-term care facilities or acute care settings with an emphasis on geriatrics.

PRODUCT AND PROCESS TECHNOLOGY (MECH)
(Formerly Manufacturing Technology)

102 Manufacturing Processes 4 Credit Hours
6 Billable Contact Hours
F, W

This is a survey course providing a comprehensive introduction to various manufacturing techniques used to produce products from metals, plastics, ceramics and composite materials. Classroom discussion will center around the major families of processes: forming, separating, conditioning, fabricating and finishing. Laboratory experience will include welding, foundry, sheet metal forming, machining and plastics manufacture.

103 Machining Basics & CNC 4 Credit Hours
6 Billable Contact Hours
F, W

This course introduces the student to operation of basic machine tools, care and use of hand tools and common measuring equipment used in the machine shop. Theory and hands on operation of manual mill, lathe, grinding machine, band saws and basic operation of Computerized Numerical Machines and wire discharge machine is emphasized in this course. Other topics covered include basic metallurgy of metal cutting, machine tool theory. Appropriate terminology is to be used and safety is stressed.

104 CNC II 3 Credit Hours
4 Billable Contact Hours

Prerequisite: MECH 103 **W**
This course emphasizes use of Computerized Numerical Control (CNC) theory and practice as it applies to advanced machining techniques. The machinery handbook will be used to determine form, fit, clearance, rpm, feedrates, thread nomenclature and other parameters as it applies to machining. Other topics covered are optimization of machining time, programming efficiency, cutter selection, tool life, quality and safety consideration in operation of CNC equipment. Use and editing of G&M code as it applies to CNC milling center, CNC lathe and electric discharge wire machine is practiced and demonstrated by students through appropriate shop assignments. Appropriate theory and practice of safe work methods will be emphasized. This course was previously titled Machine Tool Operations (4 credits).

105 CNC III 3 Credit Hours
4 Billable Contact Hours

Prerequisite: MECH 104 **F**
This course is the third in sequence of CNC programming related courses that emphasize more advanced G&M programming concepts. Students will be editing programs using laboratory computers, send data to machines, troubleshoot code and work with machine specific post processors to modify and write code to run the specific machines. Other activities will include using different media to transfer data to machine tools, determine proper machining sequence, plan tool selection, operate machine controls to set up machines and document the setup using process sheets. Projects will comprise use of the CNC lathe and milling centers, wire discharge machine (EDWM) and use of robots to load and unload parts. Appropriate terminology is to be used and safety is stressed. Appropriate theory and practice of safe work methods will be emphasized. This course was previously titled Advanced Machine Tools (4 credits).

111 Introduction to Fluid Power 3 Credit Hours
4 Billable Contact Hours

Prerequisite: One year high school algebra **F, W**
This course is an introduction to hydraulic principles and equipment used in industry. Basic hydraulic circuit design along with actual set-up and operation of hydraulic circuits is stressed.

112 Pneumatics 3 Credit Hours
4 Billable Contact Hours

Prerequisite: MECH 111 **W**
This course covers advanced circuit design, hardware theory and application and circuit construction and operation in pneumatic systems. Emphasis is on circuits and components commonly covered in automated manufacturing. Circuits encountered will include pneumatic, electrical/electronic control and feedback.

116 Industrial Plumbing and Pipefitting 3 Credit Hours
4 Billable Contact Hours

This course is designed to allow the student to gain an understanding of the basic scientific principles that apply to the plumbing/pipefitting trade. Various hand and power tools will be used to install and join the different types of piping systems used in the trade. Additional topics include: installing pumps and piping systems, basic mathematics as it applies to the plumbing/pipefitting trade, producing and interpreting basic shop drawings and piping sketches as used at a typical work site, use of the trade code book and applying code regulations to the installation piping.

117 Basic Air Conditioning and Refrigeration 3 Credit Hours
4 Billable Contact Hours

This technician-level course covers the basic compression refrigeration cycle, refrigerants available for use, major refrigeration system components and fundamentals of system operations. Using small-scale, basic refrigeration systems, participants will apply theory to hands-on knowledge as they become familiar with evacuation and charging procedures and basic troubleshooting techniques.

127 Advanced AC and Refrigeration and Refrigeration Certificate 3 Credit Hours
4 Billable Contact Hours

Prerequisite: MECH 117
This course covers advanced air conditioning and refrigeration, theory, application, electrical circuit construction, operation and troubleshooting. The ninth through the 13th week of the course will consist of lecture preparations to pass the EPA Refrigerant Technician Universal Type IV Certification Test, which will be administered on the 14th week of class.

131 Introduction to Automated Manufacturing **3 Credit Hours**
4 Billable Contact Hours

F, W

This is a survey course for the world of robots. Included will be automation safety, justification, design and classification, applications, end-of-arm tooling, power sources, future trends and societal impact. Laboratory experiences will include robot programming and operation through both teach pendants and microcomputers. Basic configurations with programmable controllers will be included, with an abbreviated introduction to fluid power and ladder logic.

134 Machine Tool Theory **2 Credit Hours**
2 Billable Contact Hours

Prerequisite: MECH 103 **W**

This course covers advanced machine tool techniques with emphasis on lathes and mills. There will be detailed coverage of machine speeds, feeds and cutter materials. Students are introduced to the field of computer numerical control (CNC) of machine tools. Basic diemaking is also covered.

201 CAD/CAM I **3 Credit Hours**
4 Billable Contact Hours

Prerequisite: MECH 103 and MDTDC 160 **F, W, Sp**

This course is an introduction to CAD/CAM using Master CAM software with emphasis on two and three dimensional design and tool path generation. Models will be created to demonstrate surfacing, generating and verifying G&M code relevant to a particular machine post processor. Emphasis is on generation of code using wireframe part geometry. Students will learn all relevant commands to generate part geometry and generate machine code for aluminum and steel parts choosing appropriate machining parameters. On completion of this course students will have an opportunity to sit for the Master CAM certification test. Appropriate theory and practice of safe work methods will be emphasized. This course was previously titled Introduction to CAD/CAM (4 credits).

216 Industrial Plumbing and Pipefitting II **3 Credit Hours**
4 Billable Contact Hours

Prerequisite: MECH 116

This course is designed to assist individuals with the understanding and application of plumbing systems, maintenance materials, tools and techniques. Students will be introduced to the basic skills used in the plumbing and pipefitting trades. Emphasis is placed on piping supply and DWV systems, fixture installation and backflow prevention. The information presented will be based on the Michigan International Plumbing Code.

221 CAD/CAM II Solids **3 Credit Hours**
4 Billable Contact Hours

Prerequisite: MECH 201 **F, W**

This course is second in sequence to the one on introduction to CAD/CAM. Master CAM software will continue to be used. Emphasis will be on machining two and three dimensional objects and solids. Editing objects, extruding, sweeping, loft, rotation features of the software in manipulating the object will be demonstrated. Students will learn to manage views, levels of entities within the object as specified in the part drawing and generate surfaces to machine. Other aspects of the course will include importing and exporting graphical data from CAD design software with the purpose of generating code to machine complex surfaces, handling data generated for rapid prototyping and discussing lean manufacturing concepts. The student will be prepared to take the Master CAM certification test on completion of this course. Appropriate theory and practice of safe work methods will be emphasized.

231 CAD/CAM III Toolpath **3 Credit Hours**
4 Billable Contact Hours

Prerequisite: MECH 221 **Sp**

This course will build on the two previous CAD/CAM courses in the program. The course covers the latest MasterCam Toolpath generation with two and three dimensional mechanical part geometry. Import functions for surfacing and rapid prototype from other software will be used. Projects will be more advanced and cover associativity, level management and post processors choice. Students will design and run toolpath and use set up functions with best economical production process planning. Also covered will be group technology, robotic interfacing, rapid prototype and high speed machining (HSM). Appropriate terminology is to be used and safety will be stressed. Upon completion of this course the students have the option to sit for the "CPgmM" CAD/CAM technologist certification test.

PSYCHOLOGY (PSYCH)

151 General Psychology **3 Credit Hours**
3 Billable Contact Hours

Subject matter begins with an introduction to the major models of human behavior along with appropriate research methodology, including applied statistics. The operational framework is then applied to the following topics: physiological processes, sensation, perception, learning, motivation, emotion, stress, development [life span], personality, adjustment, mental health and therapeutic techniques, personal growth and social processes. Useful information regarding "real life" application is emphasized throughout the course. It is assumed that in the majority of cases this may be the only psychology course the student will experience; as the field of psychology has shifted from theory-based to fact-based, it appears both desirable and possible to expose students to useful information for everyday living while providing comprehensive coverage of the current major concepts, exploratory models and research procedures inherent in an introductory psychology course.

152 Psychology of Personality/Adjustment **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: PSYCH 151

This course applies psychological principles to the problems of the individual's adjustment to everyday life. Topics include adjustment processes, personality development, theories of personality, behavior disorders, psychotherapy techniques, human relationships, defense mechanisms and mental health.

153 Social Psychology **3 Credit Hours**
3 Billable Contact Hours

This course emphasizes the individual as a member of society. The development of changing values, attitudes, social behavior and an awareness of current problems of socialization are explored. Several theoretical frameworks, including attribution and social-cognitive processes, are examined. The purpose of this course is to present concrete, factual materials and applications to the students.

156 The Exceptional Person **3 Credit Hours**
3 Billable Contact Hours **F**

This course is designed to give students an understanding of persons with special problems. The gifted, the physically challenged, the emotionally challenged and the mentally challenged are considered.

251 Child Psychology **3 Credit Hours**
3 Billable Contact Hours

This course involves the investigation of the child's emotional, intellectual, social and physical development from birth to age 12. The purpose of this course is to provide students with scientific facts of children's behavior for study, presented along with practical application for parents, teachers, etc.

254 Life Span Psychology **3 Credit Hours**
3 Billable Contact Hours

This course will explore the developmental stages of human behavior during the life cycle. The stages of infancy; childhood; adolescence; early-, middle- and late-adulthood; late-late adulthood; death and dying will be covered. Various issues and concepts will be dealt with related to the typical psychological, sociological and biological changes that occur during each phase or stage of life. The purpose of this course is to provide the student with the opportunity to explore their own stages and those of their family, relatives, friends and others.

QUALITY SYSTEMS TECHNOLOGY (QSTC)

105 SPC Basics **1 Credit Hour**
1 Billable Contact Hour

An introductory course for those who need a basic understanding of variation, statistical fundamentals, data gathering and control charting.

111 Quality Management **3 Credit Hours**
3 Billable Contact Hours
F, W

This course will introduce students to the management approach that developed from principles of Total Quality. Students will study the principles, concepts and practices of quality management as developed by experts like Deming, Juran, Crosby and others. Students will examine the role of organizations involved in world-class competition. Emphasis will be placed on customer satisfaction, employee empowerment, process identification, and measurement and continual improvement.

115 Statistical Process Control **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: MATH 121

This course focuses on the basic concept of variation, sampling methodology and basic six-sigma improvement tools including control charting, significance testing, process capability and DOE. Techniques used are relevant to manufacturing and service environments.

120 Introduction to Quality Systems **3 Credit Hours**
3 Billable Contact Hours

This course is designed to provide students with a working knowledge of the major systems of a modern industrial quality assurance program. Students will examine opportunities for quality improvement through the implementation of lean systems and mistake/error proofing. Emphasis will be placed on quality engineering elements dealing with quality planning, corrective and preventive action, measurement and continual improvement. Techniques used are relevant in manufacturing and service organizations.

150 Introduction to Metrology **3 Credit Hours**
4 Billable Contact Hours

Prerequisite: MDTC 101 or MDTC 109 or MDTC 151 or MDTC 160 or MDTC 161

This course introduces the fundamentals of dimensional measurement, production gages and gaging techniques. Interpretation of geometric tolerances will also be covered with respect to their implications for inspection. Measurement techniques will emphasize proper use of open-setup equipment, including hand tools, gage blocks, surface plates and accessories, analog and digital measuring devices, optical comparator, pneumatic gages and coordinate measuring machines (CMM).

160 Team Problem Solving **3 Credit Hours**
3 Billable Contact Hours

This course is designed to build the student's ability to respond to the needs of groups as a team member and team leader. Students will study team structuring, roles of team members and tools used in facilitating teams that contribute to organization quality. Kaizen, six-sigma, 8D and other effective team-based solutions will be modeled. Techniques used are applicable to manufacturing and service environments.

210 Advanced Metrology **3 Credit Hours**
4 Billable Contact Hours

Prerequisite: QSTC 150

This course covers advanced metrological techniques, including CMM operation, Optical and Electronic Measuring and Graphical Inspection Analysis (paper gaging). Laboratory work concentrates on CMM operation and programming using the PC DMIS operating system.

220 Calibration and Gage R & R **3 Credit Hours**
4 Billable Contact Hours

This course covers techniques of gage calibration and gage repeatability and reproducibility studies (Measurement System Analysis). Hands-on work includes calibration of measuring tools and computerized gage documentation using Gage-trak software.

230 Documentation and Audit Preparation **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: QSTC 111

This course examines techniques for the development and implementation of quality systems. Participants explore internal auditing techniques and preparation for third-party audits. The focus is on understanding quality system requirements and effective documentation alternatives to meet those requirements. ISO9000:2000, QS9000 (including the TE supplement), TS16949, ISO14000 and other assessment criteria are defined and applications are explored for service businesses and manufacturing.

READING (RDG)

090 Basic Reading Skills **3 Credit Hours**
3 Billable Contact Hours
F, W

This is a basic reading course emphasizing essential skills for building literal and critical comprehension proficiency. A COMPASS test score and a counselor's consultation provide the basis for selecting this reading instruction. This course does not count toward graduation. This course helps students accomplish the following: (1) develop basic reading skills which provide students the opportunity to succeed in college courses selected in the future, (2) show reading proficiency progress as measured by a post-test COMPASS score and (3) work toward gaining admission status to enroll in regular college courses. This course is meant for students whose first language is English.

RESPIRATORY THERAPY (RTH)

100 Respiratory Care Techniques I 8 Credit Hours 10 Billable Contact Hours

Prerequisite: Acceptance into the respiratory therapy program. Must also register for RTH 104. F

This classroom and laboratory course is an introduction to the duties and responsibilities of respiratory care practitioners. Topics covered include a review of physical science, cardiopulmonary anatomy and physiology, cardiopulmonary resuscitation, basic nursing skills, medical gas and aerosol administration, employee health and safety, pulmonary medications and an orientation to clinical sites.

104 Cardiopulmonary Assessment 3 Credit Hours 3 Billable Contact Hours

Prerequisite: Acceptance into the respiratory therapy program. F

This course is an introduction to basic physical and laboratory assessment of cardiopulmonary patients. Topics include basic pulmonary function, medical lab values, chest imaging, electrocardiograms, blood gas analysis, and bedside patient assessment equipment and techniques.

110 Respiratory Care Techniques II 5 Credit Hours 7 Billable Contact Hours

Prerequisite: RTH 100. Must also register for RTH 116. W

This classroom and laboratory course continues the introduction to basic duties of respiratory care practitioners. Emphasis will be placed on patient assessment, basic therapy modalities, airway management, cardiopulmonary diagnostic equipment and techniques and an introduction to continuous mechanical ventilation.

111 Respiratory Care 5 Credit Hours Clinical Practice I 16 Billable Contact Hours

Prerequisite: RTH 100. Must also register for RTH 110. W

This course provides a hospital experience in which previously acquired classroom theory and laboratory skills can be exercised. Skills practiced include those associated with patient respiratory assessment, oxygen therapy, a wide range of bronchopulmonary hygiene therapies and equipment processing. In addition, weekly clinic seminars will be held on campus to facilitate student learning.

116 Cardiopulmonary 4 Credit Hours Pathophysiology 4 Billable Contact Hours

Prerequisite: RTH 100. Must also register for RTH 110. W

This course gives the student an introduction to the most common cardiopulmonary diseases and conditions encountered in the clinical setting. Topics include lung defense mechanisms, common cardiopulmonary manifestations of disease, obstructive lung diseases, restrictive lung diseases, and pulmonary diseases/conditions resulting in critical illness.

120 Respiratory Care 5 Credit Hours Techniques III 6.26 Billable Contact Hours

Prerequisite: RTH 110 Sp, Su

Mechanical ventilation topics are continued in this classroom and laboratory course. Topics presented include volume pre-set and pressure pre-set ventilator equipment and application techniques and basic ventilation management of adult and neonatal patients.

121 Respiratory Care 2 Credit Hours Clinical Practice II 6.4 Billable Contact Hours

Prerequisite: RTH 111. Must also register for RTH 120. Sp, Su

This clinical course provides three types of experience for the respiratory therapy student. First, there will be a continuation of basic respiratory care modalities from the previous semester. Second, the diagnostic areas of basic pulmonary function testing, arterial blood gas puncture and analysis and 12-lead electrocardiography will be introduced. Third, the student will receive an orientation to volume control ventilation in the adult ICU environment. In addition, weekly clinic seminars will be held on campus to facilitate student learning.

209 Respiratory Care Specialty 2 Credit Hours Clinic I 2 Billable Contact Hours

Prerequisite: RTH 121 F

This clinical course provides the certified therapist student with experience in long-term respiratory care, home care and neonatal patients needing mechanical ventilation. Clinical assignments will be with institutions and companies that employ respiratory therapists to care for patients in a variety of settings. In addition, weekly clinic seminars will be held on campus to facilitate student learning.

211 Respiratory Care 5 Credit Hours Clinical Practice III 16 Billable Contact Hours

Prerequisite: RTH 121 F

This clinical course allows students to assist in the pulmonary management of adults on mechanical ventilation. An integrated approach to patient care will be stressed through accurate patient assessment and application of various equipment and therapies. Students will function as a member of the health care team. In addition, weekly clinic seminars will be held on campus to facilitate student learning.

212 Advanced Cardiopulmonary 4 Credit Hours Anatomy and Physiology 4 Billable Contact Hours

Prerequisite: RTH 120 F

This course advances the student's knowledge of cardiopulmonary physiology. The cardiac sections cover gross and histologic cardiovascular anatomy, neural/endocrinological control of cardiac function, hemodynamics, microcirculatory disorders and a review of common cardiac arrhythmias. The pulmonary section covers bronchopulmonary anatomy, gas diffusion, blood flow, ventilation/perfusion relationships, gas transport, mechanics and control of ventilation and lung responses to changing environments and conditions.

214 Adult Critical Care 4 Credit Hours Management 5 Billable Contact Hours

Prerequisite: RTH 120. Must also register for RTH 211. F

This classroom and laboratory course covers the cardiopulmonary equipment, techniques and management theory for the adult patient in an intensive care unit. Topics include critical care patient assessment, review of fundamental concepts in ventilation techniques and management of adult patients in surgical, medical, pulmonary, cardiothoracic and neuro intensive care settings.

216 Neonatal/Pediatric 3 Credit Hours Management 3 Billable Contact Hours

Prerequisite: RTH 120 F

This classroom and course covers topics including fetal growth and development, patient assessment, commonly encountered equipment, and the clinical management of common neonatal/pediatric diseases and conditions.

219 Respiratory Care Specialty Clinic II **4 Credit Hours**
13 Billable Contact Hours

Prerequisite: RTH 216 and RTH 209

This clinical course is designed for the certified therapist student who has returned to complete the registered therapist program. A major emphasis will be in assisting with the pulmonary management of neonatal patients on mechanical ventilation. Other rotations will be in a variety of advanced diagnostic laboratories and alternate site venues where respiratory therapists are employed. In addition, weekly clinic seminars will be held on campus to facilitate learning.

220 Pharmacology for Respiratory Therapists **2 Credit Hours**
2 Billable Contact Hours

Prerequisite: RTH 110 **Sp, Su**

This course provides an overview of general pharmacology with an emphasis on drugs used in the critical care management of cardiopulmonary conditions.

221 Respiratory Care Clinical Practice IV **4 Credit Hours**
12 Billable Contact Hours

Prerequisite: RTH 211 and RTH 216. **Must also register for RTH 226.** **W**

This clinical course provides a varied experience for students who are about to graduate. A major emphasis will be in assisting with the pulmonary management of neonatal patients on mechanical ventilation. Other rotations will be in a variety of advanced diagnostic laboratories and alternate site venues where respiratory therapists are employed. In addition, weekly clinic seminars will be held on campus to facilitate student learning.

222 Seminar **2 Credit Hours**
2 Billable Contact Hours

Prerequisite: RTH 214 and RTH 216 **W**

This course presents a wide variety of topics for discussion. Included are respiratory care history, management and supervision, trends in allied health, research, job acquisition skills and credentialing exam preparation.

226 Respiratory Care Techniques IV **3 Credit Hours**
3 Billable Contact Hours

Prerequisite: RTH 214. **Must also register for RTH 219 or RTH 221.** **W**

This course covers a variety of diagnostic and therapeutic settings. Pulmonary function and stress testing equipment and procedures used in advanced labs will be presented. Additional emphasis will be made in the interpretation of pulmonary function test results. Delivery of respiratory care in alternate sites will also be emphasized. Included will be goals, procedures and equipment associated with pulmonary rehabilitation, home care, and subacute and long-term care settings.

SOCIAL WORK (SWK)

106 Child Welfare **3 Credit Hours**
3 Billable Contact Hours

This course is designed to introduce the student to the broad field of child welfare. Topics include the history of child welfare, the role of private and government agencies, legal aspects of child welfare, and case planning and investigation.

151 Introduction to Social Services **3 Credit Hours**
3 Billable Contact Hours

This course is intended to present an overview of the field of social work. The student will develop an understanding and beginning knowledge of what social work entails. Included will be the gamut of roles available to social work in a variety of different settings—schools, hospitals, mental health centers and social service agencies—all of which require different educational backgrounds. This course will focus on the needs and problems of clients (defined as individuals, families, groups and community); the variety of methods used to help solve these problems; the social, cultural, political and economic values which affect these needs; and problem solving.

296A Work Experience I **1 Credit Hour**
1 Billable Contact Hour

Students may earn credit by voluntarily participating in a predetermined, prescribed set of activities at various social service agencies. Credit may be earned at the rate of one hour per semester and requires a minimum of 45 hours of participation during that semester.

296B Work Experience II **1 Credit Hour**
1 Billable Contact Hour

Students may earn credit by voluntarily participating in a predetermined, prescribed set of activities at various social service agencies. Credit may be earned at the rate of one hour per semester and requires a minimum of 45 hours of participation during that semester.

296C Work Experience III **1 Credit Hour**
1 Billable Contact Hour

Students may earn credit by voluntarily participating in a predetermined, prescribed set of activities at various social service agencies. Credit may be earned at the rate of one hour per semester and requires a minimum of 45 hours of participation during that semester.

296D Work Experience IV **1 Credit Hour**
1 Billable Contact Hour

Students may earn credit by voluntarily participating in a predetermined, prescribed set of activities at various social service agencies. Credit may be earned at the rate of one hour per semester and requires a minimum of 45 hours of participation during that semester.

SOCIOLOGY (SOC)

151 Principles of Sociology **3 Credit Hours**
3 Billable Contact Hours
F, W, Sp, Su

This course introduces the concepts of culture, socialization, social structure, social stratification, racial and ethnic relations and deviancy. These topics are used principally to examine life in contemporary United States. Whereas psychology focuses on individual behavior, sociology focuses on behavior that results from membership within and between groups.

152 Marriage and Family **3 Credit Hours**
3 Billable Contact Hours
W

This course examines marriage and family at various periods in American history in order to assess the same today. Topics include the variety of households, divorce, working parents, male-female relationships and economic influences on marriage and family. Partisan political views on the family are discussed.

153 Women in Society **3 Credit Hours**
3 Billable Contact Hours
F

This is a foundation course in women's studies. Emphasis is placed on how women have been perceived historically and the progress they have made in the context of today's society. The concept of "voice" will be examined in each of the four units, looking at how women have been silenced and how, and if, they have recovered their "voice."

160 Social Gerontology **3 Credit Hours**
3 Billable Contact Hours
F

This course focuses on the aged as a social subculture of the United States. How roles and status change with age in relation to family and major social institutions and the adjustments that individuals make to these changes are examined. The impact of an aging population on society is also discussed. Special attention will be placed on similarities and differences in aging and change related to an individual's gender, race, ethnicity and socioeconomic status.

161 Death, Loss and Grief **3 Credit Hours**
3 Billable Contact Hours
W

This course analyzes the historical, socio-cultural, psychological and political construction of death, dying and bereavement in the United States. Ethical debates in the right-to-die movement and other social issues about the quality of life will be explored. This course will also address the challenges and rewards in working with the dying and grieving.

170 Introduction to Corrections **3 Credit Hours**
3 Billable Contact Hours
W

This course is an introduction to the field of corrections. The focus will be on the historical development of correctional systems and practices, the role of corrections in the criminal justice system, theories concerning the characteristics and treatment of the offender, sentencing guidelines and important issues facing the correctional system today. Field trips and observation visits are an integral part of the course.

251 Modern Social Problems **3 Credit Hours**
3 Billable Contact Hours
W

Prerequisite: SOC 151

A number of social problems will be examined and interrelated as time permits. Topics include the global workplace, poverty, crime, power and wealth. Problems are analyzed with a set of sociological perspectives developed early in the semester.

252 Juvenile Delinquency **3 Credit Hours**
3 Billable Contact Hours
F

Prerequisite: SOC 151

This course deals with theories of causation and prevention with emphasis on juvenile courts, institutional treatment and community resources for prevention.

SPANISH (SPAN)

151 Elementary Spanish I **4 Credit Hours**
4 Billable Contact Hours
F

This course emphasizes the audio-lingual aspects of learning basic Spanish. The basic structure of the Spanish language with oral and written practice is the focus.

152 Elementary Spanish II **4 Credit Hours**
4 Billable Contact Hours
Prerequisite: SPAN 151 or one year high school Spanish
W

This course is a continuation of grammar practice in oral and written Spanish with selected readings. Emphasis is on spoken Spanish.

251 Second Year Spanish I **4 Credit Hours**
4 Billable Contact Hours
Prerequisite: SPAN 152 or two years high school Spanish
F

This course continues the review of grammar practice in oral and written Spanish, based on selected readings and lectures. Conversation skills are emphasized.

252 Second Year Spanish II **4 Credit Hours**
4 Billable Contact Hours
Prerequisite: SPAN 251 or three years high school Spanish
W

This course emphasizes aural and oral practices. The study of Spanish contemporary life and literature will be a major focus. This course is a continuation of Spanish 251.

SPEECH (SPCH)

151 Communication Fundamentals **3 Credit Hours**
3 Billable Contact Hours
F, W, Sp, Su

This course is designed to acquaint the student with the principles of the communication process: intrapersonal, interpersonal and public. It is a broad-based approach to aid the student in becoming a more effective communicator. Each student will present formal speeches to inform, persuade and demonstrate and be expected to participate in class discussions.

152 Public Speaking **3 Credit Hours**
3 Billable Contact Hours
W

Prerequisite: SPCH 151

This course is designed as an intensive study of the principles of effective public speaking. Focus is placed upon improving speech skills in a variety of public speaking situations.

155 Interpersonal Communication **3 Credit Hours**
3 Billable Contact Hours
F, W, Sp

Prerequisite: SPCH 151

Students will explore the role that communication plays in the evolution of relationships in friendship, a professional setting, marriage/romance and family. Students will practice and develop effective interpersonal skills such as self-disclosure, conflict resolution and ethical communication by working with a partner, in small groups and an open-discussion forum.

255 Nonverbal Communication 3 Credit Hours
3 Billable Contact Hours

Prerequisite: SPCH 151 F, W, Sp, Su
This course studies the use and meaning of the language of body movement and gestures, facial expressions, eye contact, clothing, space, etc., as related to the communication process in an attempt to correlate these nonverbal behaviors with underlying conscious/unconscious feelings, attitudes, emotions, mood and state. Students will be provided with the opportunity to learn and use nonverbal communication in interpersonal relations. Other course topics include applications to education, mental health, business, government, religion, speech and drama, as well as the effects of communication themes, techniques, symbols and formats on the thoughts, attitudes and personality of others.

THEATER (THEA)

151 Introduction to Theater 3 Credit Hours
3 Billable Contact Hours

F, W
This course is a comprehensive survey of the theater and its drama. The goal is to familiarize the student with theater as an art form and as an implement of education and entertainment. The following aspects of theater may be considered in the course: play and play structure, scene design, scene construction, lighting and sound, costume and make-up, theater history, directing and acting.

152 Directing/Production Technology 3 Credit Hours
3 Billable Contact Hours

Prerequisite: THEA 151 and instructor's approval W
Directing and Production Techniques offers a survey of directing principles and a study of fundamental elements in the analysis and production of a play. Although the materials consider the relationship of directing to other production crafts (set design, lighting, sound, costumes), the main focus is on the work of the director and particularly on the relationship with the script and the actor. This initial exploration provides a foundation for a more detailed look at varieties of theater experience and the processes of theatrical production.

153 Readers' Theater 3 Credit Hours
3 Billable Contact Hours

This course is a survey and practicum in readers' theater materials and performance. The goal is to familiarize the student with readers' theater as an art form and to give experience to the student with readers' theater as a performance craft. The following aspects of readers' theater are considered in the course: selection analysis; voice/speech development; body development; interpretation of prose, poetry, and drama; and performance of readers' theater.

161 Theater Workshop 3 Credit Hours
3 Billable Contact Hours

Prerequisite: instructor's approval W
Theater Workshop offers an opportunity to study the basics of theater production with special emphasis on the practical crafts of theater (acting, directing, set design and construction, lighting, sound, costuming and management activities). Through practical experience with particular productions and related possible projects, the relationships among some of these elements may be studied. This course enables the student who has the requisite background in theater to focus upon individual theater projects and to learn more about the varieties of theatrical experience and the processes of theatrical production.

251 Fundamentals of Acting 3 Credit Hours
3 Billable Contact Hours

W
This course is designed to improve acting techniques through the use of exercises and scenes from world drama. The course will be supplemented by work on the production of a long scene, one-act or full-length play. If possible, a public presentation of students' work will be made.

WELDING TECHNOLOGY (WELD)

100 Introduction to Welding Processes 4 Credit Hours
6 Billable Contact Hours

F, W, Sp
This course is an in-depth introduction to the technical concepts pertaining to the more common industrial welding and cutting processes. Machine functions and filler metal chemistry will be emphasized as well as code and procedure requirements for a variety of industrial needs. Welding/cutting processes covered (including laboratory applications) include: oxy-fuel cutting (OFC), plasma arc cutting (PAC), shielded metal arc (SMAW), gas tungsten arc (GTAW) and gas metal arc (GMAW) welding.

101A Introduction to GMAW 2 Credit Hours
3 Billable Contact Hours

F, W
The student is introduced to manufacturing's most common welding process. Emphasis is placed on machine setup and flat position welding techniques on various weld joints.

101B Basic SMAW 2 Credit Hours
3 Billable Contact Hours

F, W
The student is introduced to flat position stick welding using various common welding electrodes. Emphasis is placed on welding technique in the flat and horizontal positions.

101C Arc Applications 2 Credit Hours
3 Billable Contact Hours

F, W
Prerequisite: WELD 101B
A continuation of WELD 101B, the student progresses to vertical-up welding and is introduced to low hydrogen electrodes and vee groove weldments.

102 Advanced SMAW 6 Credit Hours
8 Billable Contact Hours

F, W
Prerequisite: WELD 100
The major emphasis of this course is the development of welding skills utilizing the shielded metal arc (SMAW) welding process. Students will be welding vertical up, over-head and multipass with varied rods and metal thicknesses.

102A Multi-Pass Arc Welding 2 Credit Hours
3 Billable Contact Hours

F, W
Prerequisite: WELD 100
Students perfect their welding skills by welding thick section fillet welds in all positions. Expertise is developed using fast freeze and low hydrogen electrodes.

102B Code Welding Techniques 2 Credit Hours
3 Billable Contact Hours

F, W
Prerequisite: WELD 102A
Students perform several common code welds in all positions. Completion of the course requires successful guided bend tests in all positions using fast freeze and low hydrogen electrodes.

**102C Multi-Pass Pipe Fillet Welding 2 Credit Hours
3 Billable Contact Hours**

Prerequisite: WELD 102A F, W
Students master weld pool control and all position welding techniques on an eight-inch, pipe-to-plate welding exercise. The finished project requires approximately 84 stringer and weave bead combinations in all positions.

**103 Weldment Evaluation 3 Credit Hours
and Testing 4 Billable Contact Hours**

Prerequisite: WELD 100 or MECH 102 F, W
This course provides an introduction to the various methods used to inspect weldments for reliability using both nondestructive and destructive techniques. Weld quality and procedure requirements of the AWS Structural Welding Code will be introduced. The knowledge and skills required for certification as an AWS welding inspector will be covered in-depth. Laboratory experience will be gained in non-destructive test methods (visual, ultrasonic, magnetic particle, radiographic, eddy current and dye penetrant testing).

**104A Introduction to GTAW 2 Credit Hours
3 Billable Contact Hours**

Prerequisite: WELD 100 F, W
Students are introduced to gas tungsten arc welding. All assignments are completed on mild steel in the flat and vertical positions on various types of weld joints.

**104B Introduction to GMAW 2 Credit Hours
3 Billable Contact Hours**

Prerequisite: WELD 100 F, W
Students perform GMAW welding on a variety of weld joints in all positions. Weld integrity is determined by guided bend testing.

**104C GTAW-Stainless Steel 2 Credit Hours
3 Billable Contact Hours**

Prerequisite: WELD 100 F, W
Students perform GTAW welds in a variety of weld positions and joint designs on thin gage stainless steels. Bead color and base metal distortion are greatly emphasized.

**104D GTAW-Aluminum 2 Credit Hours
3 Billable Contact Hours**

Prerequisite: WELD 100 F, W
Students are required to master welding techniques particular to aluminum. Metal chemistry and weld perfection are emphasized.

**105 Welding Metallurgy 3 Credit Hours
4 Billable Contact Hours**

Prerequisite: WELD 100 and MATL 101 F, W
This course covers the physics and metallurgy of welding steel, aluminum and cast iron. In addition, the course covers welding procedure qualifications, welding design, industrial welding processes, equipment and parameter selection for production applications.

**106 Basic Pipe Welding 6 Credit Hours
8 Billable Contact Hours**

Prerequisite: WELD 100 and WELD 102 F, W
This course deals with vertical-up, fixed position pipe welding on standard pipe diameters and thicknesses. Emphasis is placed on fit-up preparation, code-making organizations and standards and destructive/non-destructive pipe welding tests.

**106A Pre-Pipe Welding Skills 2 Credit Hours
3 Billable Contact Hours**

Prerequisite: WELD 100 and WELD 102 F, W
Students are required to thoroughly master tie-in and rod pick-up welding techniques on three-eighths of an inch mild steel plate in all positions. The satisfactory completion of guided bend testing is a course requirement.

**106B SMAW Pipe Welding – Uphill 2 Credit Hours
3 Billable Contact Hours**

Prerequisite: WELD 106A F, W
Students are required to weld eight-inch diameter, schedule 40 pipe in the 2, 5 and 6G positions. Four guided bend tests are required for course completion.

**106C SMAW Pipe Welding –
Downhill 2 Credit Hours
3 Billable Contact Hours**

Prerequisite: WELD 106A F, W
Students are required to weld two, eight-inch diameter, schedule 40 pipes in the 5 and 6G position, vertical down weld progression. All procedures relating to the A.P.I. code are adhered to.

**110 Welding Symbols and
Blueprint Reading 2 Credit Hours
2 Billable Contact Hours**

This course is designed to introduce the basic concepts of blueprint reading and welding symbols. A programmed, audio-visual training technique provides the vehicle to blueprint reading and welding symbol experience, and is reinforced with classroom lectures, workbook assignments, hands-on projects and written evaluations.

**114 GMAW and GTAW Applications 6 Credit Hours
8 Billable Contact Hours**

Prerequisite: WELD 100 F, W
A continuation of basic concepts learned in WELD 100, this course is designed to develop the skill levels of GMAW and GTAW welders and introduce pulse transfer in both processes. Acceptable levels of weld quality are significantly increased in this course as welders begin welding nonferrous metals, weld in all positions and complete more demanding destructive tests on their projects.

**115 Entry Level Welding 12 Credit Hours
16.67 Billable Contact Hours**

This course is an introduction into oxy-fuel cutting, shielded metal arc welding, gas metal arc welding and gas tungsten arc welding. Machine functions and filler metal chemistry will be emphasized, as well as code and procedure requirements for a variety of industrial needs. Welding/cutting processes covered (including laboratory applications) include: oxy-fuel cutting (OFC), plasma arc cutting (PAC), CNC plasma/ace cutting, shield metal arc welding (SMAW), gas tungsten arc welding (GTAW) and gas metal arc welding (GMAW). GTAW will be completed on a variety of ferrous and non-ferrous metals.

**215 Advanced Level Welding 12 Credit Hours
16.67 Billable Contact Hours**

Prerequisite: WELD 115
This course deals primarily with vertical up, fixed position pipe welding on a multitude of pipe diameters and pipe thicknesses. Emphasis is placed on fit-up preparation, code making organizations and standards, and destructive/non-destructive pipe welding tests.

216 Basic Pipefitting 4 Credit Hours

6 Billable Contact Hours

Prerequisite: WELD 110 and WELD 102 or WELD 114

Sp, Su

This course will cover basic fabricating techniques of various pipe intersections, pipe runs and sheet metal layout for heating, plumbing and power plant installations.

240 AWS Qualification/Certification –

Entry Level

4 Credit Hours

6 Billable Contact Hours

Prerequisite: WELD 100 and WELD 110 and WELD 114

W

This course is designed to meet the skill and knowledge requirements established by the American Welding Society for entry-level welders. Successful course completion meets the welding and cutting processes standards established in the requirements of AWS QC10, Specification for the Qualification and Certification for Entry Level Welders. Testing includes SMAW, GMAW and GTAW on aluminum, stainless and mild steel, on flat stock up through three-eighths of an inch.

250 AWS Qualification/Certification –

Advanced Level

4 Credit Hours

6 Billable Contact Hours

Prerequisite: WELD 102 and WELD 106

W

This course is designed to meet the skill and knowledge requirements established by the American Welding Society for intermediate-level welders. Successful course completion meets the welding and cutting processes standards established in the requirements of AWS QC11, Specification for the Qualification and Certification for Intermediate Level Welders. Testing includes SMAW, GMAW and GTAW on three-eighths of an inch flat aluminum, stainless and mild steel, and on eight-inch mild steel, stainless and aluminum pipe, one-eighth of an inch thick.

WORD PROCESSING (WPR)

102 Word Processing I

3 Credit Hours

3 Billable Contact Hours

Prerequisite: EOS 102 or ADMN 102 or 131 or equivalent keyboarding skills

Word Processing I is designed to develop proficiency in the operation of word processing software using a microcomputer system. Course content focuses on creating, saving, retrieving, editing, formatting, enhancing, printing and merging a variety of documents. Content also includes file management, introduction to microcomputer operating systems, and terminology and use of the Internet and e-mail.

103 Advanced Word Processing

3 Credit Hours

3 Billable Contact Hours

Prerequisite: WPR 102

F, W

Advanced Word Processing develops proficiency in the advanced word processing functions of Microsoft Word such as macros, sorting, tables and columns. A simulation will give additional practice in the advanced features of the software.

ADMINISTRATORS

Blumberg, James J. Director of Physical Plant
B.S. ChE. University of Toledo

Boggs, Bonnie E. Director of Respiratory Therapy
A.A. Lexington Technical Institute
B.S. University of Kentucky

Coomar, Parmeshwar Dean of Industrial
B.S. B.I.T. India Technology Division
M.S. University of Wisconsin
(Industrial Technology)
M.S. University of Wisconsin
(Industrial Engineering)

Daniels, Randell W. Vice President of Student
B.A. University of Toledo and Information Services
M.A. Eastern Michigan University

Ford, Jean Director of Purchasing and
A.C. Monroe County Community College Auxiliary Services

Hall, Mark. Director of Admissions
B.S. Central Michigan University and Guidance Services
M.A. Eastern Michigan University
(Education Administration)
M.A. Eastern Michigan University
(Counseling)

Joy, John A. Dean of Corporate and
B.S. Eastern Michigan University Community Services

Kinsey, Barry Director of Workforce Development
B.S. Eastern Michigan University
M.S. Eastern Michigan University

Knollman, Paul Dean of the Business Division
B.S. Bowling Green State University
M.Ed. Bowling Green State University

Kosmyna, Sandy Director of Whitman Center
A.S. Owens Community College
B.S. Bowling Green State University
M.Ed. University of Toledo

Lay, Brian K. Manager of Information Systems
B.A. University of Toledo

Maltese, Vincent Dean of Science/Mathematics
B.S. United States Merchant Marine Academy
M.A. Eastern Michigan University

McCutchan, Molly M. Director of Human Resources
B.S. Michigan State University
M.A. Roosevelt University
J.D. Detroit College of Law, Michigan State University

McNamee, Barbara Director of Learning Resources
B.S. Bowling Green State University
A.M.L.S. University of Michigan

Nixon, David E. President
B.A. Briar Cliff University
M.A. University of South Dakota
Ed.D. University of South Dakota

Pillarelli, Tina Director of Lifelong Learning
A.C. Monroe County Community College
B.B.A. Siena Heights University
M.A. University of Phoenix

Quinn, Anthony Director of Upward Bound
B.A. Ohio State University
M.A. University of Toledo

Roman, Cynthia A. Dean of Health Sciences Division
B.S.N. Mercy College Detroit and Director of Nursing
M.S.N. Wayne State University
Ph.D. Wayne State University

Ross, James A. Director of Data Processing Services
A.C. Monroe County Community College
B.B.A. University of Michigan - Dearborn

Schwab, Daniel J. Business Manager and Treasurer
B.A. Michigan State University
M.B.A. University of Toledo
Certified Public Accountant

Verkennes, Joseph Director of Marketing
B.A. University of Toledo

Vogt, Tracy. Registrar
A.S. Monroe County Community College
B.A. Siena Heights University
M.A. University of Phoenix

Wetzel, Suzanne M. Vice President of Administration
B.A. Central Michigan University and Executive Director of
M.A. Michigan State University The Foundation at MCCC

Yackee, Grace B. Vice President of Instruction
B.A. University of Toledo
M.A. University of Toledo
Ph.D. University of Toledo

FACULTY

- Ahmed, Khadija** Associate Professor of Mathematics
B.S. Michigan State University
B.A. University of Michigan
M.S. Bowling Green State University
- Babycz, Alex** Assistant Professor of Construction
B.S. Eastern Michigan University Management Technology
- Bean, Lori** Associate Professor of Biology/Chemistry
B.S. St. Lawrence University
M.S. University of Connecticut
M.B.A. University of Toledo
- Bergmooser, Mark** Assistant Professor of
B.A. Wayne State University Speech, Humanities
M.A. Wayne State University and Tae Kwon Do
- Boylan, Holly** Assistant Professor of
B.S.N. Mercy College of Detroit Practical Nursing
M.S.N. University of Phoenix
- Chandel, Roop** Professor of Materials Technology
B.E. Nagpur University, India
Ph.D. University of Birmingham, U.K.
- Couch, Lori Jo** Assistant Professor of English
A.S. Monroe County Community College
B.S. Troy State University
M.A. Eastern Michigan University
- Denko, Jill M.** Assistant Professor, Student Services
B.A. Eastern Michigan University
M.A. University of Toledo
- Dillon, Timothy J.** Associate Professor of English
B.A. Oakland University Coordinator of WAC Program
M.A. and Ed. University of Toledo
- Dubois, Martin J.** Assistant Professor of Mechanical
B.S. Michigan State University Engineering Technology
(Mechanical Engineering)
B.S. Michigan State University
(Electrical Engineering)
M.S.E.E. University of Louisville
- Dunn, Penelope A.** Assistant Professor of
B.A. Wayne State University Criminal Justice
M.S. Wayne State University
- Garner, Nicole** Assistant Professor of Nursing
B.S.N. Bowling Green State University
M.S.N. Eastern Michigan University
- Giles, Bonnie L.** Associate Professor of Business
A.S. Owens Technical College
B.Ed. University of Toledo
M.Ed. University of Toledo
- Gray, Sharon** Associate Professor of Practical Nursing
B.S.N. Wayne State University
M.S.N. Madonna University
- Harrill, Thomas J.** Assistant Professor of Electronics
A.S. Monroe County Community College and Computer
B.S. Eastern Michigan University Technology
M.A. Eastern Michigan University
Ed. Specialist, Wayne State University
- Haver, Joyce L.** Professor of Counseling
A.S. Monroe County Community College
B.S. Eastern Michigan University
M.A. Eastern Michigan University
Ed.D. Nova Southeastern University
- Hilliker, William** Assistant Professor of Computer
B.A.A. Central Michigan University Information Systems
M.B.A. Wayne State University
M.S. University of Detroit-Mercy
Graduate Certificate, Central Michigan University
- Holladay, John M.** Professor of English and Philosophy
B.A. Eastern Michigan University
M.A. University of Michigan
Ed.D. University of Michigan
- Johnston, Cheryl** Assistant Professor of Reading and English
B.A. University of Michigan
M.A. Eastern Michigan University
- Kehrer, Cheryl** Professor of Counseling
B.A. University of Toledo
M.Ed. University of Toledo
- Kehrer, Donald** Assistant Professor of Automotive
B.S. University of Michigan Engineering Technology
M.A. Eastern Michigan University
- Kelly, Charles** Associate Professor of Computer
A.S. Lake Superior State University Information Systems
A.A.S. Monroe County Community College
B.E.T. University of Toledo
M.S. University of Michigan, Dearborn
- Kerste, Dean** Associate Professor of Mechanical
A.A.S. Monroe County Community College Design
(Drafting and Design Technology) Technology
A.A.S. Monroe County Community College
(Industrial Management)
B.A.S. Siena Heights University
M.Ed. Bowling Green State University
- Kovach, Terri** Professor/Reference-Technical
B.Ed. University of Toledo Services Librarian
A.M.L.S. University of Michigan
Certificate of Gerontology, Bowling Green State University
Ph.D. Wayne State University
- Leinbach, Gregory C.** Professor of Computer
B.S. University of Michigan Information Systems
M.A. Wayne State University
- Leonard, Robert** Assistant Professor of Manufacturing
A.A.S. Oakland Community College Technology
B.A.S. Siena Heights University
S.M.E. Certified Manufacturing Technologist
- Locher, JoEllen** Assistant Professor of English
B.S. Bowling Green State University
M.A. Bowling Green State University
- Lymond, Dawn** Assistant Professor of Nursing
B.S.N. Madonna University
M.S.N. University of Toledo

- Mapes, Steve** Associate Professor, Student Services
A.S. Monroe County Community College
B.S. Eastern Michigan University
M.A. Eastern Michigan University
- McCloskey, William E.** Professor of English
B.A. Eastern Michigan University
M.A. Eastern Michigan University
Ph.D. University of Toledo
- McKay, Cheryl** Professor of Accounting
A.C. Monroe County Community College
A.S. Monroe County Community College
B.Ed. University of Toledo
M.S. Admin. Madonna College
- Mohney, Kenneth** Professor of Sociology
B.S. University of Pittsburgh and Anthropology
at Greensburg
Ph.D. University of Pittsburgh
- Naber, Mark** Professor of Mathematics
D.E.C. Champlain Regional College
B.S. McGill University
M.S. University of Windsor
Ph.D. University of Windsor
- Nartker, Carrie** Professor of English
B.A. University of Toledo
M.A. University of Toledo
Ph.D. Wayne State University
- Nedry, Patrick** Professor of Business
B.S. Western Michigan University
M.A. Western Michigan University
Ed.D. Eastern Michigan University
Certified Professional Secretary/
Certified Administrative Professional
- Odneal, Gail** Associate Professor of Nursing
B.S.N. Ohio State University
M.S.N. Ohio State University
- Parsons, Andrew** Associate Professor of
B.S. Alma College Chemistry and Biology
M.S. Wayne State University
- Peters, Jeffrey** Coordinator of e-Learning
B.A. University of Toledo and Instructional Support
M.Ed. University of Toledo
- Rayl, Tracy** Assistant Professor of Biology
B.S. University of North Carolina
M.S. University of Rhode Island
- Reiman, David A.** Professor of Business
B.A. Taylor University
M.A. Ball State University
M.L.S. Indiana University
M.B.A. Tiffin University
- Robinson, Denise** Assistant Professor of Nursing
B.S.N. University of Detroit-Mercy
M.S.N. Regis University
- Sabo, Joanna** Professor of Political Science
A.A. Henry Ford Community College
B.P.A. Wayne State University
M.P.A. Eastern Michigan University
Ph.D. Wayne State University
- Scarpelli, Lisa** Assistant Professor of Geosciences
A.S. Jackson Community College
B.S. Michigan Technological University
M.A. Wesleyan University
- Schmidt, Justin C.** Instructor of
A.A.S. Ferris State University Welding Technology
B.A.S. Ferris State University
- Shaw, Daniel** Assistant Professor of Journalism
B.S. Oregon State University and Humanities
M.S. Northwestern University
- Shepherd, Kathleen** Professor of Mathematics
B.A. Siena Heights University
M.A. Bowling Green State University
- Shryock, Lana** Professor of Computer
B.S.E. University of Arkansas Information Systems
M.B.A. University of Toledo
- Spalding, Roger D.** Professor of Physics and Astronomy
B.S. Central Michigan University
M.S. Central Michigan University
Ed.S. Wayne State University
Ph.D. Wayne State University
- Telfer, Terry A.** Professor of English
B.A. University of Michigan
M.A. Western Michigan University
Ph.D. Bowling Green State University
- Thomas, Kevin** Instructor of Culinary Skills
A.O.S. Culinary Institute of America
- Vallade, James** Associate Professor of Mathematics
B.E. University of Toledo
M.S.E. University of Toledo
- Vassar, Theodore W.** Assistant Professor of Art
B.S. Bowling Green State University
M.A. Bowling Green State University
- Waggoner, David L.** Professor of Chemistry
B.S.Ed. Bowling Green State University
M.S. Bowling Green State University
Ph.D. University of Toledo
- Wang, Scott** Associate Professor of Accounting
B.A. University of Richmond
M.B.A. University of Detroit
Certified Public Accountant
- Welniak, Bonnie L.** Assistant Professor of Nursing
A.D.N. Owens Community College
B.S.N. University of Toledo-MCO
M.S.N. Medical College of Ohio
- Wilson, C. Gary** Associate Professor of Art
B.S. Bethel College
M.F.A. Michigan State University
- Wise, Patrick** Associate Professor of Psychology
B.A. Kent State University
M.A. Bowling Green State University
- Wysocki, Wendy** Professor of Business
B.B.A. Eastern Michigan University and Economics
M.B.E. Eastern Michigan University
- Yonovich, Cindy L.** Instructor/Public Services Librarian
B.A. Wayne State University
M.S.L.S. Wayne State University

STAFF

- Adams, Nancy** Administrative Assistant to the
Vice President of Instruction
- Albring, Cameron** Administrative Assistant
B.A.C. Bowling Green State University to the Dean of
M.Ed. University of Toledo Industrial Technology
- Applin, Glori** Administrative Assistant
A.S. University of Toledo to the Vice President
B.A.S. Siena Heights University of Administration
- Baker, Deborah** Cashier
- Bean, Toni** Accounts Receivable Clerk
- Bennett, Amanda** Coordinator of Annual Giving
B.S. Eastern Michigan University and Alumni Affairs
- Bennett, William** General Maintenance Worker
A.A.S. Monroe County Community College
- Berns, Randy** Receiving Clerk
- Bezeau, Dennis** General Maintenance Worker
- Billmaier, Julie** Administrative Assistant
A.C. Monroe County Community College to the Director
of Admissions and
Guidance Services
- Bodell, Penny** Administrative Assistant
A.C. Monroe County Community College to the
Vice President of
Student and Information Services
- Bulin, Chris** Administrative Assistant
A.S. Jackson Community College to the Dean
of Health Sciences
- Clevenger, Jane** Administrative Assistant for
LAL/At Risk Program
- Cole, Terry** Maintenance Chief
- Costello, Michael** General Maintenance Worker
- Cramer, Diana** Child Care Center Coordinator
A.S. Marion College
- Czapiewski, Joe** Coordinator of Welding Grant
A.A.S. Henry Ford Community College
B.S. Lawrence Technological University
- D'Haene, Michael** General Maintenance Worker
A.A.S. Monroe County Community College
- Davis, Frank** General Maintenance Worker
- DeNunzio, Kelly** Administrative Assistant
A.S. Monroe County Community College to the
B.S. University of Toledo Director of the Physical Plant
M.B.A. University of Toledo
- Dowler, David** CAD Lab/Perkins Technical Specialist
B.S. Eastern Michigan University
- Drouillard, Renee** Financial Aid Assistant
A.C. Monroe County Community College
- Foster, Tammy** Payroll Clerk
A.C. Monroe County Community College
B.A. Siena Heights University
- Gerweck, Ann** Administrative Assistant
A.S. Monroe County Community College to the Director
of Human Resources
- Gerweck, Keith** General Maintenance Worker
- Goins, Stacy** Technical Services Assistant
A.C. Monroe County Community College
- Hamman, Daniel** Computer Programmer
A.C. Monroe County Community College
B.A.S. Siena Heights University
- Harbaugh, Jeffery** Power Systems Operator
A.A.S. Monroe County Community College
- Hawley, Linda** Accountant
B.B.A. Eastern Michigan University
- Hoffer, Susan** General Maintenance Worker
- Howe, Denise** Circulation/Public Services Assistant
- Hubbert, Rick** Computer Lab Technician
A.C. Monroe County Community College
B.A. Siena Heights University
- Hylinski, Janice** Digital Services Assistant
A.C. Monroe County Community College
- Johnston, Laurel** Administrative Assistant to
A.C. Monroe County Community College the Dean of
B.A. Siena Heights University Science/Mathematics
- Kiebler, Annette** Administrative Assistant to
A.C. Monroe County Community College the Dean of
Corporate and
Community Services
- Kipf-Broadway, Heather** Administrative Assistant
A.A.S. Monroe County Community College for Workforce
Development
- Kleman, Thomas** Power Systems Operator
A.A.S. Monroe County Community College
- Kohler, Beth** Coordinator of Grants and Major Gifts
B.A. Michigan State University
- Kuhl, Karen** Computer Lab Coordinator
A.C. Monroe County Community College
A.A.S. Monroe County Community College
- LaValle, Vicki** Culinary Technician
A.C. Monroe County Community College
B.A.S. Siena Heights University
- Leonhardt, Becky** Administrative Assistant
A.S. Monroe County Community College to the Dean of
A.A.B. University of Toledo Business
B.A. Siena Heights University
- Lewis, Denise** Administrative Assistant
to the Director of Learning Resources
- Libstorff, Rebecca** Administrative Assistant
A.C. Monroe County Community College to the
A.S. Monroe County Community College Manager of
B.A.S. Siena Heights University Information Systems

Lindemann, Denise Bookkeeper
A.C. Monroe County Community College
B.A. Siena Heights University

Lunn, Mary Administrative Assistant
for Lifelong Learning

Lyons, Mary Administrative Assistant
A.S. Alfred State College for Events /Reservations

Martin, Dagmar Computer Lab Technician
B.B.A. University of Toledo
M.B.A. University of Toledo

McDonald, Sean Graphic Designer
B.F.A. Ohio University

McIntyre, Victoria Executive Assistant
A.C. Monroe County Community College to the President
B.B.A. Siena Heights University and Board of Trustees
M.A. University of Toledo

McKee, Suzanne Computer Programmer
A.C. Monroe County Community College
B.A.S. Siena Heights University

Mead, Joan Information Systems Technician
A.C. Monroe County Community College

Moran, David Maintenance Chief
A.A.S. Ferris State University

Naber, Penny Administrative Assistant to
A.S. Monroe County Community College the Dean of
B.A. Siena Heights University Humanities/
Social Sciences

Nagel, Irma General Maintenance Worker

Neaves, Michael General Maintenance Worker

Oestrike, Joyce Administrative Assistant to the Registrar
A.S. Monroe County Community College

Paolino, Anthony Power Systems Operator

Parker, Dale General Maintenance Worker

Perria, Christopher Science Laboratory Coordinator
B.S. Eastern Michigan University

Peterson, Terry Power Systems Operator

Pickard, William General Maintenance Worker

Pillarelli, Lauren Administrative Assistant for Admissions
A.S. Monroe County Community College and Guidance
Services

Plumb, Kelli Administrative Assistant
A.A.S. Monroe County Community College to the Director
B.B.A. Eastern Michigan University of Purchasing and
Auxiliary Services

Rafko, Ryan Financial Aid Assistant
A.S. Monroe County Community College
B.B.A. University of Toledo

Roberts, Linda Records and Registration Coordinator
A.S. Monroe County Community College
B.A.A. Central Michigan University

Rorke, Bryan General Maintenance Worker
A.S. Monroe County Community College
B.B.A. Eastern Michigan

Rosinski, Tyra Media Technician
A.C. Monroe County Community College

Russell, Annette Accounts Payable Clerk
A.C. Monroe County Community College

Russo, James General Maintenance Worker

Ryder, Thomas Events/Student Activities
A.S. Monroe County Community College Coordinator

Scheer, Kelly Administrative Assistant to the
A.A.S. Monroe County Community College Director of
Financial Aid

Scheer, Thomas Microcomputer Technician

Servey, Patsy Switchboard Operator

Spearing, Catherine Administrative Assistant,
A.S. Monroe County Community College Whitman Center

Spenoso, Mark Digital Imaging Specialist
B.A. University of Akron

Stasko, Michael Housekeeping Foreman

VanDaele, Judy Coordinator of Advancement
A.C. Monroe County Community College Research and
B.B.A. Siena Heights University Prospect Management

VanSlambrouck, Jeffrey Maintenance Foreman

Wyrbkiewicz, John Network Administrator
A.C. Monroe County Community College
B.A.S. Siena Heights University

Yarger, Jennifer Instructional Support Technician
A.C. Monroe County Community College
B.A. Spring Arbor University
M.Ed. Wayne State University

Zarb, Connie Administrative Assistant
A. S. Monroe County Community College to the Director of
Institutional Advancement
and Executive Director
of The Foundation at MCCC

Zorn, Kevin Power Systems Operator

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MISSION

Monroe County Community College provides a variety of higher education opportunities to enrich the lives of the residents of Monroe County.

VISION

Monroe County Community College aspires to be our community's first choice for higher learning.



MONROE COUNTY COMMUNITY COLLEGE

enriching lives

Monroe County Community College is accredited by the Higher Learning Commission and a member of the North Central Association.

www.ncahigherlearningcommission.org
(800) 621-7440

www.monroecc.edu

MAIN CAMPUS

1555 South Raisinville Road
Monroe, MI 48161
734-242-7300 or 877-YES-MCCC

WHITMAN CENTER

7777 Lewis Avenue
Temperance, MI 48182
734-847-0559

Monroe County Community College is an equal opportunity institution and adheres to a policy that no qualified person shall be discriminated against because of race, color, religion, national origin or ancestry, age, gender, marital status, disability, genetic information, sexual orientation, height, weight or veteran's status in any program or activity for which it is responsible.