



# 2015 - 2016 CATALOG

## MONROE COUNTY COMMUNITY COLLEGE

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LIVES.

*That's our mission.*



MONROE COUNTY  
COMMUNITY COLLEGE

[www.monroecc.edu](http://www.monroecc.edu)

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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

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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

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## HISTORY

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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).

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## **MISSION STATEMENT**

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Monroe County Community College enriches and transforms lives by providing opportunity and excellence in higher education.

## **VISION STATEMENT**

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Monroe County Community College will be an innovative and progressive higher education institution and our community's first choice for quality post-secondary education.

## **CORE VALUES**

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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**

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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**

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

Higher Learning Commission  
230 South LaSalle Street, Suite 7-500  
Chicago, Illinois 60604-1411  
www.hlcommission.org  
(800) 621-7440 / (312) 263-0456  
Fax: (312) 263-7462  
Email: info@hlcommission.org

## **Program Accreditations**

The following MCCC programs have earned specialized accreditation:

- Nursing  
Accrediting Commission for Education in Nursing, Inc. (ACEN)  
3343 Peachtree Road NE  
Suite 850  
Atlanta, Georgia 30326  
Phone: (404) 975-5000  
Fax: (404) 975-5020  
www.acenursing.org  
info@acenursing.org
- Respiratory Therapy  
Committee on Accreditation for Respiratory Care (CoARC)  
1248 Harwood Road  
Bedford, Texas 76021-4244  
(817) 283-2835  
www.coarc.com

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## **PHILOSOPHY**

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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**

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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**

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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, gender/identity, expression, 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](http://www.monroecc.edu).

## **POLICY STATEMENT ON SOCIAL SECURITY NUMBER PRIVACY**

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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 website at [www.monroecc.edu](http://www.monroecc.edu).

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## **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 more than 46,000 volumes and more than 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 facility. 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, and business education rooms. The West Technology Building houses the Regional Computer Technology Center, classrooms and offices.

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 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.

The 60,000-square-foot Career Technology Center opened during the 2013-14 academic year and houses programs related to applied sciences and engineering technology curricula.

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## **LEARNING RESOURCES CENTER**

The Learning Resources Center 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, online databases, reserve class materials, wireless access and journal articles in both print and online formats. 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 are located on the second floor of the Campbell Learning Resources Center. The Little Theatre, Information Systems Office and additional classrooms are located on the lower level.

### **LEARNING ASSISTANCE LAB**

The Learning Assistance Lab 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.

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## 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

“First Steps” is a free workshop designed for first-time college students and students without recent classroom experience. Any MCCC student is welcome to attend. The workshop topics include:

- Adapting to the academic demands of college
- Goal setting and time management
- Learning styles
- Note taking skills
- Test taking skills
- Math skills

Visit our webpage at [www.monroecc.edu/lal/lal.htm](http://www.monroecc.edu/lal/lal.htm) for First Steps workshop dates. Call (734) 384-4167 or stop by Room C-218 to register.

## DISABILITY SERVICES

Students with 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 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, the Americans with Disabilities Amendments Act (2008) and 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 10 business days prior to the start of the semester, the student should schedule an appointment with a disability services counselor. Eligibility for services will be determined by information gathered from the student interview and any documentation provided.

3. Any documentation and information that the student can readily share during the initial appointment – such as accommodation history; educational or medical records; reports and assessments created by health care providers, school psychologists, teachers or an educational system – is helpful. Examples of documentation may include a psychological evaluation, 504 Plan, IEP (Individual Education Plan), SOP (Summary of Performance) or report of teacher observations. Providing current and relevant information during the initial appointment can save the need for repeat trips to the Disability Services Office.
4. The student interview will focus on how the condition impacts the student in the academic environment. This interactive process will enable the counselor to determine how the disability is connected to a barrier and if an accommodation would provide access.
5. Information gathered during the initial interview will be reviewed by the Disability Services Review Committee. If recommendations are included in the documentation, they will be considered together with the total assessment, the specific program and class, and information provided by the student during the interview. Appropriate accommodations will be determined on an individual basis.
6. Within 10 business days of the initial appointment, the student will be notified in writing of the outcome of their request either by mail or in person.
7. It is the responsibility of the student receiving an accommodation to:
  - Notify or leave a message with Disability Services if he/she will not be attending class due to a disability-related absence by calling (734) 384-4167.
  - Use the same procedure to notify Disability Services if he/she has difficulty with any accommodation (i.e., note taker, scribe, interpreter).
8. All accommodations are provided free of charge. Cooperative agreements through a third party (i.e., Michigan Rehabilitation Services, Bureau of Services for Blind Persons) will be considered.
9. Any loaned equipment must be returned to the Disability Services Office within one week of the end of the semester. Failure to return equipment will result in a financial hold on the student's record.



10. Accommodations are made on an individual basis each semester. Prior to each semester, students need to meet with a disability services counselor to review their accommodation status and complete appropriate paperwork.
11. Non-credit students seeking accommodations must meet with a disability services counselor each time they register for a class.
12. Student confidentiality will be observed and no documentation or information will be released without the student's written consent.
13. Reasonable attempts will be made to accommodate individual needs. However, this is not a guarantee that accommodations will be provided exactly as requested.

## **BOOKSTORE**

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The Bookstore is located in the Audrey Warrick Student Services/Administration Building. The Bookstore sells new and used books, e-books, book bags, school supplies, clothing, gift items, greeting cards and snack foods.

Students should keep books in original condition (by not opening packages, opening access codes or writing in them) until they are certain there is no need to return them. A full refund is given within the first week of classes. A cash register receipt **must** accompany all returns. Check the Bookstore for refund and exchange policies.

Prior to the beginning of the Fall and Winter semesters, Whitman Center students may pre-order their books for pick up at the Whitman Center during designated days and times. Pre-order is available for students paying with financial aid, cash or check. Information for pre-ordering is available by visiting the college website and following the Whitman Center Quick Link or at the Bookstore website. Students paying with a credit card may purchase books online from the college bookstore website with delivery options available.

The Bookstore will buy back books depending on the requirements for the upcoming semester. Typically, the Bookstore will pay 50 percent of the current new book price. A used book wholesaler may buy back additional books that have market value during "Book Buy Back," which is held during the last three days of Fall and Winter semesters. Information on upcoming buy backs, including days and times, is available by calling the Bookstore or checking the website: [www.monroeccc.edu/bookstore](http://www.monroeccc.edu/bookstore).

The Bookstore offers select titles for in-store rental. Students must have a credit card to secure rental titles. For more information, please contact the Bookstore.

For titles not available to rent in the Bookstore, a third party vendor rental service is offered. Visit the Bookstore webpage and look for "Rent and Save."

## **CORPORATE AND COMMUNITY SERVICES DIVISION**

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The basic mission of the Corporate and Community Services 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. 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 the website at [www.monroeccc.edu/ccs/corporate.htm](http://www.monroeccc.edu/ccs/corporate.htm).

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## 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, the Business Development Corporation, and a variety of governmental agencies and organizations dedicated to economic development. The college does participate in the Michigan New Jobs Training Program, which provides 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 website at [www.monroecc.edu/ccs/training.htm](http://www.monroecc.edu/ccs/training.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 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 website at [www.monroecc.edu/ccs/lifelong.htm](http://www.monroecc.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, assistance with resumes, 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 the website at [www.collegecentral.com/monroecc](http://www.collegecentral.com/monroecc).

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## WHITMAN CENTER

The Whitman Center, located in a picturesque setting on Lewis Avenue in Bedford Township, is administered by the Vice President of Student and Information Services 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 [www.monroecc.edu/whitman/](http://www.monroecc.edu/whitman/).

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## **STUDENT ORGANIZATIONS AND ACTIVITIES**

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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

Contact the events/student activities coordinator at (734) 384-4201 or via email at [tryder@monroeccc.edu](mailto:tryder@monroeccc.edu) for more information.

## **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. These events are administered by the Office of Marketing and Communications. 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 [www.monroeccc.edu/theater](http://www.monroeccc.edu/theater).

## **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 the website at [www.monroeccc.edu/fitnesscenter/](http://www.monroeccc.edu/fitnesscenter/).

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## **GIFTS AND BEQUESTS - THE FOUNDATION AT MONROE COUNTY COMMUNITY COLLEGE**

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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, contact The Foundation at Monroe County Community College, at (734) 384-4214 or visit The Foundation at MCCC website at [www.monroeccc.edu/foundation](http://www.monroeccc.edu/foundation).

# ADMISSIONS

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## ADMISSIONS POLICY

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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: (877) YES-MCCC  
Whitman Center: (734) 847-0559

## ADMISSIONS STATUS

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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.

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.

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### 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 100-level or higher college courses.

### 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 100-level or higher college courses.

### 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.

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. Culinary Skills and Management
- b. Licensed Practical Nursing
- c. Nursing
- d. Respiratory Therapy

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 principal 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.

## **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.

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## **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 webpage at [www.monroeccc.edu/academicadv-transfer/transindex.htm](http://www.monroeccc.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

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## TRANSFER CREDITS

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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

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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).

## CREDIT FOR MILITARY SERVICE EXPERIENCE

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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.

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## **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

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## **SCHEDULE OF CLASSES**

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Prior to the registration period for each semester, a schedule of classes is published and posted on the MCCC website 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**

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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**

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Courses may be registered for or added prior to the second scheduled meeting of the class. Short courses – Spring, Summer or 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 after the first day of the semester/term.

## **DROPPING/ADDING CLASSES**

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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 via student email account 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.
4. 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."

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## **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.

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## **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.

1. The pass/fail option will be available to all students once the required form is completed and submitted to the Registrar's Office.
2. All courses that appear on the schedule will be made available to students on a pass/fail basis.
3. The "P" (pass) grade shall be equivalent to A, B and C.
4. 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.
5. 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.
6. The "P" (pass) and "F" (fail) will appear on the transcript but will not be used in the computation of the honor point average.

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## **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.

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## **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.

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## **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.

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## **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 student initiates the process by filling out the "Request for Incomplete" form and submits the form to the instructor. Following approval, the instructor submits the form to the registrar. 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.

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## **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.

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## **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. Rainsville 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.

Visit the college website for additional Veterans information and forms.

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## **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.

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## **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.

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## **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.

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## **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.

Visit the college website for a listing of current tuition and fees.

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## **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.

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## **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 dependent and his or her parent or legal guardian is a resident of Monroe County. Student must be claimed on current health insurance or prior tax return of parent/legal guardian.
  - 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.
4. The students' tuition is being paid by his or her high school via Michigan Dual Enrollment.

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.

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## **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.

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## **REFUNDS FOR STUDENTS RECEIVING FINANCIAL AID**

No financial aid refunds will be made to students receiving assistance through the Michigan Bureau of Rehabilitation, Michigan Office of Services for the Blind or Michigan Veterans Trust Fund until MCCC receives the funds from the agency that is providing the financial assistance for the student.

All students who wish to withdraw must follow MCCC's official withdrawal policy. If students officially withdraw or stop attending all their classes, they may be required to repay all or part of the Title IV financial aid disbursed to them in the term they withdrew. The federal formula requires a return of Title IV financial aid if the student received federal financial aid assistance in the form of a Pell Grant, Supplemental Educational Opportunity Grant, Stafford Direct Loans, or Parent Loan for Undergraduate Students, and withdrew before completing more than 60 percent of the term. This calculation determines the amount of aid earned by the student which he/she may keep, and it is based on the number of days the student attended the term. The unearned amount of financial aid must be returned in the following order:

Unsubsidized Stafford Direct Loan  
Subsidized Stafford Direct Loan  
Parent Loan for Undergraduate Students  
Pell Grants  
Supplemental Educational Opportunity Grant  
Other Federal assistance

Students who have questions regarding how withdrawing from classes will affect their financial aid should contact the MCCC Financial Aid office at (734) 384-4135.

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## **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

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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 50 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

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### Applying for Financial Aid

To be eligible for federal and state financial aid, a student must:

- Have financial need, except for some loans and scholarships
- Have a high school diploma or General Education Development (GED) certificate
- 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
- 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).

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 website where you can complete a FAFSA online. The address is [www.fafsa.gov](http://www.fafsa.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 financial aid.

When completing the FAFSA, pay special attention to any questions on income. This area is where most mistakes are made. Also, in Section six of the FAFSA, fill out the name(s) of the school(s) you're interested in attending. MCCC's school code is 002294.

Apply as soon as possible AFTER January 1st. 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 awards. 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.

Financial aid awards for the prospective student are not approved before the student has attained regular admission status through the Admissions and Guidance Office.

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## Financial Aid Deadlines

Fall - July 1

Winter - November 1

Spring/Summer - April 1

Students who complete their files after the deadline date may not receive a financial aid package 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.

$$\begin{array}{r} \text{Cost of Attendance} \\ - \text{Expected Family Contribution} \\ \hline = \text{Financial Need} \end{array}$$

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: <http://www.monroeccc.edu/financialaid/cost-attendance.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 parent's 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, 1992
- Married
- A graduate or professional student
- Someone with 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 youth as 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.

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## 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.

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## 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 refund checks.

## Award Disbursement

Scholarships, Pell Grants and Stafford Loans are 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. 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.

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## STATEMENT OF STUDENT FINANCIAL AID RIGHTS AND RESPONSIBILITIES

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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 negatively affect the family's ability to meet costs of attendance. Students have 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 toward earning a degree or certificate. Students must not owe any refunds on Pell Grants or other awards or be in default on repayment of any student loan.

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## EDUCATION TAX BENEFITS

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If out of pocket tuition payments are made, you may qualify for the American Opportunity Credit, Lifetime Learning Credit and/or the higher-education tuition and fees deduction. For more information, see IRS Publication 970 at [www.irs.gov](http://www.irs.gov).



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## **SATISFACTORY ACADEMIC PROGRESS**

Students must make satisfactory progress toward completion of their certificates/degrees at MCCC to be eligible to receive aid from the following programs: Pell Grant, Direct Stafford loans, Direct PLUS loans, Supplemental Educational Opportunity Grant, Federal College Work Study, Michigan Competitive Scholarship Program, Michigan Tuition Incentive Program, and any MCCC scholarships, private scholarships or sponsored billings with grade point average (GPA) or satisfactory academic progress requirements.

### **What is Satisfactory Academic Progress?**

Satisfactory academic progress is evaluated after each semester (Fall, Winter, Spring/Summer). To be eligible for renewal of financial aid, students must meet the following academic standards:

- Students must maintain a minimum cumulative grade point average of 2.0.
- Students must complete a minimum of 67 percent of their total attempted credit hours.
- Students may not receive financial aid once they have attempted a total number of credit hours that exceeds 150 percent of the credits required to complete their certificate or degree.

\*Please Note: Determining Satisfactory Academic Progress for each student requesting financial assistance at MCCC is based on an academic transcript review of all previous enrollments at MCCC, including periods when financial aid was not requested or received.

### **GPA Requirement**

Students must have a cumulative GPA sufficient to meet graduation requirements. Students must maintain at least a 2.0 cumulative GPA in order to meet satisfactory academic progress for financial aid eligibility.

- Courses that are dropped are not included in the GPA calculation.
- Incomplete grades are not included in the GPA calculation.
- Transfer credit hours are not included in the GPA calculation.
- Pass/Fail grades (H, U, P, F, or S) are not included in the GPA calculations.

### **Completion Rate**

Students must complete a minimum of 67 percent of the total credit hours they attempt. The 67 percent completion rate maintains a pace of progress toward a degree or certificate so that students will be able to complete their programs within the maximum time frame allowed for receiving financial aid.

The pace of progression is calculated by dividing the student's cumulative completed credit hours by the cumulative attempted credit hours. Attempted credit hours are defined as any credits the student is enrolled in after the 100 percent tuition refund period. Completed credit hours are those credit hours for which the student earned a grade of A, B, C, D, S, P or H.

- Transfer credit hours accepted by MCCC count as both attempted and completed credit hours in this calculation.
- Credit hours for courses dropped after the 100 percent tuition refund period are counted as attempted but not completed in this calculation.
- Credit hours for courses in which a student receives an I (incomplete) grade are counted as attempted but not completed in this calculation.

### **Maximum Timeframe**

Students working toward an associate's degree or eligible certificate cannot receive financial aid if they have attempted more than 150 percent of the credit hours published as being required for the completion of the program. The maximum limit applies to all attempted credit and transfer hours, regardless of whether the student received financial aid to pay for the courses. After a student has attempted credits beyond the 150 percent timeframe, the student is no longer eligible for federal financial aid at MCCC.

- Transfer credit hours accepted by MCCC count as attempted credit hours in this calculation.
- Credit hours for courses dropped after the 100 percent tuition refund period are counted as attempted credit hours in this calculation.
- Credit hours for courses in which a student receives an I (incomplete) grade are counted as attempted credit hours in this calculation.

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## **What is Financial Aid Warning?**

Students who fail to make the satisfactory academic progress standards of the minimum GPA and/or the 67 percent completion rate in one semester will receive one subsequent term of financial aid while on Financial Aid Warning status. The Financial Aid Warning status lasts for only one payment period. This status may only be assigned to students who were meeting SAP standards in the prior payment period.

At the end of the warning period, a student who still has not met the SAP standards will be ineligible for financial aid. However, students who have faced extraordinary circumstances may appeal the denial of financial aid. See the “How Do I Appeal” section for additional information about the satisfactory academic appeal process.

Note: Students who have attempted more than 150 percent of the credits required in the certificate/degree program do not receive a Financial Aid Warning period. However, they may appeal the denial of financial aid.

## **What is Financial Aid Probation?**

When a student who is not making satisfactory academic progress submits a Satisfactory Academic Progress Appeal to the Financial Aid Office and that appeal is approved, the student is assigned a status of Financial Aid Probation. Students who are on Financial Aid Probation are eligible to receive financial aid.

As a condition of the Financial Aid Probation status, the student will be required to follow an academic plan in order to remain eligible for financial aid. The academic plan is developed to ensure that the student is able to successfully complete his or her program of study at MCCC. While on Financial Aid Probation, the student's progress will be monitored by the Financial Aid Office at the end of each semester to confirm that the student has followed the academic plan. As long as the student follows the academic plan, the student will remain eligible for financial aid. Failing to follow the academic plan will result in the loss of financial aid eligibility for future semesters.

## **What is Financial Aid Denial (Loss)?**

Students who are not making satisfactory academic progress at the end of the Financial Aid Warning period, students who have attempted more than 150 percent of the credits required to complete their certificate/degree, or students who were on Financial Aid Probation and did not follow the terms of their academic plan will be assigned a status of Financial Aid Denial. A student who is assigned the status of Financial Aid Denial is ineligible for financial aid unless the student subsequently meets the required satisfactory academic progress standards or submits an appeal that is approved by the Financial Aid Office.

## **How Do I Appeal?**

Students who have faced extraordinary circumstances may appeal the denial of financial aid. Supporting documentation of the circumstances is required. The student must explain in writing why he or she is not making satisfactory academic progress, as well as what has changed (including any actions the student has taken or will be taking) that will allow the student to once again meet the satisfactory academic progress requirements. All appeals and supporting documents should be forwarded to:

Director of Financial Aid  
Monroe County Community College  
1555 South Raisinville Road  
Monroe, MI 48161

## **Repeating Courses**

Students may receive federal financial aid to pay for a course that the student is repeating if the student has not previously passed the course. However, a student may only receive federal financial aid for one repetition of a course that the student passed previously. Note: If the student passed the course and then subsequently failed it, the student cannot receive financial aid for the course for a third time.

Students who are repeating courses should contact the Financial Aid Office if they have questions about whether those credits will be counted toward financial aid eligibility.

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## **SOURCES OF STATE AND FEDERAL FINANCIAL AID**

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### **Pell Grants**

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

The completed application should be submitted for processing according to the directions. A Student Aid Report will be sent to the applicant. The applicant's award is then determined based upon enrollment and FAFSA information. Funds will be credited to the student's institutional account when classes have started and 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 range from \$626 to \$5,775. The amount of the award will be affected by 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 eligible non-citizens 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 help pay for tuition and fees for Michigan residents of 12 months who qualify through a competitive examination and show financial need. 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 Student Scholarships and Grants at (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 apply 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 BIA – Midwest Region Office at (612) 713-4400.

### **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 (517) 241-7748.

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## Federal College Work Study Program

The college participates in the federally funded College Work Study (FCWS) Program. Students must be U.S. citizens or eligible non-citizens 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 <http://www.monroeccc.edu/ccs/employe.htm>.

## 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 <http://www.monroeccc.edu/ccs/employe.htm>.

## 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 <http://www.monroeccc.edu/ccs/employe.htm>.

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## 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 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) while the student is enrolled in school for at least six credit hours.

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 Federal 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.
- \$10,500 if you've completed your first year of study, and the remainder of your program is at least a full academic year.

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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; or
- \$138,500 as a graduate or professional student.  
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?**

The interest rate on Federal Direct loans changes each year on July 1. Check with the Financial Aid Office for additional information about the current interest rate on Direct Loans.

On subsidized loans, the federal government pays the interest while you're enrolled in school at least half time.

For unsubsidized loans, you'll be charged interest from the day the loan is disbursed until it is repaid in full, including in-school 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. Check with the Financial Aid office for additional information about the current origination fees on Direct Loans.

### **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, 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 from your loan servicer 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 changes each year on July 1st. Check with the Financial Aid Office for additional information about the current interest rate on Direct Loans.

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## Online Scholarship Applications

AcademicWorks Online™ 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 website at [www.monroecc.edu/academicworks](http://www.monroecc.edu/academicworks).

## 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, Michigan resident, enrolled for a minimum of six (6) credit hours, preference given to St. Mary Catholic Central High School graduate

### Marvin and Jean Baumann Family Scholarship

Donor: Mr. and Mrs. Marvin (Jean) Baumann  
Eligibility: Student applying must be enrolled in a “hands-on” career program in a technology or health sciences occupational area at MCCC, Monroe County, Michigan resident, United States citizen, GPA of 3.0 or higher, enrolled for a minimum of six (6) credit hours per semester, financial need may be considered

### 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 (9) 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 twelve (12) credit hours, financial need may be considered, Monroe County, Michigan resident, United States citizen, graduate of a Monroe County high school, must be enrolled in a transfer program planning to pursue a degree in the field of education

### FEDCO Scholarship

Donor: Fluid Equipment Development Company (FEDCO)  
Eligibility: Applicants must be enrolled in one of the following programs: industrial management technology, mechanical design technology, mechanical engineering technology, or product and process technology; Monroe County, Michigan resident, 2.5 GPA or higher, preference given to a Jefferson High School graduate, financial need

### 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

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**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, Michigan 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 and/or have attended the Monroe County Learning Bank Network, 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) credit 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, Michigan resident and United States 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, Michigan, financial need

**Kirwen and Karau Scholarship**

Donor: Nancy D. Kirwen and Jane Karau  
Eligibility: Full-time student enrolled in a minimum of twelve (12) billable contact hours per semester at MCCC, resident of Monroe County, Michigan, United States citizen, graduate of a Monroe County high school planning to transfer to a college or university to pursue a bachelor's degree, demonstrated high academic achievement, preference given to a female student, letter of recommendation from a high school teacher or counselor speaking to student's academic achievement and promise

**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, Michigan and United States 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 (6) credit hours during fall and winter semesters, submit a personal statement discussing educational and professional goals

**Irv Locketz Culinary Scholarship**

Donor: Lynne S. Goodman  
Eligibility: Student accepted and enrolled in the Culinary Skills and Management Program (CSM). Student must take eight (8) CSM credit hours per semester (fall and winter). Financial need is not necessary, but may be considered.

**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

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**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

**Ruthie Merritt Memorial Scholarship Fund**

Donor: Family and Friends  
Eligibility: Monroe County, Michigan resident, ten (10) semester hours completed with at least a 2.5 GPA, enrolled in a minimum of four (4) credit hours during award semester, letters of recommendation, reflection/reaction paper

**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 product and process technology; full-time student, financial need, Monroe County, Michigan 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 nine (9) credit hours, co-op/internship at Monroe County Historical Museum

**Monroe County Community College****Alumni Association Scholarship**

Donor: Monroe County Community College Alumni Association  
Eligibility: Monroe County, Michigan resident; enrolled at least part-time (six [6] billable credit hours per semester); must have two (2) letters of recommendation from MCCC Alumni Association members

**John and Violet Mueller Scholarship**

Donor: John and Violet Mueller  
Eligibility: Graduate of Jefferson High School in Monroe, Michigan, or Mason Senior High School in Erie, Michigan, Monroe County, Michigan 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 (6) credit hours per semester, preference given to a Monroe County, Michigan resident, preference given to students who are a single-parent with custodial care of one or more children under the age of eighteen (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

**Chad E. Nyitray Scholarship**

Donor: Chad E. Nyitray  
Eligibility: Full-time student enrolled in twelve (12) billable contact hours or more per semester, enrolled in a business-related curriculum and transferring to a four-year university, preference given to a Ida High School, Ida, Michigan graduate, Monroe County or Washtenaw County Michigan resident and United States citizen, financial need may be considered, must have 3.0 or greater GPA

**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

**Kimberly Reaume Memorial Scholarship**

Donor: MCCC Support Staff  
Eligibility: Enrolled in the registered nursing program at MCCC, part-time student enrolled in a minimum of six (6) credit hours per semester, applicant must have a minimum 2.5 GPA, Monroe County, Michigan resident

**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, Michigan resident for a minimum of five (5) 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)



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### **Marilyn Schroeder Memorial Scholarship**

Donor: Family and friends of Marilyn Schroeder  
Eligibility: Enrolled in a health occupation program (e.g., certified nurse aide, practical nursing, phlebotomy technician, or respiratory therapy) or a health-related science curriculum (e.g., biology, chiropractic, chemistry, dentistry, medicine, nursing, occupational therapy, optometry, pharmacy, physical therapy, or physics) at MCCC, preference given to student desiring to transfer to pursue a degree in physical therapy, second-year student who has earned thirty (30) credit hours or more toward their degree, full-time student enrolled in a minimum of twelve (12) billable contact hours per semester, registered nursing student enrolled in a minimum of eight (8) billable contact hours per semester (fall and winter), 2.8 GPA or higher, recipient must maintain active membership in a recognized College organization or activity during their scholarship year, preference given to student who accepts a leadership role on the MCCC Club Volleyball Team.

### **Richard and Marjorie Sieb Scholarship**

Donor: Richard and Marjorie Sieb  
Eligibility: Monroe County, Michigan resident and United States citizen, enrolled at least six (6) credit hour 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 in 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 their interest and involvement in music, letter or recommendation from their high school band and/or choir director. Second-year student in the registered nursing program also eligible.

### **Roy Turner Scholarship**

Donor: Family and Friends  
Eligibility: Monroe County, Michigan firefighter or child/grandchild of a local (Monroe County, Michigan) firefighter, full-time student enrolled in a minimum of twelve (12) credit hours, Monroe County, Michigan resident, minimum GPA of 2.5

## **Annual Scholarships**

### **Adopt-A-Student Scholarship**

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

### **Altrusa International of Monroe Scholarship**

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

### **American Legion Riders Scholarship**

Donor: American Legion Riders  
Eligibility: Monroe County, Michigan resident, financial need, full-time student enrolled in a minimum of twelve (12) credit hours per semester, honorably discharged veteran or child of an honorably discharged veteran (DD214 verified)

### **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 enrolled in a minimum of twelve (12) credit hours per semester, Monroe County, Michigan resident, minimum 2.5 GPA

### **Circolo Italiano Scholarship**

Donor: Circolo Italiano Club  
Eligibility: Monroe County, Michigan resident, financial need, high school graduate, preference given to student planning to pursue studies, training, or research relating to Italian culture

### **Saverio Costello Memorial Scholarship**

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

### **Dana Corporation Scholarship**

Donor: Dana Corporation  
Eligibility: Applied Science and Engineering Technology Division major, enrolled for a minimum of six (6) credit hours per semester, 2.5 GPA, first- or second-year student, non-renewable

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**Delta Kappa Gamma Society Scholarship**

Donor: Beta Rho Chapter of Delta Kappa Gamma  
Eligibility: Financial need, enrolled for a minimum of six (6) credit hours

**Fallen Firefighters Scholarship**

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

**The Foundation at MCCC Scholarship**

Donor: The Foundation at MCCC  
Eligibility: Demonstrated financial need

**Mary Fraser Nursing Scholarship**

Donor: Estate of Joanne M. Fraser  
Eligibility: Second-year nursing student, Monroe County, Michigan 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, Michigan resident, minimum of six (6) credit hours per semester, preference given to student with financial need

**Dave Hartzell Culinary Scholarship**

Donor: Alyce Castellese and Esther Hartzell  
Eligibility: Student applying must be a first- or second-year student in the MCCC Culinary Skills and Management Program, Monroe County, Michigan resident, financial need will be considered, awarded to student who is not receiving multiple scholarships

**International Association of Administrative Professionals Scholarship**

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

**Herb Kehrl Memorial Scholarship**

Donor: Family and Friends  
Eligibility: Political science, history or education major, Monroe County, Michigan resident with preference given to a resident of Michigan's 17th or 56th House Districts; 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 (6) 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, Michigan resident and United States 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

**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

**MCCC Alumni Association Non-Credit Certificate Program Scholarship**

Donor: Monroe County Community College Alumni Association  
Eligibility: Student enrolled in one of the Lifelong Learning Certificate Programs offered through the MCCC Corporate and Community Services Office (on-line classes/programs do not qualify), high school graduate or have a GED, resident of Monroe County, Michigan, United States citizen, financial need

**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, Michigan resident and United States citizen, full-time student, Monroe County, Michigan high school graduate

**Monroe Exchange Club Scholarship**

Donor: Monroe Exchange Club  
Eligibility: Graduate of any Monroe County, Michigan high school and a resident of Monroe County, Michigan, financial need, applicant must have a well-defined course of study and be enrolled full-time during their scholarship year with a minimum of twelve (12) billable contact hours per semester; additional consideration given to student participants of the Monroe Exchange Club Junior Exchange Program

**Joann Naida Nursing Scholarship**

Donor: JoAnn Naida  
Eligibility: Second-year nursing student enrolled in the Registered Nursing Program at MCCC, Monroe County, Michigan resident, minimum 3.3 GPA

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### **Namaste Day Scholarship**

Donor: Mind Body Balance, Mindful Movement, and Willow Tree Yoga

Eligibility: Applicant must have an expressed interest in and strong history of community service, part-time student enrolled at MCCC in a minimum of six (6) billable contact hours per semester, recipient must agree to speak on the importance of community service at the Namaste Day event held on the MCCC campus

### **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 [9] credit hours per semester); 2.5 GPA; Monroe County, Michigan resident

### **NUET Scholarship**

Donor: Various donors

Eligibility: Student must have been selected for admission into the NUET program, second-year NUET student; minimum of 25 credit hours earned at MCCC; part-time student enrolled in a minimum of six (6) credit hours per semester, minimum GPA of 3.0; financial need

### **E.K. Quartey Scholarship**

Donor: Dr. Kojo A. Quartey

Eligibility: Financial need

### **Pepsi Scholarship**

Donor: Pepsi Bottling Company

Eligibility: Financial need

### **George Rhodes Scholarship**

Donor: Friends and Colleagues

Eligibility: Part-time student enrolled in a minimum of six (6) credit hours per semester, who has worked at least one (1) semester in tutoring program at MCCC, recipient must be active in MCCC tutoring program during award year, 3.0 GPA

### **Roof Family Foundation Scholarship**

Donor: Roof Family Foundation

Eligibility: Full-time student enrolled in a minimum of twelve (12) billable contact hours per semester, or depending on course of study, full-time may be defined with fewer hours (e.g. nursing); resident of Monroe County, Michigan and a graduate of a Monroe County, Michigan high school with preference given to a Dundee Community Schools, Dundee, Michigan; United States citizen; minimum 2.8 GPA; preference given to student who was in the foster care system during high school; student planning to pursue a career in an occupational field but does not intend to continue studies at a four-year institution

### **William E. Rupp Scholarship**

Donor: Family

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

### **Sawyer Homestead Scholarship**

Donor: 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: Demonstrated financial need

### **Chad L. Stoner Medical Research Scholarship**

Donor: David and Mary Rose Stoner

Eligibility: Transfer student interested in pursuing a career in medical research, student pursuing an associate of science degree with coursework emphasis in biological sciences, chemical sciences, or physical sciences. Student must have a minimum 3.2 GPA to apply and carry a 3.0 GPA or higher during the scholarship year. Student must be planning to transfer to a four-year college or university to earn a degree in a discipline area that prepares them for a career in medical research. Must be a full-time student defined as twelve (12) billable contact hours or more per semester with a minimum of 24 credit hours earned from MCCC prior to applying for scholarship. Financial need may be considered. Scholarship may not be used to re-take courses at MCCC.

### **Strikes, Spares & Scholarships Scholarship**

Donor: Participants of the Strikes, Spares & Scholarships Bowling Event

Eligibility: Part-time student enrolled in a minimum of six (6) credit hours

### **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

### **Student Nurses Association Scholarship**

Donor: MCCC Student Nurses Association

Eligibility: Students applying must be enrolled in the Registered Nursing Program or the Licensed Practical Nursing Certificate Program at MCCC, must be an active member of the MCCC Student Nurses Association (current SNA officers are not eligible to receive the scholarship), minimum 3.4 GPA

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### **Sarah Augie (Petree) Tedrick Nursing Scholarship**

Donor: Donald and Linda Petree  
Eligibility: Students applying must be a second-year nursing student enrolled in the Registered Nursing Program at MCCC with preference given to a young, single parent; United States citizen

### **Upward Bound Scholarship**

Donor: The Foundation at MCCC  
Eligibility: Graduate of Monroe High Upward Bound program or Airport High School Upward Bound program

### **X-Tech Scholarship**

Donor: Various Donors  
Eligibility: X-Tech Program participant; pursuing a degree in an existing program in the Applied Science and Engineering Technology Division with preference given to students pursuing a degree in welding technology, mechanical design technology, construction management, product and process technology, or nuclear engineering technology; enrolled in a minimum of six (6) credit hours per semester during the scholarship year; graduating senior of Monroe County, Michigan 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

## **Scholarships Provided by MCCC**

### **Board of Trustees Scholarship**

Eligibility: Monroe County, Michigan high school graduate or graduate of Milan High School who resides in Monroe County, Michigan upon recommendation of their respective facilities, additionally one scholarship for a graduate of the Monroe-Mason Consortium Alternative Education Program and one scholarship for all other Monroe County, Michigan adult education high school completion programs, must be enrolled for twelve (12) or more credit hours per semester

Stipend: Tuition and fees  
Number: Two for each Monroe County, Michigan high school, one for Milan High School, one for graduate of Monroe-Mason Consortium Alternative Education Program and one for all other Monroe County, Michigan adult education high school completion programs, renewable

Contact: High school counseling office

### **Presidential Scholarship**

Eligibility: Monroe County, Michigan resident, cumulative high school GPA of 3.5 or better, leadership qualities, demonstrated participation in school and/or community affairs, must be enrolled for twelve (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 twelve (12) or more credit hours in designated program per semester, GPA 2.2, letters of recommendation from high school teacher or counselor

Stipend: Tuition and fees  
Number: Up to 16 per year, renewable  
Contact: High school counseling office

### **Performing Music Scholarship**

Eligibility: Monroe County, Michigan resident, full-time student enrolled in a minimum of twelve (12) credit hours per semester, 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, Michigan resident, demonstrated financial need, minimum high school or college GPA 2.5

Stipend: Tuition, fees, books and supplies  
Number: One annually  
Contact: Financial Aid Office

### **Senior Citizen Scholarship**

Eligibility: Monroe County, Michigan resident, age 60 or over

Stipend: 50 percent of tuition waiver for credit or non-credit classes

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: \$1,000 for tuition and fees  
Number: Variable  
Contact: Financial Aid Office

# GRADING SYSTEM

## 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

Grade points are assigned as indicated.

Letter Grade	Grade Points Per Credit Hour
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
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, A-, B+, B, B-, C+, C)
*F	Fail (C-, 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

Actual grading practices regarding letter grades awarded may differ among faculty/divisions.

## 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.

## 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	
		Honor points - 35
		Hours attempted - 17
		= 2.058 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.

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## **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

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## **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

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## GENERAL REQUIREMENTS FOR GRADUATION

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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, 15 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

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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

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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

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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 associate degree. To earn an associate degree from MCCC, students must demonstrate competency in the following areas.

# MCCC GENERAL EDUCATION COURSE SATISFIERS

<p><b>C1</b>    <b>GE Natural Sciences Competency</b></p> <p>BIOL 151    Biological Sciences I            BIOL 156    Introduction to Environmental Science            CHEM 150    Fundamental Principles of Chemistry            CHEM 151    General College Chemistry I            ESC 151    Earth Science            PHY 101    Technical Physics            PHY 151    General Physics            PHY 251    Engineering Physics I            PHYSC 151    Physical Science</p>	<p><b>C2</b>    <b>GE Mathematics Competency</b></p> <p>MATH 124    Technical Mathematics II            MATH 126    Mathematics for Business            MATH 151    Intermediate Algebra                      or higher                      or competency</p>
<p><b>C3</b>    <b>GE Writing Competency</b></p> <p>ENGL 151    English Composition I</p>	<p><b>C4</b>    <b>GE Computer Literacy Competency</b></p> <p>BMGT 160    Managing in the Digital Enterprise            CIS 130    Introduction to Computer Information Systems            MDTC 160    Mechanical Drafting and CAD I                      or competency</p>
<p><b>C5</b>    <b>GE Human Experience Competency</b></p> <p>ART 280    Art History: Prehistoric            ART 281    Art History: Renaissance to Baroque            ART 282    Art History: Neo-Classical/Early Modern            DANCE 251    History of Dance            ENGL 240    African American Literature            ENGL 251    Introduction to Poetry and Drama            ENGL 252    Introduction to Short Story and Novel            ENGL 253    American Literature            ENGL 255    Women's Writing            ENGL 256    Children's Literature            ENGL 260    Introduction to Shakespeare            ENGL 266    Non-Western Literature            ENGL 267    British Literature:                      Anglo Saxon to 18<sup>th</sup> Century            ENGL 268    British Literature: Romantic to Modern            FREN 151    Elementary French I            HUMAN 151    Introduction to Humanities            HUMAN 250    Visual Media Literacy            HUMAN 256    Film &amp; American Society:                      1920s to Early 1960s            HUMAN 257    Film &amp; American Society:                      1960s to Present            MUSIC 150    Agora Chorale            MUSIC 265    History and Appreciation of Jazz            MUSIC 266    History of Rock Music            MUSIC 268    Popular Music in America            PHIL 152    Introduction to Western Philosophy            PHIL 253    Introduction to the                      Philosophy of Religion            THEA 151    Introduction to Theater            THEA 251    Fundamentals of Acting</p>	<p><b>C6</b>    <b>GE Social Systems Competency</b></p> <p>ANTHR 152    Introduction to Cultural Anthropology            COMM 151    Introduction to Mass Media            HIST 151    Western Civilization to 1650            HIST 152    Western Civilization: 1650 to Present            HIST 158    World History to 1500            HIST 159    World History: 1500 to Present            HIST 173    20<sup>th</sup> Century History and Civilization            POLSC 151    Introduction to Political Science            PSYCH 151    General Psychology            SOC 151    Principles of Sociology            SOC 153    Women in Society            SOC 161    Death, Loss and Grief</p> <p><b>*See website for the most current list of course satisfiers.</b></p>



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## General Education Goal: Critical Thinking

### C1 GE Natural Science Competency

Understand and apply the elements of scientific inquiry and scientific principles in a natural science college laboratory course setting

**Learning Objectives:** In order to achieve the learning outcome, the student will be able to:

1. Observe and describe natural phenomena and formulate hypotheses.
2. Plan and implement scientific experiments to test hypotheses.
3. Utilize scientific laboratory skills for data collection within a college laboratory setting.
4. Evaluate experimental data and propose solutions based on this data.
5. Evaluate the proposed implications of a solution.

#### Courses Meeting GE Competency (Take one.)

BIOL 151	Biological Sciences I
BIOL 156	Introduction to Environmental Science
CHEM 150	Fundamental Principles of Chemistry
CHEM 151	General College Chemistry I
ESC 151	Earth Science
PHY 101	Technical Physics
PHY 151	General Physics
PHY 251	Engineering Physics I
PHYSC 151	Physical Science

### C2 GE Mathematics Competency

Use mathematics to effectively model and evaluate quantitative relationships

**Learning Objectives:** In order to achieve the learning outcome, the student will be able to:

1. Use arithmetic and geometric concepts and representations to solve, estimate, calculate and check answers to problems to determine the reasonableness of results.
2. Utilize linear, exponential and other nonlinear models to evaluate the nature of relationships in real world problems.
3. Organize, analyze and interpret various representations of data, including functions, graphs and tables.
4. Utilize a variety of problem solving strategies to solve problems and communicate findings using appropriate mathematical language and symbolism.

#### Courses Meeting GE Competency (Take one course below or earn a passing score on the competency exam.)

MATH 124	Technical Mathematics II
MATH 126	Mathematics for Business
MATH 151	Intermediate Algebra
	or higher

## General Education Goal: Communication

### C3 GE Writing Competency

Write effectively.

**Learning Objectives:** In order to achieve the learning outcome, the student will be able to:

1. Write clear and concise sentences using Standard American English with appropriate syntax and mechanics.
2. Write paragraphs that demonstrate unity and coherence with appropriate details and examples that support the topic and thesis.
3. Develop written compositions using organizational patterns or rhetorical modes appropriate for the desired audience and purpose.
4. Combine the composition skills of prewriting, revising and editing to complete a final, college-level draft.

#### Courses Meeting GE Competency (Take one.)

ENGL 151	English Composition I
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### C4 GE Computer Literacy Competency

Understand and apply current and appropriate technology tools and resources.

**Learning Objectives:** In order to achieve the learning outcome, the student will be able to:

1. Demonstrate an understanding of the functionality and terminology associated with current information technology tools and resources.
2. Demonstrate the ability to conduct online research to locate and retrieve relevant information from credible sources.
3. Demonstrates the ability to use document processing software.
4. Demonstrate the ability to use presentation software to communicate information and ideas.
5. Demonstrate the ability to appropriately and responsibly utilize current communication technology methods.

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**Courses Meeting GE Competency**  
**(Take one course below or earn a passing score on the competency exam.)**

BMGT 160	Managing in the Digital Enterprise
CIS 130	Introduction to Computer Information Systems
MDTC 160	Mechanical Drafting and CAD I

**General Education Goal:**  
**Social and Cultural Awareness**

**C5 GE Human Experience Competency**

Recognize expressions of the human experience.

**Learning Objectives:** In order to achieve the learning outcome, the student will be able to:

1. Analyze key events (including historical, social, economic and/or personal) that influenced a particular form of creative human expression.
2. Analyze key events (including historical, social, economic and/or personal) that demonstrate how a particular form of creative human expression influenced other works.
3. Evaluate a particular form of creative human expression in the context of the appropriate academic discipline.
4. Create or reconstruct an expression of the human experience and share with others (if the class is performance based).

**Courses Meeting GE Competency (take one)**

ART 280	Art History: Prehistoric
ART 281	Art History: Renaissance to Baroque
ART 282	Art History: Neo-Classical/Early Modern
DANCE 251	History of Dance
ENGL 240	African American Literature
ENGL 251	Introduction to Poetry and Drama
ENGL 252	Introduction to Short Story and Novel
ENGL 253	American Literature
ENGL 255	Women's Writing
ENGL 256	Children's Literature
ENGL 260	Introduction to Shakespeare
ENGL 266	Non-Western Literature
ENGL 267	British Literature: Anglo Saxon to 18 <sup>th</sup> Century
ENGL 268	British Literature: Romantic to Modern
FREN 151	Elementary French I
HUMAN 151	Introduction to Humanities
HUMAN 250	Visual Media Literacy
HUMAN 256	Film & American Society: 1920s to Early 1960s
HUMAN 257	Film & American Society: 1960s to Present

MUSIC 150	Agora Chorale
MUSIC 265	History and Appreciation of Jazz
MUSIC 266	History of Rock Music
MUSIC 268	Popular Music in America
PHIL 152	Introduction to Western Philosophy
PHIL 253	Introduction to the Philosophy of Religion
THEA 151	Introduction to Theater
THEA 251	Fundamentals of Acting

**C6 GE Social Systems Competency**

Understanding the processes that influence human values, thoughts, social systems, and behavior

**Learning Objectives:** In order to achieve the learning outcome, the student will be able to:

1. Recognize the processes by which individuals acquire social knowledge attitudes and beliefs.
2. Recognize major influences on social behavior and social systems.
3. Demonstrate knowledge of human diversity including characteristics of a culture outside the student's own.
4. Demonstrate knowledge of at least one systematic method for obtaining knowledge about social influences according to a recognized social science discipline.

**Courses Meeting GE Competency (Take one.)**

ANTHR 152	Introduction to Cultural Anthropology
COMM 151	Introduction to Mass Media
HIST 151	Western Civilization to 1650
HIST 152	Western Civilization: 1650 to Present
HIST 158	World History to 1500
HIST 159	World History: 1500 to Present
HIST 173	20 <sup>th</sup> Century History and Civilization
POLSC 151	Introduction to Political Science
PSYCH 151	General Psychology
SOC 151	Principles of Sociology
SOC 153	Women in Society
SOC 161	Death, Loss and Grief

**\*See website for an up-to-date list of courses that meet general education competencies.**

**Important Notes Regarding General Education**

Courses required in the curriculum for particular programs may also fulfill General Education requirements. Students should carefully compare course requirements for their programs with General Education requirements to ensure they enroll in the most efficient manner possible.

Particular programs may recommend students take specific courses meeting General Education requirements for the purpose of transfer. Students should check the transfer requirements for the college or university they plan to attend to ensure they enroll for the appropriate required courses.

Students meeting General Education requirements, by earning passing scores on the competency exam, may need to make up credit hours for degree requirements. A student must earn a minimum of 60 semester hours of credit, 15 of which must be earned at MCCC.

Transfer courses not having an equivalency at MCCC may be evaluated for competency by a faculty content expert and approved by the dean of that division. This process is initiated by the transfer student and will be done on a case-by-case basis.

## 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:

**General Education** (See General Education Requirements for an approved list of courses.)

#### Goal: Critical Thinking

C1

Competency 1: *Understand and apply the elements of scientific inquiry and scientific principles in a natural science college laboratory course setting.*

C2

Competency 2: *Use mathematics to effectively model and evaluate quantitative relationships.*

#### Goal: Communication

C3

Competency 3: *Write effectively.*

C4

Competency 4: *Understand and apply current and appropriate technology tools and resources.*

#### Goal: Social and Cultural Awareness

C5

Competency 5: *Recognize expressions of the human experience.*

C6

Competency 6: *Understand the processes that influence human values, thoughts, social systems and behavior.*

## Additional Requirements

### Written Communication – 3 Semester Hours

In addition to the course taken to meet General Education Competency (C3), the student must successfully complete one additional writing course selected from English 102, 152, 155 or 254.

### Social Science – 9 Semester Hours

In addition to courses taken to meet General Education Competencies (C5) and (C6), the student must successfully complete nine additional semester hours selected from two different subject areas listed below:

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

### Humanities – 6 Semester Hours

In addition to courses taken to meet General Education Competencies (C5) and (C6), the student must successfully complete six additional semester hours selected from two different subject areas listed below:

Art, communications, English (excluding English courses taken to meet the Writing Effectively competency and the written communications requirement), 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.

Students can earn a Global Studies degree designation at MCCC. See Page 43 for details.

## 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:

**General Education** (See General Education Requirements for an approved list of courses.)

### Goal: Critical Thinking

**C1**

Competency 1: *Understand and apply the elements of scientific inquiry and scientific principles in a natural science college laboratory course setting.*

**C2**

Competency 2: *Use mathematics to effectively model and evaluate quantitative relationships.*

### Goal: Communication

**C3**

Competency 3: *Write effectively.*

**C4**

Competency 4: *Understand and apply current and appropriate technology tools and resources.*

### Goal: Social and Cultural Awareness

**C5**

Competency 5: *Recognize expressions of the human experience.*

**C6**

Competency 6: *Understand the processes that influence human values, thoughts, social systems and behavior.*

## Additional Requirements

### Written Communication – 3 Semester Hours

In addition to the General Education Competency (C3), the student must successfully complete one additional writing course selected from English 102, 152, 155 or 254.

### Social Science – 6 Semester Hours

In addition the courses to meet the General Education Competencies (C5) and (C6), the student must successfully complete an additional six semester hours selected from the subject areas listed below:

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

Students can earn a Global Studies degree designation at MCCC. See Page 43 for details.

## Requirements for the Associate of Applied Science Degree (AAS)

To earn the associate of applied science degree students must successfully complete courses from the following areas.

**General Education** (See General Education Requirements for an approved list of courses.)

### Goal: Critical Thinking

**C1**

Competency 1: *Understand and apply the elements of scientific inquiry and scientific principles in a natural science college laboratory course setting.*

**C2**

Competency 2: *Use mathematics to effectively model and evaluate quantitative relationships.*

### Goal: Communication

**C3**

Competency 3: *Write effectively.*

**C4**

Competency 4: *Understand and apply current and appropriate technology tools and resources.*

### Goal: Social and Cultural Awareness

**C5**

Competency 5: *Recognize expressions of the human experience.*

**C6**

Competency 6: *Understand the processes that influence human values, thoughts social systems, and behavior.*

## Additional Requirements

### Technical and Specialty Areas

Thirty-two or more semester hours as outlined in specific AAS degree programs or specialty areas. 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.

Students can earn a Global Studies degree designation at MCCC. See Page 43 for details.

## Requirements for the Associate of Fine Arts Degree (AFA)

To earn the associate of fine arts degree students must successfully complete courses from the following areas.

**General Education** (See General Education Requirements for an approved list of courses.)

### Goal: Critical Thinking

**C1**

Competency 1: *Understand and apply the elements of scientific inquiry and scientific principles in a natural science college laboratory course setting.*

**C2**

Competency 2: *Use mathematics to effectively model and evaluate quantitative relationships.*

### Goal: Communication

**C3**

Competency 3: *Write effectively.*

**C4**

Competency 4: *Understand and apply current and appropriate technology tools and resources.*

### Goal: Social and Cultural Awareness

**C5**

Competency 5: *Recognize expressions of the human experience.*

**C6**

Competency 6: *Understand the processes that influence human values, thoughts, social systems and behavior.*

## Additional Requirements

### Social Science – 3 Semester Hours

In addition the courses to meet the General Education Competencies (C5) and (C6), the student must successfully complete an additional three semester hours selected from the subject areas listed below:

Anthropology, economics, geography, history, political science, psychology, social work, sociology or criminal justice.

### Humanities – 3 Semester Hours

In addition the courses to meet the General Education Competencies (C5) and (C6), the student must successfully complete an additional three semester hours selected from the subject areas listed below:

Art, communications, English (except English 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.

Students can earn a Global Studies degree designation at MCCC. See below for details.

## GLOBAL STUDIES DEGREE DESIGNATION

The Global Studies Degree Designation is a campus-wide opportunity for students to gain knowledge about global issues and multicultural influences while earning any MCCC degree. The Global Studies Degree Designation is earned while pursuing the degree of choice.

Most of the requirements of the Global Studies Degree Designation can be met while the student pursues their chosen degree requirements as stated in their chosen degree program or transfer guidelines. Students accomplish this by selecting particular courses to meet their graduation, departmental and distribution course requirements, in addition to selecting particular elective courses. Courses that meet these requirements are designated in the MCCC College Catalog as “Global Studies Course.”

To complete the requirements for the Global Studies Degree Designation, students must also take a Global Studies Orientation Course (one credit); meet with a Global Studies advisor; participate in at least three extra-curricular global activities; and compose a global/international résumé.

### Global Studies Curriculum Outcomes

Students who complete the Global Studies Degree Designation will be able to

- Articulate international trends and issues
- Appreciate and understand international cultures outside their own
- Communicate effectively with individuals from international cultures outside their own
- Explore how globalization affects their individual field of study
- Attain awareness of how global growth will impact their world

### To Get Started

To get started in earning a Global Studies Degree Designation, enroll in the Global Studies Orientation Course. Your Global Studies advisor will be assigned when you begin the class. You will then plan your program in conjunction with your departmental advisor.

See the college’s website for additional information.

# PROBATION AND DISMISSAL

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## 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 oftentimes 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.

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## 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.

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## 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\* 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.
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\* 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 within five\* 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.



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## **ANTI-BULLYING POLICY**

It is the policy of the college that bullying behavior by or against any member of the college community, whether student, employee, faculty or guest, will not be tolerated. Violation of the anti-bullying policy can result in discipline up to and including expulsion for students, and up to and including termination for employees.

While each circumstance is different, bullying is inappropriate, unwelcome behavior (which can be through verbal or other communication or physical contact) that targets an individual or group because of a characteristic of the individual or group, whether protected by anti-discrimination laws or not. Prohibited bullying may be the result of repeated behavior or, if sufficiently severe, a single incident; can be direct or indirect, and can be effectuated through verbal, physical, electronic or other means.

Conduct constitutes prohibited bullying when a reasonable person in the circumstances would find the conduct sufficiently severe, based on its nature and frequency, to create an environment which is hostile or intimidating and which unreasonably interferes with the work, educational or college opportunity, or is intended to cause or is reasonably foreseeable to cause physical, emotional or psychological harm.

Prohibited bullying behavior can take a variety of forms, and may include, but is not limited, to the following examples:

- Verbal abuse, such as the use of derogatory remarks, insults, and epithets; slandering, ridiculing or maligning a person or his/her family; persistent name calling; using an individual or group as the butt of jokes;
- Verbal or physical conduct of a threatening, intimidating or humiliating nature;
- Sabotaging or undermining an individual or group's work performance or education experience;
- Inappropriate physical contact, such as pushing; shoving, kicking, poking, tripping, assault or the threat of such conduct, or damage to a person's work area or property; and
- Inappropriate electronic communication, such as the use of electronic mail, text messaging, voice mail, pagers, websites or online chat rooms in a threatening, intimidating or humiliating manner.

Bullying behavior violates the college's Code of Ethics (see Policy 6.46) and its expectation that employees will be treated with respect and courtesy; the Student Code of Conduct (see Procedure 3.10) and its expectation that students will respect the rights of others and help create a positive environment where diversity of people and ideas is valued and tolerated, and may also violate the Statement on Illegal Discrimination and Sexual Harassment (see Policy 1.65).

Any individual that feels that he/she has been the victim of prohibited bullying, or who witnesses any incident of bullying, should promptly report it. The college will investigate any allegation of bullying. Complaints by employees should initially be reported to the employee's immediate supervisor, unless the supervisor is the person about whom the complaint is being made, in which case, the complainant should be made to that person's supervisor, unless that person is the individual about whom the complaint is being made, in which case the complaint should be made to that person's supervisor. The complaint may also be made to the director of human resources at (734) 384-4245. A student may bring forward a complaint to the division dean or to the vice president of student and information services at (734) 384-4224. Administrative offices are located in the Audrey M. Warrick Student Services/Administration Building.

An individual complaining of bullying may be required to make the complaint in writing, and anonymous charges will not be the basis of any administrative action. In investigating complaints of bullying, attempts will be made to respect the privacy of all individuals involved, but due to the nature of fact-finding and investigation that may be needed, confidentiality cannot be guaranteed.

No individual will be disciplined or retaliated against for making a good faith complaint regarding bullying.

If inappropriate bullying behavior is found to have occurred, prompt remedial action will be taken. Any employee found to have engaged in prohibited bullying or retaliatory behavior is subject to immediate discipline up to and including termination, and any student found to have engaged in prohibited bullying or retaliatory behavior is subject to immediate discipline, up to and including expulsion.

# ACADEMIC DISHONESTY

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## 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.

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## 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**

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# ACADEMIC PROGRAMS

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## MACRAO AGREEMENT

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Students who started prior to Fall 2014 may complete the MACRAO Agreement until the end of the Summer 2019. See a prior year catalog for MACRAO Agreement requirements.

### **New Michigan Transfer Agreement** Beginning Fall 2014

In 2012 the Michigan legislature included language in the community college appropriations bill calling for improvement in the transferability of college courses between Michigan colleges and universities by revising the MACRAO Agreement. The Michigan Transfer Agreement has been created in an effort to increase the transferability of lower-level general education courses across all Michigan's public institutions. To fulfill the Michigan Transfer Agreement, students must successfully complete at least 30 credits, with at least a 2.0 in each course. These credits should be met according to the following distribution:

- 1 course in English composition
- A second course in English composition or 1 course in communications
- 1 course in one of the following mathematics pathways: College algebra or statistics or quantitative reasoning or an upper level course in one of these subject areas
- 2 courses in social science (from two disciplines)
- 2 courses in humanities and fine arts (from two disciplines and excluding studio and performance classes)
- 2 courses in natural sciences including one with laboratory experience (from two disciplines)

If these courses do not add up to 30 credit hours, the student must take an additional course from one of these groups. One of the above courses must be completed at Monroe County Community College.

Visit the college's website for a current list of courses that will meet the MTA requirements.

## OCCUPATIONAL CERTIFICATES AND DEGREE PROGRAMS OF STUDY

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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.

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 Programs of Study section on the following page is a list of career/occupational degree and certificate programs available.

Program	Degree	Certif.
Accounting	•	•
Administrative Office Assistant		•
Administrative Office Specialist		•
Administrative Professional	•	
Application Software Specialist	•	•
Automotive Engineering Technology	•	•
Business Management	•	
Computer Information Systems:		
Accounting/CIS	•	
App Development	•	•
Computer Science	•	
Information Assurance and Security	•	
PC Support Technician	•	•
System Administration Specialist	•	•
Construction Management Technology	•	•
Residential and Light Commercial Construction		•
Heavy and Industrial Construction		•
Criminal Justice/Law Enforcement	•	•
Culinary Skills and Management	•	•
Early Childhood Education	•	•
Electronics and Computer Technology	•	•
Fine Arts		•
General Technology	•	•
Graphic Design	•	•
Digital Media		•
Illustration		•
Web Design		•
Industrial Electricity/Electronic Technology	•	
Mechanical Design Technology	•	•
Mechanical Engineering Technology	•	
Metrology Technology	•	•
Non-Destructive Testing		•
Nuclear Engineering Technology	•	•
Nursing, Practical		•
Nursing, Registered	•	
Phlebotomy Technician		•
Product and Process Technology	•	•
Quality Systems Technology	•	•
Basic Quality Technician		•
Renewable Energy		•
Solar Energy		•
Wind Energy		•
Respiratory Therapy	•	
Teacher Paraprofessional	•	
Welding Technology	•	
Basic Welding		•
Advanced Welding		•

## 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. 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 website.

### 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 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

## 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.

institutions. Students interested in transferring credits earned at MCCC should consult with the institution to which they 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:

### **Criminal Justice: Law Enforcement Option**

Qualified students may enroll in a state-approved police academy through Schoolcraft College or other accredited colleges, 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 website at [www.monroeccc.edu/academicadv-transferindex.htm](http://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

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## **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 courses offered by the Humanities/Social Science Division and Science/Mathematics Division may 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 Applied Science and Engineering 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 website.

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)

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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.

## **HUMANITIES/SOCIAL SCIENCE PROGRAMS**

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In addition to fulfilling the humanities and social science general education distribution requirements at four-year colleges and universities, humanities and social science courses may 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**

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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**

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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**

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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**

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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.

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

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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.

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## **COMPUTER SCIENCE**

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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 computer information systems. 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 bachelor of business administration in computer science. Students should seek assistance from a counselor or an academic advisor in the CIS program.

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## **APPLIED SCIENCE AND ENGINEERING TECHNOLOGY PROGRAMS**

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Although applied science and engineering 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, Michigan Technological University and Siena Heights University allow direct transfer of several of MCCC's two-year applied science and engineering 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.

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## **APPRENTICESHIP TRAINING**

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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.

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## **STUDY ABROAD**

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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.

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# ACCOUNTING

Business Division

Web Site: <http://www.monroecc.edu/business/busdiv.htm>

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 preparation for careers in business accounting departments and accounting firms.

## Career Opportunities

Accounting remains one of the more sought after disciplines in the job market. According to Randstad USA, the median salary for a staff accountant position can start at \$55,000, and the demand for accountants is on the rise. Please see the following link for more info: <https://www.randstadusa.com/workforce360/workforce-insights/2014-hot-jobs-finance-accounting/163/>.

## Transfer Information

An associate degree in accounting from MCCC offers easy transfer to many of the four-year programs in Michigan and surrounding states, such as the University of Michigan, Wayne State University, Eastern Michigan University, Davenport University, Walsh College, University of Toledo, Siena Heights University and more.

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>.

## Additional Program Highlights

- All MCCC accounting courses are available in an online format, allowing for convenient access.
- Completing the first two years of a four-year accounting program at MCCC and then transferring the credits can result in savings of up to 75 percent of the cost of completing the entire program at a private institution.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

## Required General Education:

**Credits  
19-20**

- C1 Natural Science Competency . . . . . 4
- C2 Mathematics Competency . . . . . 3 or 4
- C3 ENGL 151 (English Composition I) . . . . . 3
- C4 Computer Literacy Competency . . . . . 3
- C5 Expressions of the Human Experience Competency . . . 3
- C6 Social Systems Competency . . . . . 3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

<b>Required Core Courses</b>	<b>Credits</b>
<b>1st Semester</b>	
ACCTG 151 (Accounting Principles) . . . . .	4
BUSAD 151 (Introduction to Business) . . . . .	4
<b>2nd Semester</b>	
ACCTG 152 (Accounting Principles) . . . . .	4
ACCTG 220 (Payroll Accounting) . . . . .	3
CIS 109 (Spreadsheet Software) . . . . .	3
<b>3rd Semester</b>	
ACCTG 201 (Microcomputer Accounting I) . . . . .	3
ACCTG 251 (Intermediate Accounting I) . . . . .	4
ACCTG 255 (Introduction to Taxation) . . . . .	3
<b>4th Semester</b>	
ACCTG 205 (Microcomputer Accounting II) . . . . .	3
ACCTG 252 (Cost Accounting) . . . . .	4
ACCTG 254 (Intermediate Accounting II) . . . . .	4

<b>Suggested General Electives</b>	<b>3</b>
<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) . . . . .	C6
SPCH 151 (Communication Fundamentals) . . . . .	3

**Total Degree Requirements**                      **61-62 credits**  
**Total Degree Cost**                                      **62 minimum billable contact hours**

## Certificate Program: Accounting

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

<b>Required Core Courses</b>	<b>Credits</b>
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**

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
 Gainful employment information for the accounting certificate is available on our website at [http://www.monroecc.edu/consumer/gainfulemp/ACCT\\_CERT/Gedt.html](http://www.monroecc.edu/consumer/gainfulemp/ACCT_CERT/Gedt.html)



# ADMINISTRATIVE PROFESSIONAL

Business Division

Web Site: <http://www.monroecc.edu/business/busdiv.htm>

The associate of applied science degree with specialization as an administrative professional is designed to provide comprehensive preparation for office employment. The curriculum 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.

## Career Opportunities

The administrative assistant job market is changing rapidly in today's organizations. Employment of secretaries and administrative assistants is projected to grow 12 percent from 2012 to 2022. Those with a combination of work experience and computer skills will have the best employment prospects.

## Transfer Information

For information regarding transfer opportunities for this or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>.

**Credits**  
**40**

## Required Core Courses

### 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
WPR 102 (Word Processing I) . . . . .	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 112 (Database Software) . . . . .	3
CIS 123 (PowerPoint Presentation Software) . . . . .	3
CIS 188 (InDesign Desktop Publishing) . . . . .	3

### 4th Semester

ACCTG 151 (Accounting Principles) . . . . .	4
ADMN 201 (Integrated Office Software) . . . . .	4

## Suggested General Electives

*(to earn a minimum of 60 credits)*

ACCTG 201 (Microcomputer Accounting I) . . . . .	3
BMGT 160 (Managing in the Digital Enterprise) . . . . .	3
BMGT 202 (Business Communication in a Digital Enterprise) . . . . .	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

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

	<b>Credits</b>
<b>Required General Education Courses</b>	<b>19-20</b>
C1 Natural Science Competency . . . . .	4
C2 Mathematics Competency . . . . .	3 or 4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 Computer Literacy Competency . . . . .	3
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

**Total Degree Requirements: 60 credits**

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



# APPLICATION SOFTWARE SPECIALIST

Business Division

Web Site: <http://www.monroecc.edu/business/busdiv.htm>

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

## Career Opportunities

Graduates of this program should be prepared for positions as administrative professionals, office and administrative support specialists, entry level computer technicians or data entry specialists. They should also be prepared to be successful in taking Microsoft Office Specialist (MOS) certification examinations.

## Transfer Information

For information regarding transfer opportunities for this or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

	Credits
<b>Required General Education Courses</b>	<b>19-20</b>
C1 Natural Science Competency . . . . .	4
C2 Mathematics Competency . . . . .	3 or 4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

	Credits
<b>Required Core Courses</b>	<b>24</b>
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 Required CIS Electives: 9**

**General Electives:**  
(as required to complete 60 hours)

**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
<b>Required Courses</b>	
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**

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
Gainful employment information for the application software specialist certificate is available on our website at [http://www.monroecc.edu/consumer/gainfulemp/ASSP\\_CERT/Gedt.html](http://www.monroecc.edu/consumer/gainfulemp/ASSP_CERT/Gedt.html).

# AUTOMOTIVE ENGINEERING TECHNOLOGY

Applied Science and Engineering Technology Division  
**Web Site:** <http://www.monroecc.edu/aset/default.htm>

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.

## Career Opportunities

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

**Note:** The following codes identify courses that satisfy MCCC's General Education Requirements:

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

	Credits
<b>Required General Education Courses</b>	<b>21</b>
C1 PHY 101 (Technical Physics) or PHY 151 (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I) . . . . .	4
C2 MATH 124* (Technical Mathematics II) or competency . . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
C5 Expressions of the Human Experience Competency . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

## Credits 34

### Required Core Courses

<b>1st Semester</b>	
MATH 119* (Elementary Technical Mathematics) . . . . .	2
ELEC 125 (Fundamentals of Electricity and Electronics) . . .	3
AUTO 101 (Internal Combustion Engines) . . . . .	4
<b>2nd Semester</b>	
AUTO 102 (Automotive Electricity and Electronics) . . . . .	4
AUTO 103 (Fuel and Emission Control Systems) . . . . .	4
MATH 124* (Technical Mathematics II) . . . . .	C2
<b>Winter or Spring Semester</b>	
AUTO 201 (Automotive Digital Electronics) . . . . .	3
MDTC 160 (Mechanical Drafting and CAD I) . . . . .	C4
<b>3rd Semester</b>	
AUTO 104 (Automotive Ignition Systems) . . . . .	3
AUTO 107 (Automotive Chassis Units) . . . . .	4
<b>4th Semester</b>	
AUTO 105 (Automotive Transmissions) . . . . .	3
AUTO 114 (Automotive Instrumentation and Testing) . . . . .	4

## Credits 6-7

### Additional Technology Electives

*(All recommended for better employment opportunities.)*

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**

*\*MATH 119 (Elementary Technical Mathematics) and 124 (Technical Mathematics II) are required 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.*



# BUSINESS MANAGEMENT

Business Division

Web Site: <http://www.monroecc.edu/business/busdiv.htm>

The associate of applied science degree in business management is designed to provide the student with a general background in business and an awareness of the organizational and environmental changes that continually challenge management.

## Career Opportunities

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 resources managers
- General business managers
- Purchasing agents

## Transfer Information

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. Please see a counselor in the Office of Admissions and Guidance for details.

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

	<b>Credits</b>
<b>Required General Education:</b>	<b>19-20</b>
C1 Natural Science Competency . . . . .	4
C2 Mathematics Competency . . . . .	3 or 4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 BMGT 160 (Managing in the Digital Enterprise) . . . . .	3
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

**Credits**  
**27**

## Required Core Courses

### 1st Semester

BUSAD 151 (Introduction to Business) . . . . .	4
ECON 251 (Principles of Macroeconomics) . . . . .	3

### 2nd Semester

BMGT 201 (Principles of Management) . . . . .	3
BMGT 160 (Managing in the Digital Enterprise) . . . . .	C4
ACCTG 151 (Accounting Principles) . . . . .	4

### 3rd Semester

ACCTG 152 (Accounting Principles) . . . . .	4
MCOM 201 (Principles of Marketing) . . . . .	3

### 4th Semester

BMGT 202 (Business Communication in a Digital Age) . . . . .	3
ECON 252 (Principles of Microeconomics) . . . . .	3

## Required Electives Options

**9**

*(to complete degree requirements)*

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

*(as required to complete 60 hours)*

**Total Degree Requirements**

**60-61 credits**

**Total Degree Cost**

**61 minimum billable contact hours**

# CERTIFIED NURSE AIDE

Health Sciences Division

Web Site: [http://www.monroeccc.edu/health\\_sciences/cna.htm](http://www.monroeccc.edu/health_sciences/cna.htm)

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 (CPR).

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 long term care and 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.

## Career Opportunities

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. The average CNA salary in Michigan is \$25,000. Employment opportunities are favorable and exist in long-term care settings, acute care hospitals, in-home healthcare organizations and community settings.

## Technical Standards:

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 is to notify prospective and current nursing students of these technical standards to enable them to make an informed decision regarding enrollment in the certified nurse aide course 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 CNA 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/cna.htm](http://www.monroeccc.edu/health_sciences/cna.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.

- **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.

## 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.

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 one injection 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.
- 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, they will be dismissed from the course.

Credits

### Required Course:

CNA 100\* (Certified Nurse Aide) . . . . . 5

**Total course requirements:**

**5 credits\*\***

**Total costs:**

**8 billable contact hours**

*\*Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests. Corequisite: None*

*\*\*Hours required: Class - 40; Lab - 44; Clinical - 48*

# COMPUTER INFORMATION SYSTEMS ACCOUNTING/CIS

Business Division

Web Site: <http://www.monroecc.edu/business/busdiv.htm>

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.

## Career Opportunities

Section 404 of the Sarbanes-Oxley Act of 2002, which requires publicly listed companies to establish and maintain internal control standards, has placed the combined skill set in accounting and systems in high demand for over a decade. This associate of applied science degree will help to provide the students with the entry level skills for a career in this combined field.

## Transfer Information

An associate degree in accounting/CIS from MCCC offers easy transfer to many of the four-year programs in Michigan and surrounding states, such as the University of Michigan, Wayne State University, Davenport University, Walsh College, University of Toledo, Siena Heights University and more. Completing the first two years at MCCC and then transferring the credits to a four-year program can result in savings of up to 75 percent of the cost compared to its equivalent at a private four-year college.

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>.

## All Classes Available Online

All MCCC accounting classes are available online, allowing for convenient access.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

## Credits

### Required General Education:

**19-20**

C1	Natural Science Competency . . . . .	4
C2	Mathematics Competency . . . . .	3 or 4
C3	ENGL 151 (English Composition I) . . . . .	3
C4	CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5	Expressions of the Human Experience Competency . . . . .	3
C6	Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

## Credits

### Required Courses

**47**

#### 1st Semester

ACCTG 151 (Accounting Principles) . . . . .	4
CIS 109 (Spreadsheet Software) . . . . .	3
CIS 130 (Introduction to Computer Information Systems) . . . . .	C4
CIS 132 (Computer Programming Concepts) . . . . .	3

#### 2nd Semester

ACCTG 152 (Accounting Principles) . . . . .	4
CIS 112 (Database Software) . . . . .	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

**66-67 credits**

### Total Degree Cost

**67 minimum billable contact hours**

# COMPUTER INFORMATION SYSTEMS APP DEVELOPMENT

Business Division

Web Site: <http://www.monroeccc.edu/business/busdiv.htm>

The associate of applied science degree with specialization in app development is designed to train students in Web and mobile app development.

## Career Opportunities

- Entry-level Web and mobile programming
- Entry-level Web database programming

## Transfer Information

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroeccc.edu/academicadv-transfer/transindex.htm>

*Note: The following codes identify courses that satisfy MCCC's General Education Requirements:*

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

## Required General Education:

**Credits  
19-20**

C1	Natural Science Competency	4
C2	Mathematics Competency	3 or 4
C3	ENGL 151 (English Composition I)	3
C4	CIS 130 (Introduction to Computer Information Systems)	3
C5	Expressions of the Human Experience Competency	3
C6	Social Systems Competency	3

See the General Education Requirements on Page 38 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

## Required Core Courses

**Credits**

**29**

CIS 112 (Database Software)	3
CIS 130 (Introduction to Computer Information Systems)	C4
CIS 150 (Computer Science I)	4
CIS 153 (Desktop App Programming)	3
CIS 155 (Database Management Systems)	3
CIS 175 (Android Programming)	3
CIS 177 (Markup Languages)	4
CIS 179 (Web Script Programming)	3
CIS 272 (Database Web Development)	3

## Additional Required CIS Courses

**3**

## General Elective Courses

*(As required to complete 60 hours)*

## Total Degree Requirements

**60 credits**

## Total Degree Cost

**61 minimum billable contact hours**

## Certificate Program: App Development

This certificate program focuses on Web and mobile app development.

**Credits**

## Required Courses

CIS 112 (Database Software)	3
CIS 130 (Introduction to Computer Information Systems)	3
CIS 150 (Computer Science I)	4
CIS 153 (Desktop App Programming)	3
CIS 155 (Database Management Systems)	3
CIS 175 (Android Programming)	3
CIS 177 (Markup Languages)	4
CIS 179 (Web Script Programming)	3
CIS 272 (Database Web Development)	3

## Total Certificate Requirements

**29 credits**

## Total Certificate Cost

**29 minimum billable contact hours**

## GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE

Gainful employment information for the app development certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/APLDEV\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/APLDEV_CERT/Gedt.html).



# COMPUTER INFORMATION SYSTEMS COMPUTER SCIENCE

Business Division

Web Site: <http://www.monroeccc.edu/business/busdiv.htm>

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.

## Career Opportunities

Entry-level programming positions.

## Transfer Information

MCCC has a signed transfer agreement with the University of Michigan-Dearborn that allows students to transfer directly into the bachelor of science in computer and information science, software engineering or information assurance programs. Refer to the Business Division website for specific transfer courses and requirements.

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroeccc.edu/academicadv-transfer/transindex.htm>.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

<b>Required General Education:</b>	<b>Credits</b>
	<b>20</b>
C1 Natural Science Competency . . . . .	4
C2 MATH 171 (Calculus I) . . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5 Expressions of the Human Experience Competency . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

<b>Required Core Courses</b>	<b>Credits</b>
	<b>25</b>
CIS 130 (Introduction to Computer Information Systems) . .	C4
CIS 150 (Computer Science I) . . . . .	4
CIS 153 (Desktop App Programming) . . . . .	3
CIS 167 (Discrete Structures) . . . . .	4
CIS 175 (Android Programming) . . . . .	3
CIS 250 (Computer Science II) . . . . .	4
CIS 267 (Beginning Game Programming) . . . . .	3
CIS 268 (Assembly Language and Computer Architecture) . . . . .	4

**Additional CIS Electives** **4**

## General Electives Courses

(as required to complete 60 hours)

**Total Degree Requirements** **60 credits**

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

# COMPUTER INFORMATION SYSTEMS INFORMATION ASSURANCE AND SECURITY

Business Division

Web Site: <http://www.monroecc.edu/business/busdiv.htm>

The associate of applied science degree in computer information systems with a program designation of information assurance specialist is designed to provide an opportunity for students to acquire the foundational skills needed for an entry-level position supporting corporate security operations. The term "information assurance" encompasses the scientific, technical and management disciplines required to ensure computer and network security.

## Career Opportunities

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

- Systems/network administration and operation
- Information assurance systems and product acquisition
- Threat and vulnerability assessment (includes risk management)
- Computer emergency response team operations
- Information assurance training education and management
- Cyber crime investigation
- Cryptography
- Web security
- Computer forensics
- Defensive information operations
- Threat intelligence

For more information, please see the following link on the Bureau of Labor Statistics website: <http://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm>.

## Transfer Information

This program was designed to transfer to institutions offering four-year degrees. There is a significant financial advantage in following this path. Monroe County Community College and Eastern Michigan University have an articulation agreement that will maximize transferability. For more information, go to [http://www.emich.edu/ccr/currguide\\_new/monroe\\_informationassurance.pdf](http://www.emich.edu/ccr/currguide_new/monroe_informationassurance.pdf).

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

	<b>Credits</b>
<b>Required General Education:</b>	<b>20</b>
C1 Natural Science Competency . . . . .	4
C2 MATH 151 (Intermediate Algebra) . . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5 Expressions of the Human Experience Competency . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

	<b>Credits</b>
<b>Required Core Courses</b>	<b>31</b>
<b>1st Semester</b>	
CIS 130 (Introduction to Computer Information Systems) . .	C4
CIS 132 (Computer Programming Concepts) . . . . .	3
<b>2nd Semester</b>	
CIS 150 (Computer Science I) or CIS 152 (Visual Basic Programming) . . . . .	3
CIS 208 (PC Operating Systems) . . . . .	3
CIS 209 (Network Concepts) . . . . .	3
IAS 103 (Information Security Principles). . . . .	3
<b>3rd Semester</b>	
CIS 228 (Linux Administration) . . . . .	3
IAS 210 (Advanced Networking Practices) . . . . .	3
<b>4th Semester</b>	
CIS 220 (Hardware Maintenance) . . . . .	4
IAS 202 (Risk Vulnerability Analysis) . . . . .	3
IAS 213 (Privacy and Technology). . . . .	3

**Additional IAS or CIS Electives** **6**

## Additional General Electives

(as required to complete 60 hours)

**Total Degree Requirements** **60 credits**  
**Total Degree Cost** **61 minimum billable contact hours**

# COMPUTER INFORMATION SYSTEMS

## PC SUPPORT TECHNICIAN

Business Division

Web Site: <http://www.monroeccc.edu/business/busdiv.htm>

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.

### Career Opportunities

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

- Computer user support specialists
- Computer support specialists
- Network support specialists
- Software support specialists
- Hardware support specialists

For more information, please see the following link on the Bureau of Labor Statistics website: <http://www.bls.gov/ooh/computer-and-information-technology/computer-support-specialists.htm>.

### Transfer Information

For information regarding transfer opportunities for this or any program, please go to <http://www.monroeccc.edu/academicadv-transfer/transindex.htm>.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

<b>Required General Education:</b>	<b>Credits</b>
	<b>19-20</b>
C1 Natural Science Competency . . . . .	4
C2 Mathematics Competency . . . . .	3 or 4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

<b>Required Core Courses</b>	<b>Credits</b>
	<b>31</b>
<b>1st Semester</b>	
CIS 130 (Introduction to Computer Information Systems) . . . . .	C4
CIS 132 (Computer Programming Concepts) . . . . .	3
CIS 140 (Help Desk Concepts) . . . . .	3
<b>2nd Semester</b>	
CIS 109 (Spreadsheet Software) . . . . .	3
CIS 150 (Computer Science I) . . . . .	3
or CIS 152 (Visual Basic Programming) . . . . .	3
CIS 209 (Network Concepts) . . . . .	3
IAS 103 (Information Security Principles) . . . . .	3
<b>3rd Semester</b>	
CIS 205 (Systems Analysis & Design) . . . . .	3
CIS 208 (PC Operating Systems) . . . . .	3
ELEC 125 (Fundamentals of Electricity) . . . . .	3
<b>4th Semester</b>	
CIS 220 (Hardware Maintenance) . . . . .	4

**Additional Required CIS Electives** **10**

**Total Degree Requirements** **60-61 credits**  
**Total Degree Cost** **61 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.

<b>Required Courses</b>	<b>Credits</b>
CIS 130 (Introduction to Computer Information Systems) . . . . .	3
CIS 132 (Computer Programming Concepts) . . . . .	3
CIS 140 (Help Desk Concepts) . . . . .	3
CIS 208 (PC Operating Systems) . . . . .	3
CIS 209 (Network Concepts) . . . . .	3
CIS 220 (Hardware Maintenance) . . . . .	4
IAS 103 (Information Security Principles) . . . . .	3

**Total Certificate Requirements** **22 credits**  
**Total Certificate Cost** **22 minimum billable contact hours**

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
 Gainful employment information for the PC support certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/PCSUP\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/PCSUP_CERT/Gedt.html).

# COMPUTER INFORMATION SYSTEMS SYSTEM ADMINISTRATION SPECIALIST

Business Division

Web Site: <http://www.monroecc.edu/business/busdiv.htm>

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.

## Career Opportunities

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

- Network operating system specialists
- Computer system administrators
- Network administrators
- System/software administrators

For more information, please see the following link on the Bureau of Labor Statistics website: <http://www.bls.gov/ooh/computer-and-information-technology/network-and-computer-systems-administrators.htm>.

## Transfer Information

For information regarding transfer opportunities for this or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

<b>Required General Education:</b>	<b>Credits</b>
C1 Natural Science Competency . . . . .	4
C2 Mathematics Competency . . . . .	3 or 4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

<b>Required Core Courses</b>	<b>Credits</b>
<b>1st Semester</b>	
CIS 130 (Introduction to Computer Information Systems) . . . . .	C4
CIS 132 (Computer Programming Concepts) . . . . .	3
CIS 140 (Help Desk Concepts) . . . . .	3
<b>2nd Semester</b>	
CIS 150 (Computer Science I) or CIS 152 (Visual Basic Programming) . . . . .	3
CIS 208 (PC Operating Systems) . . . . .	3
CIS 209 (Network Concepts) . . . . .	3
<b>3rd Semester</b>	
CIS 205 (Systems Analysis & Design) . . . . .	3
CIS 228 (Linux Administration) . . . . .	3
CIS 230 (Windows Server) . . . . .	3
<b>4th Semester</b>	
CIS 220 (Hardware Maintenance) . . . . .	4
CIS 234 (Advanced Windows Server) . . . . .	4
IAS 103 (Information Security Principles) . . . . .	3

## General Elective Courses

(as required to complete 60 hours)

<b>Total Degree Requirements</b>	<b>60 credits</b>
<b>Total Degree Cost</b>	<b>61 minimum billable contact hours</b>

## Certificate Program: System Administration Specialist

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

<b>Required Courses</b>	<b>Credits</b>
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 228 (Linux Administration) . . . . .	3
CIS 230 (Windows Server) . . . . .	3
CIS 234 (Advanced Windows Server) . . . . .	4
IAS 103 (Information Security Principles) . . . . .	3

<b>Total Certificate Requirements</b>	<b>25 credits</b>
<b>Total Certificate Cost</b>	<b>25 minimum billable contact hours</b>

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
Gainful employment information for the systems administration specialist certificate is available on our website at [http://www.monroecc.edu/consumer/gainfulemp/SYSADMN\\_CERT/Gedt.html](http://www.monroecc.edu/consumer/gainfulemp/SYSADMN_CERT/Gedt.html).

# CONSTRUCTION MANAGEMENT TECHNOLOGY

Applied Science and Engineering Technology Division  
 Web Site: <http://www.monroecc.edu/aset/default.htm>

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.

## Career Opportunities

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

## Transfer Information

Although this program is a two-year occupational program designed to prepare students for employment, four-year colleges and universities may accept much of this curriculum in transfer. In specific, construction management students who wish to pursue the 3+1 transfer program to Eastern Michigan University are advised to meet with a program faculty member for alternate course selections before registering for classes.

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

**Credits  
21**

### Required General Education:

C1	PHY 101 (Technical Physics) or PHY 151 (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I) . . . . .	4
C2	MATH 124* (Technical Mathematics II) or competency . . . . .	4
C3	ENGL 151 (English Composition I) . . . . .	3
C4	MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
C5	Expressions of the Human Experience Competency . . . . .	3
C6	Social Systems Competency . . . . .	3

*See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.*

**Credits  
45**

### Required Core Courses

<b>1st Semester</b>		
MATH 119*	(Elementary Technical Mathematics) . . . . .	2
CONM 100	(Introduction to Design and Construction) . . . . .	3
CONM 101	(Materials of Construction) . . . . .	3
MDTC 160	(Mechanical Drafting & CAD I) . . . . .	C4
<b>2nd Semester</b>		
CONM 102	(Construction Practices) . . . . .	3
CONM 103	(Residence Drafting) . . . . .	4
CONM 110	(Construction Blueprint Reading) . . . . .	3
MATH 124*	(Technical Mathematics II) . . . . .	C2
<b>Spring Semester</b>		
CONM 107	(Surveying) . . . . .	3
<b>3rd Semester</b>		
CONM 160	(Green Building and LEED® Rating System) . . . . .	3
METC 220	(Statics & Strength of Materials) . . . . .	4
CONM 202	(Construction Safety) . . . . .	3
CONM 242	(Construction Documents and Law) or ELEC 156 (Introduction to Renewable Energy Systems) or BMGT 201 (Principles of Management) . . . . .	3
<b>4th Semester</b>		
CONM 105	(Mechanical Building Systems) . . . . .	4
CONM 240	(Construction Planning and Scheduling with Primavera) . . . . .	3
ACCT 151	(Accounting Principles) . . . . .	4

**Total Degree Requirements 66 credits**  
**Total Degree Cost 81-82 minimum billable contact hours**

*\*MATH 119 (Elementary Technical Mathematics) and 124 (Technical Mathematics II) are required 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.*

## 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 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.

	<b>Credits</b>
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 202 (Construction Safety) . . . . .	3
MDTC 160 (Mechanical Drafting & CAD I) . . . . .	4

**Total Certificate Requirements                    30 credits**  
**Total Certificate Cost                    41 minimum billable contact hours**

#### GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE

Gainful employment information for the construction management technology: residential and light commercial construction certificate is available on our website at [http://www.monroecc.edu/consumer/gainfulemp/RLCONST\\_CERT/Gedt.html](http://www.monroecc.edu/consumer/gainfulemp/RLCONST_CERT/Gedt.html).

### 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.

	<b>Credits</b>
CONM 110 (Construction Blueprint Reading) . . . . .	3
CONM 202 (Construction Safety) . . . . .	3
CONM 240 (Construction Planning & Scheduling with Primavera) . . . . .	3
CONM 242 (Construction Documents & Law) . . . . .	3
CONM 244 (Construction Estimating) . . . . .	3
CONM 107 (Surveying) . . . . .	3
MDTC 160 (Mechanical Drafting & CAD I) . . . . .	4

**Total Certificate Requirements                    22 credits**  
**Total Certificate Cost                    26 minimum billable contact hours**

#### GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE

Gainful employment information for the construction management technology: heavy and industrial construction certificate is available on our website at [http://www.monroecc.edu/consumer/gainfulemp/HICONST\\_CERT/Gedt.html](http://www.monroecc.edu/consumer/gainfulemp/HICONST_CERT/Gedt.html).

# CRIMINAL JUSTICE/LAW ENFORCEMENT

Humanities/Social Sciences Division

Web Site: <http://www.monroecc.edu/humaniti/criminaljustice.htm>

## Criminal Justice

This associate of applied science program prepares students for employment in criminal justice positions that require an associate degree or transfer to baccalaureate programs in criminal justice. Students planning to transfer should consult both their Monroe County Community College 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](http://www.michigan.gov/mcoles)). MCCC students may take the Police Academy at the Schoolcraft College, Radcliff Campus in Garden City. Please contact Deminique Heiks, instructor of criminal justice, at (734) 384-4157, for additional information.

### Specific Criteria for Completion of Prerequisites

1. Students must apply and be admitted to Schoolcraft College.
2. Students must have their official transcripts sent to Schoolcraft College.
3. Students are required to contact the Wayne County Regional Police Training Academy at Schoolcraft College 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) 462-4306 for information and application materials.
4. Students must complete the general education and required core courses at MCCC 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 requirements 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.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

**Credits**

<b>Required General Education:</b>	<b>20</b>
C1 Natural Science Competency . . . . .	4
C2 Mathematics Competency . . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

**Credits**

<b>Required Core Courses</b>	<b>30</b>
<b>1st Semester</b>	
CRJ 154 (Introduction to Law Enforcement) . . . . .	3
SOC 151 (Introduction to Sociology). . . . .	C6
SPCH 151 (Communication Fundamentals) . . . . .	3
<b>2nd Semester</b>	
ENGL 155 (Technical Writing) or ENGL 152 (English Composition II) . . . . .	3
PSYCH 151 (General Psychology) . . . . .	3
CRJ 170 (Introduction to Corrections). . . . .	3
<b>3rd Semester</b>	
CRJ 251 (Criminal Law) . . . . .	3
CRJ 255 (Police Organization and Administration) . . . . .	3
CRJ 252 (Juvenile Delinquency) . . . . .	3
PSYCH 152 (Psychology of Personality & Adjustment) . . . . .	3

## Criminal Justice Option

**Credits**

<b>4th Semester</b>	
SOC 251 (Modern Social Problems). . . . .	3
PSYCH 253 (Social Psychology). . . . .	3
SPCH 155 (Interpersonal Communication) . . . . .	3
* Elective . . . . .	3
* Elective . . . . .	3

<b>Total</b>	<b>15</b>
<b>Total Degree Requirements</b>	<b>62 credits</b>
<b>Total Degree Cost</b>	<b>62 minimum billable contact hours</b>

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

## Law Enforcement Option

**Credits**

<b>4th Semester</b>	
Police Academy . . . . .	15-21
MCCC accepts police academy transferable credits from accredited colleges and universities with MCOLES licensure.	

<b>Total Degree Requirements</b>	<b>62-68 credits</b>
<b>Total Degree Cost</b>	<b>62 minimum billable contact hours</b>





# CULINARY SKILLS AND MANAGEMENT

Business Division

Web Site: <http://www.monroeccc.edu/business/culinary/culinary.htm>

The culinary skills and management certificate program is designed to prepare students for careers in the food service industry. New labor market projections indicate that opportunities for trained cooks and chefs are expected to increase in the years ahead. New 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. 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. There will be additional expenses for participation in required field trips. It is recommended that students have food service experience prior to enrollment in the program at MCCC.

Students are required to take the culinary skills and management courses in the order listed; however, the remaining courses required for the associate of applied science degree may be selected in accordance with the college schedule and advisor recommendations.

Students are required to successfully complete CSM 111 (Food Sanitation) before they may enroll in CSM 101A-D (Food Preparation I courses). CSM 111 is offered in the six-week Summer Session immediately preceding Fall Semester.

## Career Opportunities

Students completing this program are prepared to accept jobs as cooks and chefs in:

- Resorts, hotels and casinos
- Fine dining restaurants
- Hospitals and health care facilities
- Catering and mobile food service enterprises
- Vending
- Food service management and distribution

## Transfer Information

The MCCC culinary skills and management program has an articulation agreement with Eastern Michigan University in hotel and restaurant management. For more information, please see <http://www.emich.edu/ccr/artguide.php#MON>.

Additional information about transferring to a four-year college or university may be found at <http://www.monroeccc.edu/academicadv-transfer/transindex.htm>.

## Culinary Skills and Management Certificate

	Credits
<b>Required Core Courses</b>	<b>44</b>
<b>Pre-1st Semester</b>	
CSM 111 (Food Sanitation) . . . . .	2
<i>Must be completed during the Summer Term before a student will be permitted to enroll for CSM 101 courses.</i>	
<b>1st Semester</b>	
<b>CSM 101 (Food Preparation I)</b>	
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
<b>2nd Semester</b>	
<b>CSM 116 (Food Preparation II)</b>	
CSM 116A (Introduction to Buffet Preparation) . . . . .	4
CSM 116B (Beginning Pastries) . . . . .	2
CSM 116C (Baking II) . . . . .	2
CSM 116D (Institutional Food Preparation) . . . . .	2
<b>Spring Semester</b>	
CSM 114 (Nutrition) . . . . .	2
<b>3rd Semester</b>	
<b>CSM 201 (Advanced Food Preparation I)</b>	
CSM 201A (Introduction to Hospitality Industry) . . . . .	2
CSM 201B (Dining Room Procedures) . . . . .	1
CSM 201C (Menu Planning) . . . . .	1
CSM 201E (a la Carte Food Preparation) . . . . .	3
CSM 207 (Restaurant Management and Supervision) . . . . .	3
CSM 219 (Beverages in Food Service) . . . . .	2
<b>4th Semester</b>	
<b>CSM 216 (Advanced Food Preparation II)</b>	
CSM 216A (Garde Manger) . . . . .	2
CSM 216B (Menu Planning) . . . . .	1
CSM 216D (Advanced Buffet Preparation) . . . . .	3
CSM 216E (Contemporary Food Design & Architecture) . . . . .	2
<b>Total Certificate Requirements</b>	<b>44 credits</b>
<b>Total Certificate Cost</b>	<b>59 minimum billable contact hours</b>

## GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE

Gainful employment information for the culinary skills and management certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/CSM\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/CSM_CERT/Gedt.html).

# Associate of Applied Science Degree: Culinary Skills and Management Program

Students wishing to pursue the associate of applied science degree in culinary skills and management will be required to successfully complete the General Education coursework outlined below. These courses may be taken anytime during the student's program and should be selected with input and advice from a program advisor or counselor.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**  
 (C1) GE Natural Sciences Competency  
 (C2) GE Mathematics Competency  
 (C3) GE Writing Competency  
 (C4) GE Computer Literacy Competency  
 (C5) GE Human Experience Competency  
 (C6) GE Social Systems Competency

<b>Required General Education:</b>	<b>Credits</b>
	<b>19-20</b>
C1 Natural Science Competency . . . . .	4
C2 Mathematics Competency . . . . .	3 or 4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 Computer Literacy Competency . . . . .	3
C5 Expressions of the Human Experience Competency . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

**Total Degree Requirements**                      **63-64 credits**  
**Total Degree Cost**                              **79 minimum billable contact hours**

## Program Application Information and Process

*Culinary skills and management is a selective admission, limited space program.* For a student to be considered for the culinary skills and management program, the Business Division of Monroe County Community College requires:

1. High school graduation or successful completion of the General Education Development (GED) test.
2. Completed Monroe County Community College Application for Admission.
3. Official transcripts from high school and all post-secondary schools attended (if applicable).
4. Two letters of personal reference (references from food service employers or instructors preferred).

5. One of the following:
  - ACT scores of 20 or higher in math and 18 or higher in reading and English;
  - Take the COMPASS Placement Test – if 090 courses are required, they must be successfully completed prior to – or concurrently with – fall culinary classes;
6. Recent employment record. (The Culinary Skills and Management Admissions Committee is interested in a student's exposure to and experience with the food service industry; therefore, such experience is preferred.)
7. It is mandatory that an applicant complete these steps for candidacy and have a completed folder on file in the Admissions Office no later than April 15 of the year the applicant wishes to enter the program. When all of the steps have been completed, the applicant must contact the Office of Admissions and Guidance to set up an interview appointment. A mandatory admission interview with the chef instructor is required for entry into the program. If openings in the program are available after the May interview and selection process, a second round of applicant reviews and interviews may be conducted. The deadline for this second round process will be June 15 prior to the start of the Summer Term (when CSM 111 must be taken).

The culinary skills and management program at MCCC emphasizes food preparation, restaurant management and food service operations. Applicants to the program should be in good general health; be able to stand for prolonged periods at work stations such as stove tops, prep tables and sinks; move swiftly between work areas within a busy and very active setting, and safely lift and handle up to 30 pounds. Students are regularly required to talk, hear, view and effectively perform in a variety of culinary kitchen/restaurant situations. Keen senses of sight, taste and smell are also vital to a student's success in this program. The student is frequently required to stand, walk, stoop or kneel. The student is exposed to heat generated from the use of kitchen equipment. To insure personal safety of the individual student and fellow class members, all students must be able to hear and understand verbal instructions, follow procedures, be able to multitask, work under stressful situations and meet deadlines.

# EARLY CHILDHOOD EDUCATION

Science/Mathematics Division

Web Site: <http://www.monroecc.edu/scimath/scimath.htm>

The early childhood education associate of applied science degree program prepares students to provide high-quality care and education of young children birth through age eight. Through experiential learning, students plan and implement activities appropriate to the developing child. Students also demonstrate knowledge in creating and administering a safe, healthy environment that uses developmentally appropriate curriculum practices. Students will demonstrate professionalism through adherence to the ethical and professional standards of the early childhood education profession. The program provides a theoretical base in the growth and development of young children and early childhood education curricula and activities. The practical experiences in various early childhood education settings facilitate the development of the skills needed to implement curriculum that fosters the cognitive, motor, social and emotional development of the child.

## Career Opportunities

The program prepares individuals for staff placement in:

- Child care centers
- Family child care
- Head Start programs
- Preschools
- Great Start Readiness Program preschools
- Public school latchkey programs
- Other programs involved in the care and guidance of children and their families

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

	Credits
<b>Required General Education Courses</b>	<b>19-20</b>
C1 Natural Science Competency . . . . .	4
C2 MATH 126 (Mathematics for Business) or MATH 151 (Intermediate Algebra) or higher or competency . . . . .	3 or 4
C3 ENGL 151 (English Composition I). . . . .	3
C4 Computer Literacy Competency . . . . .	3
C5 ENGL 256 (Children's Literature) . . . . .	3
C6 PSYCH 151 (General Psychology). . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

	Credits
<b>Required Courses</b>	<b>40</b>
<b>Core Courses*</b>	
<b>Fall Semester (First Year)</b>	
ECE 100 (Foundations of ECE) . . . . .	3
ECE 102 (Child Growth and Development) . . . . .	3
ECE 104 (Nutrition, Health and Safety for ECE) . . . . .	3
<b>Winter Semester (First Year)</b>	
ECE 106 (Observation and Assessment of Child Development) . . . . .	3
ECE 108 (The Care and Learning of Infants and Toddlers) . . . . .	4
ECE 110 (Diverse Populations in ECE) . . . . .	3
<b>Fall Semester (Second Year)</b>	
ECE 200 (The Care and Learning of Preschool Children) . . . . .	4
ECE 202 (The Care and Learning of School-Age Children) . . . . .	4
<b>Winter Semester (Second Year)</b>	
ECE 206 (Early Childhood Education Practicum) . . . . .	5

\*Students must achieve a grade of C or higher in all ECE courses to proceed in the program.

## Additional Required Courses

- ART 158 (Art for Elementary Teachers)  
or MUSIC 165 (Music for Classroom Teachers) . . . . . 3
- HPE 151 (First Aid and Safety) . . . . . 2
- PSYCH 251 (Child Psychology) . . . . . 3

## Additional General Elective

(If needed to complete required total credit hours)

### Suggested Elective Courses

- ECE 204 (Administration of a Child Care Program) . . . . . 3
- EDUC 151 (Exploring Teaching) . . . . . 3
- ENGL 102 (Business Writing) . . . . . 3
- ENGL 152 (English Composition II) . . . . . 3
- PSYCH 254 (Life Span Psychology) . . . . . 3
- SOC 152 (Marriage and Family) . . . . . 3
- SPCH 151 (Communication Fundamentals) . . . . . 3
- SWK 106 (Child Welfare) . . . . . 3
- SWK 151 (Introduction to Social Services) . . . . . 3

<b>Total Degree Requirements</b>	<b>62-63 credits</b>
<b>Total Degree Cost</b>	<b>65 minimum billable contact hours</b>

## Certificate Program: Early Childhood Education

The early childhood education certificate program is designed for students who will work with and teach young children. Students may use this curriculum to meet state licensing requirements to provide child care in homes, centers and other facilities or for positions as assistant teachers in child care programs. A minimum of 32 credit hours is required for the early childhood education certificate. Courses for the certificate can be applied toward the associate degree.

### Credits

#### Required Courses

ECE 100 (Foundations of ECE) . . . . .	3
ECE 102 (Child Growth and Development) . . . . .	3
ECE 104 (Nutrition, Health and Safety for ECE) . . . . .	3
ECE 106 (Observation and Assessment of Child Development) . . . . .	3
ECE 108 (The Care and Learning of Infants and Toddlers) . .	4
ECE 110 (Diverse Populations in ECE) . . . . .	3
ECE 200 (The Care and Learning of Preschool Children) . . .	4
ECE 202 (The Care and Learning of School-Age Children) . .	4
HPE 151 (First Aid and Safety) . . . . .	2

#### One of the following courses

**3**

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

**Total Certificate Requirements 32 credits**

**Total Certificate Cost 32 minimum billable contact hours**

#### GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE

Gainful employment information for the early childhood development certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/ECDV\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/ECDV_CERT/Gedt.html).

## Child Development Associate

Students may pursue formal child care education toward the child development associate credential by completing a program of training, experience and assessment outlined by the Council for Professional Recognition. It is the council's goal to credential qualified caregivers who work with children ages birth to five nationwide. The training consists of 120 clock hours of instruction addressing the competency goals in the functional areas identified by the council. At Monroe County Community College, this training can be obtained by completing three courses: ECE 102, ECE 104 and ECE 108 for the Infant and Toddler credential or ECE 102, ECE 104 and ECE 200 for the Preschool credential. The candidate must document 120 hours of formal training through coursework, complete 480 hours of current experience working with children, and complete documentation as required by the Council for Professional Recognition to be considered for the CDA credential. The Council for Professional Recognition makes the final decision on awarding the CDA credential. Students who have completed the CDA training by completing the courses outlined above may apply that coursework toward the two-year associate of applied science degree program.

# ELECTRONICS AND COMPUTER TECHNOLOGY

Applied Science and Engineering Technology Division  
 Web Site: <http://www.monroeccc.edu/aset/default.htm>

Graduates of Monroe County Community College's associate of applied science degree with specialization in electronics technology typically find employment as engineering aides, laboratory technicians and field service representatives. Many graduates transfer to nearby universities that 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.

## Career Opportunities

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 and Electronics Trouble Shooting (ELEC 200) course includes the construction of a finished electronic instrument that 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

## Transfer Information

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroeccc.edu/academicadv-transfer/transindex.htm>.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

**Credits**

## Required General Education Courses **21**

C1	PHY 101* (Technical Physics) or PHY 151* (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I) . . . . .	4
C2	MATH 124** (Technical Mathematics II) or competency . . . . .	4
C3	ENGL 151 (English Composition I) . . . . .	3
C4	MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
C5	Expressions of the Human Experience Competency . . .	3
C6	Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

**Credits**

## Required Core Courses **40**

<b>1st Semester</b>		
	MATH 119** (Elementary Technical Mathematics) . . . . .	2
	ELEC 125 (Fundamentals of Electricity) . . . . .	3
	MDTC 160 (Mechanical Drafting & CAD I) . . . . .	C4
<b>2nd Semester</b>		
	ELEC 132 (Electronics I) . . . . .	4
	ELEC 135 (Digital Electronic Logic) . . . . .	4
	ELEC 141 (Industrial Automation and Process Control) . . . . .	3
	MATH 124** (Technical Mathematics II) . . . . .	C2
<b>3rd Semester</b>		
	ELEC 133 (Circuit Analysis) . . . . .	4
	ELEC 137 (Microprocessors) . . . . .	4
	ELEC 200 (Electronic & Electrical Troubleshooting) . . . . .	4
	ELEC 130 (Introduction to Programmable Logic Controllers) . . . . .	3
<b>4th Semester</b>		
	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 **82 minimum billable contact hours**

\*Electronics and computer technology students are strongly encouraged to take PHY 101 (Technical Physics) or PHY 151 (General Physics I) for the GE Natural Sciences Competency.

\*\*MATH 119 (Elementary Technical Mathematics) and 124 (Technical Mathematics II) are required 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.

# FINE ARTS

Humanities/Social Sciences Division

Web Site: <http://www.monroeccc.edu/humaniti/finearts.htm>

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  
42**

## Required Core Courses

### 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
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) . . . . .	C5

## General Elective

(as required to complete 60 hours)

**Total Degree Requirements**

**61-62 credits**

**Total Degree Cost**

**91 minimum billable  
contact hours**

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

**Credits**

## Required General Education Courses

**19-20**

C1 Natural Science Competency . . . . .	4
C2 Mathematics Competency . . . . .	3 or 4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 Computer Literacy Competency . . . . .	3
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

# GENERAL TECHNOLOGY

Applied Science and Engineering Technology Division  
**Web Site:** <http://www.monroecc.edu/aset/general.htm>

The associate of applied science degree with specialization in general technology is designed to provide students with an opportunity to earn a degree that 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 that supports their job-related responsibilities or those who want to prepare themselves for a technical career that does not follow one of the college's existing programs.

A basic core of technical courses is required. However, if a 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 (product and process technology, 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 Applied Science and Engineering Technology Division.

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 the Graduation and Degree Requirements section of the college catalog.

## Career Opportunities

The career opportunities for this program of study vary depending upon the technical and specialty courses chosen.

## Transfer Information

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

<b>Required General Education Courses</b>	<b>Credits</b>
C1 PHY 101 (Technical Physics) or PHY 151 (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I) . . . . .	4
C2 MATH 124* (Technical Mathematics II) or competency . . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
C5 Expressions of the Human Experience Competency . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

<b>Required Technical and Specialty Courses</b>	<b>Credits</b>
MATH 119* (Elementary Technical Mathematics) . . . . .	2
Basic core in a defined program area . . . . .	12
Additional Technical and Specialty Courses . . . . .	18

**General Electives** **7**  
*(as required to complete 60 hours)*

**Total Degree Requirements** **60 credits**  
**Total Degree Cost** **80 minimum billable contact hours**

*\*MATH 119 (Elementary Technical Mathematics) and 124 (Technical Mathematics II) are required 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.*

# GRAPHIC DESIGN

Business Division

Web Site: <http://www.monroecc.edu/business/busdiv.htm>

Monroe County Community College's associate of applied science degree in graphic design enables students to obtain a broad introduction to the concepts and techniques used in the field of graphic design. The associate of applied science degree has three concentrations: digital media, illustration and Web design. Students in the digital media concentration will explore the fundamentals of design, creation of graphical assets, publication design, three-dimensional design and time-based media using industry-standard software. Students in the illustration concentration will explore the digital media concepts with a focus on art history and traditional art fundamentals. Students in the Web design concentration will explore the fundamentals of design with a focus on designing for the Web.

## Career Opportunities

Students may work as graphic designers, desktop publishers, pre-press technicians, commercial artists, entry-level Web designers and multimedia artists.

## Transfer Information

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

<b>Required General Education Courses</b>	<b>Credits</b>
C1 Natural Science Competency . . . . .	4
C2 Mathematics Competency . . . . .	3 or 4
C3 ENGL 151 (English Composition I). . . . .	3
C4 CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5 Expressions of the Human Experience Competency . . .	3
C6 Social Systems Competency. . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

## Credits

### Required Core Courses

ART 151 (Art Fundamentals). . . . .	3
ART 160 (Two Dimensional Design) . . . . .	3
CIS 130 (Introduction to Computer Information Systems) . .	C4
CIS 178 (Design Concepts) . . . . .	4
CIS 182 (Illustrator Graphics). . . . .	3
CIS 184 (Photoshop Graphics) . . . . .	3

### Choose one of the following concentrations:

#### Digital Media Concentration

**25**

CIS 186 (Multimedia Development) . . . . .	3
CIS 187 (Digital Video Editing) . . . . .	3
CIS 188 (InDesign Desktop Publishing). . . . .	3
CIS 189 (3D Animation) . . . . .	3
CIS 284 (Advanced Photoshop Graphics) . . . . .	3
CIS/ART Electives . . . . .	6
General Electives . . . . .	4

#### OR

#### Illustration Concentration

**25**

ART 165 (Illustration Techniques) . . . . .	3
ART 170 (Life Drawing). . . . .	3
ART 180 (Drawing I) . . . . .	3
ART 181 (Drawing II). . . . .	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) . .	C5
HUMAN 152 (Exploring Creativity) . . . . .	3
CIS/ART Electives . . . . .	6
General Electives . . . . .	4

#### OR

#### Web Design Concentration

**25**

CIS 174 (Dreamweaver Web Design) . . . . .	3
CIS 176 (Web Animation) . . . . .	3
CIS 177 (Markup Languages) . . . . .	4
CIS 186 (Multimedia Development). . . . .	3
CIS 187 (Digital Video Editing) . . . . .	3
CIS 189 (3D Animation) . . . . .	3
CIS/ART Electives . . . . .	3
General Electives . . . . .	3

### Total Degree Requirements

**60-61 credits**

### Total Degree Cost

**69 minimum billable contact hours**



## Certificate Programs: Graphic Design-Digital Media

Required Courses	Credits
ART 151 (Art Fundamentals) . . . . .	3
ART 160 (Two-Dimensional Design) . . . . .	3
CIS 130 (Introduction to Computer Information Systems) . . . . .	3
CIS 178 (Design Concepts) . . . . .	4
CIS 182 (Illustrator Graphics) . . . . .	3
CIS 184 (Photoshop Graphics) . . . . .	3
CIS 188 (InDesign Desktop Publishing) . . . . .	3

### Select any three of the following courses:

CIS 186 (Multimedia Development: Adobe After Effects) . . . . .	3
CIS 187 (Digital Video Editing) . . . . .	3
CIS 189 (3D Animation) . . . . .	3
CIS 284 (Advanced Photoshop Graphics) . . . . .	3

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

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
 Gainful employment information for the graphic design-digital media certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/GDDM\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/GDDM_CERT/Gedt.html).

## Graphic Design-Illustration

Required Courses	Credits
ART 151 (Art Fundamentals) . . . . .	3
Choose 2 of the following:	
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 178 (Design Concepts) . . . . .	4
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**

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
 Gainful employment information for the graphic design-illustration certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/GDILL\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/GDILL_CERT/Gedt.html).

## Graphic Design-Web Design

Required Courses	Credits
CIS 130 (Introduction to Computer Information Systems) . . . . .	3
CIS 178 (Design Concepts) . . . . .	4
CIS 174 (Dreamweaver Web Design) . . . . .	3
CIS 176 (Web Animation) . . . . .	3
CIS 177 (Markup Languages) . . . . .	4
CIS 182 (Illustrator Graphics) . . . . .	3
CIS 184 (Photoshop Graphics) . . . . .	3
CIS 186 (Multimedia Development) . . . . .	3
CIS 187 (Digital Video Editing) . . . . .	3
CIS 189 (3D Animation) . . . . .	3

**Total Certificate Requirements**                    **32 credits**  
**Total Certificate Cost**                            **32 minimum billable contact hours**

*To earn the graphic design-Web design certificate in addition to the associate of applied science in graphic design-digital media, take CIS 174, CIS 176 and CIS 177 as electives. To earn the graphic design-Web design certificate in addition to the AAS in graphic design-illustration, take CIS 174, CIS 176, CIS 177, CIS 186, CIS 187 and CIS 189 as electives.*

*To earn the graphic design-illustration certificate in addition to the AAS in graphic design-digital media, take ART 165 or ART 170, ART 180 and HUMAN 152 as electives. To earn the graphic design-illustration certificate in addition to the AAS in graphic design-Web design, take ART 165 or ART 170, ART 180 and HUMAN 152, CIS 174, CIS 176 as electives.*

*To earn the graphic design-digital media certificate in addition to the AAS in graphic design-illustration, take CIS 188 and three of the following as electives: CIS 186, CIS 187, CIS 189 or CIS 284. To earn the graphic design-digital media certificate in addition to the AAS in graphic design-Web design, take CIS 188 and CIS 284 as electives.*

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
 Gainful employment information for the graphic design-Web design certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/WEBDES\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/WEBDES_CERT/Gedt.html).

# INDUSTRIAL ELECTRICITY/ELECTRONICS TECHNOLOGY

Applied Science and Engineering Technology Division  
 Web Site: <http://www.monroeccc.edu/aset/default.htm>

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.

## Career Opportunities

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

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

<b>Required General Education Courses</b>	<b>Credits</b>
C1 PHY 101 (Technical Physics) or PHY 151* (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I) . . . . .	4
C2 MATH 124** (Technical Mathematics II) or competency . . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
C5 Expressions of the Human Experience Competency . . .	3
C6 Social Systems Competency . . . . .	3

*See the General Education Requirements on Page 38 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.*

<b>Required Core Courses</b>	<b>Credits</b>
<b>1st Semester</b>	
MATH 119** (Elementary Technical Mathematics) . . . . .	2
ELEC 125 (Fundamentals of Electricity and Electronics) . . . .	3
MECH 131 (Introduction to Automated Manufacturing) . . . . .	3
<b>2nd Semester</b>	
ELEC 132 (Electronics I) . . . . .	4
ELEC 135 (Digital Electronic Logic) . . . . .	4
ELEC 141 (Industrial Automation and Process Control) . . . .	3
MATH 124** (Technical Mathematics II) . . . . .	C2
<b>3rd Semester</b>	
ELEC 127 (AC/DC Motors) . . . . .	3
ELEC 130 (Introduction to Programmable Logic Controllers) . . . . .	3
ELEC 133 (Circuit Analysis) . . . . .	4
ELEC 137 (Microprocessors) . . . . .	4
ELED 214 (National Electrical Code) . . . . .	2
<b>4th Semester</b>	
ELEC 136 (Instrumentation) . . . . .	3
ELEC 144 (PC-Based Data Acquisition and Control) . . . . .	2
ELEC 211 (Medium Voltage Power Distribution Systems) . . .	3

**Total Degree Requirements 64 credits**  
**Total Degree Cost 83 minimum billable contact hours**

*\*Industrial electricity/electronics students are strongly encouraged to take PHY 101 or PHY151.*

*\*\*MATH 119 (Elementary Technical Mathematics) and 124 (Technical Mathematics II) are required 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.*

# MECHANICAL DESIGN TECHNOLOGY

Applied Science and Engineering Technology Division

Web Site: <http://www.monroecc.edu/aset/default.htm>

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 Draft Sight, SOLIDWORKS, Catia and NX. Possessing skills and knowledge in multiple CAD programs makes our design graduates 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 for many years to come.

## Career Opportunities

According to the Bureau of Labor Statistics, employment of commercial and industrial designers is expected to grow nine percent in the 10 year period leading up to 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

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

<b>Required General Education Courses</b>	<b>Credits</b>
C1 PHY 101 (Technical Physics) or PHY 151 (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I) . . . . .	4
C2 MATH 124* (Technical Mathematics II) or competency . . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
C5 Expressions of the Human Experience Competency . . .	3
C6 Social Systems Competency . . . . .	3

*See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.*

<b>Required Core Courses</b>	<b>Credits</b>
<b>1st Semester</b>	
MDTC 160 (Mechanical Drafting and CAD I) . . . . .	C4
MECH 102 (Manufacturing Processes) . . . . .	4
MECH 103 (Machining Basics and CNC) . . . . .	4
MATH 119* (Elementary Technical Mathematics) . . . . .	2
<b>2nd Semester</b>	
MDTC 161 (Mechanical Drafting and CAD II) . . . . .	4
MDTC 152 (Descriptive Geometry) . . . . .	4
MDTC 228 (Introduction to SOLIDWORKS-CSWA) . . . . .	3
MATH 124* (Technical Mathematics II) . . . . .	C2
<b>3rd Semester</b>	
MECH 201 (CAD/CAM I) . . . . .	3
MDTC 226 (Geometric Dimensioning and Tolerancing) . . . . .	3
METC 220 (Statics & Strength of Materials) . . . . .	4
Restricted Elective . . . . .	3
<b>4th Semester</b>	
MDTC 242 (Mechanical Design Capstone Project) . . . . .	4
METC 170 (Introduction to Parametric CAD/CATIA) or METC 172 (Introduction to Parametric CAD/NX) . . . . .	3-4

<b>Restricted Electives (select one)</b>
MDTC 232 (Advanced SOLIDWORKS-CSWP)
MATL 101 (Industrial Materials)
QSTC 150 (Introduction to Metrology)

<b>Total Degree Requirements</b>	<b>62-63 credits</b>
<b>Total Degree Cost</b>	<b>81 minimum billable contact hours</b>

*\*MATH 119 (Elementary Technical Mathematics) and 124 (Technical Mathematics II) are required 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.*



# MECHANICAL ENGINEERING TECHNOLOGY

Applied Science and Engineering Technology Division

Web Site: <http://www.monroecc.edu/aset/default.htm>

The associate of applied science degree with specialization in mechanical engineering technology offers individuals the opportunity to prepare for rewarding and responsible careers in support of technical and engineering activities in business and industry. The mechanical engineering technology curriculum is based on engineering theory, but emphasis is placed on application, implementation skills and computer modeling. The mechanical engineering technologist is responsible for the application and implementation of engineering design methods and analysis techniques for the improvement of products, processes and systems. Coursework within the program includes automation manufacturing processes, strength of materials, computer-aided drafting, computer-aided manufacturing, machine design, quality and thermodynamics. The rapid increase in complexity of technology has produced a demand for professionals who have multi-disciplined applied technical skills. Our mechanical engineering technology graduates have skills to meet that demand.

## Career Opportunities

Mechanical engineering technology graduates may seek immediate employment in industry. They will be prepared for entry-level employment in careers such as:

- Mechanical engineering technician
- Product designer
- Field technician
- Lab technician
- Test technician
- Basic machinist
- Research and development technician
- Technical sales representative

## Transfer Information

Graduates of this program meet the minimum requirements for placement at the junior level of bachelor of engineering technology programs at many four-year institutions. Students planning to transfer to a four-year program should consult with that institution in order to insure the maximum number of courses that transfer.

Students who intend to transfer into a bachelor of science degree program in mechanical engineering technology should consider taking the calculus (MATH 171, 172) sequence and engineering physics (PHY 251, 252) sequence.

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

	<b>Credits</b>
<b>Required General Education Courses</b>	<b>21</b>
C1 PHY 151 (General Physics I) . . . . .	4
C2 MATH 164 (Precalculus)	4
or qualifying scores on ACT or COMPASS. . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

## Required Core Courses **Credits 45-47**

### 1st Semester

MDTC 160 (Mechanical Drafting and CAD I) . . . . .	C4
MECH 102 (Manufacturing Processes) . . . . .	4
MATH 164* (Precalculus) . . . . .	C2

### 2nd Semester

MECH 103 (Machining Basics and CNC) . . . . .	4
METC 100 (Introduction to Engineering and Technology) . . . . .	3
ENGL 151 (English Composition I) . . . . .	C3
ELEC 125 (Introduction to Electricity) . . . . .	3
METC 170 (Introduction to Parametric CAD/CATIA) . . . . .	3

### Spring/Summer Semester

Expressions of the Human Experience Competency. . . . .	C5
Social Systems Competency . . . . .	C6

### 3rd Semester

MATH 160 (Math Applications in Engineering Tech) . . . . .	2
METC 234 (Thermodynamics and Fluid Sciences) . . . . .	4
METC 220 (Statics & Strength of Materials) . . . . .	4
CHEM 151** (General College Chemistry I)	
or MECH 131 (Introduction to Automation) . . . . .	4/3
Restricted Tech Elective . . . . .	3

### 4th Semester

MATL 101 (Industrial Materials) . . . . .	3
MECH 111 (Introduction to Fluid Power) . . . . .	3
PHY 152** (General Physics II)	
or MECH 131 (Introduction to Automation) . . . . .	4/3
Restricted Tech Elective . . . . .	3

\*Or Take MATH 157 and MATH 158

\*\*Chemistry Option: Take CHEM 151 in 3rd Semester and MECH 131 in 4th Semester  
Physics Option: Take MECH 131 in 3rd Semester and PHY 152 in 4th Semester

## Restricted Tech Electives (3 credits each)

- MDTC 226 (Geometric Dimensioning and Tolerancing)
- QSTC 115 (Statistical Process Control)
- MECH 201 (Introduction to CAD/CAM)
- ELEC 141 (Industrial Automation and Process Control)
- ELEC 130 (Programmable Logic Controllers)
- Cooperative Work Experience (Division Approval)

<b>Total Degree Requirements</b>	<b>66-68 credits</b>
<b>Total Degree Cost</b>	<b>89 minimum billable</b>
	<b>91 contact hours</b>

# METROLOGY TECHNOLOGY

Applied Science and Engineering Technology Division  
**Web Site:** <http://www.monroeccc.edu/aset/default.htm>

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.

## Career Opportunities

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

**Credits**

**42**

## Required Core Courses

### 1st Semester

MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
MATL 101 (Industrial Materials) . . . . .	3
MECH 103 (Machining Basics and CNC) . . . . .	4
MATH 119* (Elementary Technical Mathematics) . . . . .	2

### 2nd Semester

MDTC 226 (Geometric Dimensioning and Tolerancing) . . . . .	3
MECH 102 (Manufacturing Processes) . . . . .	4
QSTC 111 (Quality Management) . . . . .	3
MATH 124* (Technical Mathematics II) . . . . .	C2

### 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

**77 minimum billable contact hours**

*\*MATH 119 (Elementary Technical Mathematics) and 124 (Technical Mathematics II) are required 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.*

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

**Credits**

## Required General Education Courses

**20**

C1	PHY 101 (Technical Physics) or PHY 151 (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I) . . . . .	4
C2	MATH 124* (Technical Mathematics II) or competency . . . . .	4
C3	ENGL 151 (English Composition I) . . . . .	3
C4	CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5	Expressions of the Human Experience Competency . . . . .	3
C6	Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.



# NON-DESTRUCTIVE TESTING

Applied Science and Engineering Technology Division  
Web Site: <http://www.monroecc.edu/aset/default.htm>

This is a course of study that will cover the basic concepts of the five major non-destructive testing (NDT) methods: visual testing (VT), liquid penetrant testing (PT), magnetic particle testing (MT), ultrasonic testing (UT) and radiographic testing (RT). The classroom hours, grading criteria and test composition associated with this coursework are established in accordance with the American Society for Non-Destructive Testing (ASNT): Recommended Practice SNT-TC-1A. The courses are derivative of the existing nuclear engineering technology associate degree program and have direct relevance to the existing welding technology associate degree program.

Non-destructive testing involves the inspection, testing or evaluation of materials, components and assemblies for materials' discontinuities, properties and machine problems without further impairing or destroying the parts serviceability. Universally, the term NDT applies equally to the NDT inspection methods used for evaluation.

## Special Knowledge and Training Required for Evolving Industry

It is recognized that the effectiveness of non-destructive testing application depends upon the capabilities of the personnel who are responsible for and perform NDT. The courses are in accordance with SNT-TC-1A that has been prepared by ASNT to establish guidelines for the qualification and certification of NDT personnel whose specific jobs require appropriate knowledge of the technical principles underlying the non-destructive tests they perform, witness, monitor or evaluate. Through course progression, the student gains a general knowledge of how to apply NDT testing methods and develops a deeper understanding of how non-destructive testing impacts the world in which we live.

## Significant Job Growth Projected

There is a need for highly trained and certified non-destructive testing technicians worldwide. More opportunity exists for NDT professionals today than ever before. The American Society for Nondestructive Testing is the world's largest technical society for non-destructive testing professionals.

## Career Opportunities

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

- NDT Technician
- Quality Control Technician
- Non Destructive Testing Evaluator
- Nuclear Engineering Technician
- Welding Inspector

## Certificate Program: Non-Destructive Testing (NDT) Technician

MCCC offers a certificate program that concentrates on the basic and intermediate core competencies required to prepare the student for an ASNT Level I or II position in the non-destructive testing field.

Required Courses	Credits
ELEC 125 (Fundamentals of Electricity) . . . . .	3
MATL 101 (Introduction to Materials) . . . . .	3
NUET 102 (Introduction to Non-Destructive Testing) . . . . .	3
NUET 103 (Liquid Penetrant & Magnetic Particle Testing) . . . . .	2
NUET 104 (Visual Testing) . . . . .	2
ELEC 136 (Instrumentation) . . . . .	3
NUET 105 (Radiography – Level I) . . . . .	2
NUET 106 (Radiography – Level I) . . . . .	2
NUET 107 (Ultrasonic – Level I) . . . . .	2
NUET 108 (Ultrasonic – Level I) . . . . .	2
<b>Total Certificate Requirements</b>	<b>24 credits</b>
<b>Total Certificate Cost</b>	<b>33 minimum billable contact hours</b>

*Note: Students graduating from both the existing nuclear engineering technology and welding programs can broaden their employability chances after completion of the ASNT certificate.*

*Note: Completion of the MCCC certificate program in non-destructive testing does not complete the ASNT certification requirements. ASNT certification requires further hours of field experience working under a certified inspector. These hours may vary depending on the inspection method. The MCCC NDT program will satisfy classroom requirements for certification.*

## GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE

Gainful employment information for the non-destructive testing technician certificate is available on our website at [http://www.monroecc.edu/consumer/gainfulemp/NDTEST\\_CERT/Gedt.html](http://www.monroecc.edu/consumer/gainfulemp/NDTEST_CERT/Gedt.html).



# NUCLEAR ENGINEERING TECHNOLOGY

Applied Science and Engineering Technology Division  
**Web Site:** <http://www.monroecc.edu/aset/default.htm>

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.

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 and Guidance 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.

## Career Opportunities

The program is based on the Nuclear Uniform Curriculum Program (NUCP), 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 National Academy for Nuclear Training (NANT), which is recognized throughout the industry.

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

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

<b>Required General Education Courses</b>	<b>Credits</b>
	<b>20 or 21</b>
C1 PHY 151 (General Physics I) . . . . .	4
C2 MATH 164 (Precalculus) or competency (MATH 151 Intermediate Algebra or qualifying score on ACT or COMPASS must be met prior to entry in the program) . . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 CIS 130 (Introduction to Computer Information Systems) or MDTC 160 (Mechanical Drafting CAD I) . . . . .	3 or 4
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

*See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.*

<b>Required Core Courses</b>	<b>Credits</b>
	<b>48</b>
<b>1st Semester</b>	
PHY 151 (General Physics I) . . . . .	C1
MATH 164* (Precalculus) . . . . .	C2
METC 100 (Introduction to Engineering & Technology) . . . . .	3
NUET 100 (Nuclear Industry Fundamentals) . . . . .	2
CIS 130 (Introduction to Computer Information Systems) or MDTC 160 (Mechanical Drafting CAD I) . . . . .	C4
<b>2nd Semester</b>	
ENGL 151 (English Composition I) . . . . .	C3
NUET 120 (Radiation Protection) . . . . .	3
NUET 130 (Plant Systems I) . . . . .	3
ELEC 125 (Fundamentals of Electricity) . . . . .	3
MATL 121 (Nuclear Plant Materials) . . . . .	3
<b>Spring/Summer Semester</b>	
NUET 205 (Nuclear Plant Experience) . . . . .	2
Expressions of the Human Experience Competency . . . . .	C5
<b>3rd Semester</b>	
CHEM 151 (Chemistry I) . . . . .	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 II) . . . . .	3
<b>4th Semester</b>	
ELEC 141 (Industrial Automation and Process Control) . . . . .	3
NUET 240 (Reactor Theory, Safety and Design) . . . . .	3
NUET 220 (Power Plant Components) . . . . .	3
Social Systems Competency . . . . .	C6
ELEC 211 (Medium Voltage Power Distribution System) . . . . .	3

**Total Degree Requirements 68 or 69 credits**  
**Total Degree Cost 87 minimum billable contact hours**

*\*MATH 157 and MATH 159 may substitute for MATH 164.*

# NURSING, PRACTICAL

Health Sciences Division    **Web Site:** [http://www.monroeccc.edu/health\\_sciences/nursing-lpn.htm](http://www.monroeccc.edu/health_sciences/nursing-lpn.htm)

A practical nursing 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 stable individuals with acute and chronic 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, community settings, nursing homes, clinics and physicians' offices.

Monroe County Community College's program offers learning opportunities in the classroom, laboratory setting, and clinical setting. After admission to the program, a total of 39.5 credit hours of study are required. The Certificate in Practical Nursing program is fully approved through the Michigan Board of Nursing.

## Career Opportunities

Upon program completion, students will be prepared and eligible to apply for licensure in the State of Michigan. Students must meet the Michigan Board of Nursing eligibility requirements and successfully pass the National Council Licensure Exam (NCLEX-PN) in order to become a licensed practice nurse.

Currently, the greatest employment opportunities for practical nurses are in extended care and community 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 and nursing homes.

The salary for licensed practical nurses in Michigan ranges from \$40,000-\$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.

## Transfer Information

Upon program completion, students may be eligible to transfer to a registered nursing completion program. For information regarding transfer opportunities for this, or any program, please go to <http://www.monroeccc.edu/academicadv-transfer/transindex.htm>.

## Additional Program Information:

Admission to the program involves three steps:

1. Admission to the college.
2. Completion of prerequisites as indicated by the Admissions and Guidance Office; the Office of Admissions and Guidance confirms that the criteria listed below have been met by the application date of the first Monday in October.

3. Verification of the completion of the program application. Applications will be date stamped upon receipt in the Admissions and Guidance Office and must be submitted by the first Monday in October each year. Students must apply every year.

Applications submitted after the deadline will only be considered if seats are available. Students who will complete required pre-requisite course work at the end of the Fall semester (after the application deadline) are encouraged to submit application materials for consideration and may be offered conditional acceptance into the program pending successful completion of those courses. If necessary, the tie breaker criteria will be used to rank applicants.

**Meeting minimum requirements does not guarantee acceptance into the practical nursing program.**

## Specific Criteria for Completion of Prerequisites

Develop a folder in the Admissions and Guidance Office 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).  
*NOTE: BIOL 157 and 158 (Anatomy & Physiology II) credits cannot be more than 10 years old.*
  - d. Completion of MATH 092 or MATH 150 or qualifying score on ACT or COMPASS
  - e. Successful completion of MCCC's computer skills graduation requirement (either by a passing score on the computer competency test or by taking a course which meets the requirement). CIS 130 is recommended.
  - f. HLTSC 110 (Medical Terminology)  
*NOTE: Strongly recommended but not required.*

**Enrollment in the practical nursing program is limited.** If the number of qualified applicants exceeds the number of seats available, the following **tie breakers** will be used in this order:

1. Completed BIOL 158 (Anatomy & Physiology II) with a "C" or higher\*
2. Completed HLTSC 120 (Pharmacology) with a "C" or higher\*
3. County resident over non-county resident
4. Higher cumulative GPA over lower GPA in the following courses: ENGL 151, PSYCH 151, BIOL 157

\* Completion of BIOL 158 (Anatomy & Physiology II) and HLTSC 120 (Pharmacology) are strongly recommended prior to admission, but not required.

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.

### 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 State Board of Nursing. Any questions or concerns about licensing should be directed to the State Board of Nursing at [www.michigan.gov/healthlicense](http://www.michigan.gov/healthlicense).
3. Any criminal history, including misdemeanors, could prohibit a student from participating in the Nursing Program. Students admitted to the nursing program must consent to security checks consisting of a national criminal background check and drug screening. Other positive background checks, either criminal or drug screening, may also be grounds for prohibiting admission, but will be considered on a case-by-case basis. All positive security checks, including misdemeanors, that prohibit student clinical placement are usually enough to prohibit admission to the program. Failure to disclose criminal history will also prevent admission to the nursing program. All costs incurred are the student's responsibility.

\*See *Criminal Background Check* section of the *PN Student Information Handbook* for further information.

4. Technical Standards are defined by the MCCC nursing faculty as the functional abilities determined to be essential to the practice of nursing. The purpose of these standards is to notify prospective and current nursing students and enable them to make an informed decision regarding enrollment and continued participation in the nursing program.

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 outcomes 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](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.

- Students must complete the practical nursing program within two years of initial entry into the program. Failure to meet the time framework necessitates reapplication to the nursing program.
- All practical nursing courses utilize Internet services and resources to supplement instruction. It is recommended that students have access to a reliable computer with Internet connection. MCCC offers open access computer laboratories, but students should also be familiar with community resources for computer access, such as public libraries, as needed. A personal computer is helpful.
- Nursing education offered at MCCC is provided in collaboration with multiple clinical partners located in southeast Michigan and northwest Ohio. As a part of these partnerships, MCCC students and faculty are required to meet and follow the policies and procedures of these clinical partners. Given the number of students in the program, faculty must be able to place students at any of the clinical agencies for clinical and observational experiences during the course of the program. Students need to be in good standing with all clinical agencies, both as a student and as a member of the community. Therefore, any condition

(i.e. criminal history, positive drug screening, unprofessional/unethical behavior, negative employment history) that prevents a student from being placed in any clinical agency during a semester may jeopardize the student's ability to meet the course objectives and may lead to course failure and program dismissal.

- Students will be expected to maintain a flexible schedule for the nursing program. Clinical assignments vary and are subject to change. This may include any day of the week and any shift, including weekends. On days that are not scheduled for class or clinical, students may be expected to view audiovisual material, study in the skills laboratory or participate in other on-campus activities. Usually, these activities are self-scheduled. There may be added classes on other days, but students will receive notice of these in advance.
- 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 Information Handbook.\*

*\*More information can be found at [http://www.monroeccc.edu/health\\_sciences/nursing-lpn.htm](http://www.monroeccc.edu/health_sciences/nursing-lpn.htm)*

## Certificate Program: Practical Nursing

	<b>Credits</b>
<b>Required Core Courses</b>	<b>39.5</b>
<b>Winter Semester</b>	
PNUR 121 (Fundamentals of Practical Nursing) . . . . .	9
PNUR 123 (Mental Health Concepts for Practical Nursing) . .	2
HLTSC 120 (Pharmacology) . . . . .	3
BIOL 158 (Anatomy and Physiology II) . . . . .	4
<b>Spring/Summer Semester (12 weeks)</b>	
<b>Weeks 1-8</b>	
PNUR 124 (Practical Nursing Care of Adults I) . . . . .	6.5
<b>Weeks 9-12</b>	
PNUR 125 (Practical Nursing Care of Pediatric Clients) . . . .	3
<b>Early Fall Start</b>	
PNUR 126 (Practical Nursing Care of Obstetrical Clients) . . .	2
<b>Fall Semester</b>	
<b>Weeks 1-10</b>	
PNUR 128 (Issues in Practical Nursing) . . . . .	2
<b>Weeks 1-11 (concurrent with PNUR 128):</b>	
PNUR 127 (Practical Nursing Care of Adults II) . . . . .	5
<b>Weeks 12-16</b>	
PNUR 129 (Management Concepts for the Practical Nurse) .	3
<b>Total Certificate Requirements</b>	<b>39.5 credits</b>
<b>Total Certificate Cost</b>	<b>68 minimum billable contact hours</b>

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
Gainful employment information for the practical nursing certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/PN\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/PN_CERT/Gedt.html).

# NURSING, REGISTERED

Health Sciences Division

**Web Site:** [http://www.monroecc.edu/health\\_sciences/nursing/index.htm](http://www.monroecc.edu/health_sciences/nursing/index.htm)

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. Job pay is exceptional, averaging \$64,000 annually for practicing nurses, according to the Bureau of Labor Statistics, and is a flexible and mobile career choice.

## Career Opportunities

Upon program completion, students will be prepared and eligible to apply for licensure in the State of Michigan. Students must meet the Michigan Board of Nursing eligibility requirements and successfully pass the National Council Licensure Exam (NCLEX-RN) in order to become a licensed registered nurse.

## Transfer Information

Upon program completion, students may be eligible to enroll in a RN to BSN completion program. MCCC's RN program has articulation with several four-year university partners. For information regarding transfer opportunities for this, or any program, please go to <http://www.monroecc.edu/academicadv-transfer/transindex.htm>.

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 website at [http://www.monroecc.edu/health\\_sciences/nursing/index.htm](http://www.monroecc.edu/health_sciences/nursing/index.htm).

## Additional Program Information:

This nursing program is accredited by the Accreditation Commission for Education in Nursing and is approved by the Michigan Board of Nursing.

ACEN  
3343 Peachtree Road NE  
Suite 850  
Atlanta, GA 30326  
Phone: (404) 975-5000  
Fax: (404) 975-5020  
[www.acenursing.org](http://www.acenursing.org)  
[info@acenursing.org](mailto:info@acenursing.org)

## Nursing Admission Criteria

The registered nursing program is a selective admissions program. Nursing program applicants must meet established minimum criteria to be considered for the nursing program. Applications will be accepted two times per year, in June and October. Only applicants who meet established minimum criteria by the first Monday in June or the first Monday in October will be considered for the Nursing Program. The potential nursing applicant needs to be aware that meeting minimum standards does not ensure admission to the nursing program. Applicants for the nursing program tend to be well qualified and will be accepted until each class is fully enrolled. Returning students in good standing with the program will be considered for reenrollment/readmission first. Additional candidates will be accepted according to the selection criteria below until a class is fully enrolled; up to 30 students for the Winter Semester (June application deadline) and up to 30 students for the Fall Semester (October application deadline).

Minimum admission criteria and Nursing Program Selection Criteria for each application deadline are available for review by visiting the program's webpage at [http://www.monroecc.edu/health\\_sciences/nursing/index.htm](http://www.monroecc.edu/health_sciences/nursing/index.htm). Students can also receive application information by contacting the Health Sciences Division Office at (734) 384-4102 or by contacting the MCCC Admission's Office at (734) 384-4104.

## General Information

1. The class will be selected from the pool of applicants by use of the numerical process.
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 to take NCLEX-RN is made by the Michigan State Board of Nursing. Any questions or concerns about licensing should be directed to the State Board of Nursing at [www.michigan.gov/healthlicense](http://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 on a case-by-case basis. 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.

5. Registered nursing at the associate degree level involves the provision of direct care for individuals and families and is characterized by the application of verified knowledge in the skillful performance of nursing functions. Therefore, in order to be considered for admission or to continue in the program, all applicants should possess:
  - a. sufficient visual acuity, such as needed in the accurate preparation and administration of medications and for observation necessary for patient assessment and nursing care;
  - b. sufficient auditory perception to receive verbal communication from patients and members of the health team and to assess health needs of people through the use of monitoring devices such as a cardiac monitor, stethoscope, I.V. infusion pumps, doppler, fire alarms, etc.;
  - c. sufficient gross and fine motor coordination to respond promptly and to implement the skills, including the manipulation of equipment, required in meeting health needs;
  - d. sufficient communication skills (speech, reading, writing) to interact with individuals and to communicate their needs promptly and effectively as may be necessary in the individual's interest;
  - e. sufficient intellectual and emotional functions to plan and implement care for individuals;
  - f. psychological stability, allowing the student to perform at the required levels in the clinical portions of the program;
  - g. the capability to concentrate for long periods of time in selecting correct techniques, equipment and safety measures to assure maximum care and safety of the patient. Therefore, the applicant must be able to exercise independent judgments under both routine and emergency conditions. A person under the influence of alcohol or consciousness-altering drugs could not meet the above criteria; and
- h. the ability to tolerate and function safely in environmental conditions, such as exposure to a variety of substances (such as latex products) and conditions within the laboratory and clinical environment, including, but not limited to: temperature fluctuations; electromagnetic radiation; hazardous waste, chemicals, poisonous substances, blood, body tissue or fluids; loud or unpleasant noises; high humidity and inhalants, such as dust or latex particles.
6. Applicants with documented disabilities must be able to meet course and program outcomes. Said applicants may be entitled to classroom and instructional accommodations, as well as access to all college facilities and programs. Access is provided while maintaining high academic standards. Questions should be directed to the Special Populations Coordinator in the Learning Assistance Laboratory (LAL).
7. Incoming students must complete the program in three years of initially starting nursing classes. Failure to meet the three year program completion timeframe necessitates application to the nursing program according to the admission criteria requirements in place at that time. If accepted, the student must start the nursing sequence with NURS 103.
8. Nursing courses utilize Internet services and resources to supplement instruction. It is recommended that students have access to a reliable computer with Internet connection. MCCC offers open access computer laboratories, but students should also be familiar with community resources for computer access, such as public libraries, as needed. A personal computer is helpful.
9. Nursing education offered at MCCC is provided in collaboration with multiple clinical partners located in southeast Michigan and northwest Ohio. As a part of these partnerships, MCCC students and faculty are required to meet and follow the policies and procedures of these clinical partners. Given the number of students in the program, faculty must be able to place students at any of the clinical agencies for clinical and

observational experiences during the course of the program. Students need to be in good standing with all clinical agencies, both as a student and as a member of the community. Therefore, any condition (i.e. criminal history, positive drug screening, unprofessional/unethical behavior, negative employment history) that prevents a student from being placed in any clinical agency during a semester may jeopardize the student's ability to meet the course objectives and may lead to course failure and program dismissal.

10. Students will be expected to maintain a flexible schedule for the nursing program. Clinical assignments vary and are subject to change. This may include any day of the week and any shift, including weekends. On days that are not scheduled for class or clinical, students may be expected to view audiovisual material, study in the skills laboratory, or participate in other on-campus activities. Usually, these activities are self-scheduled. There may be added classes on other days, but students will receive notice of these in advance.
11. In addition to the general college rules, nursing students are required to adhere to policies and procedures outlined in the Nursing Program Student Information Handbook. A copy of the Student Information Handbook can be accessed through the College's website, [www.monroeccc.edu](http://www.monroeccc.edu), or by contacting the Health Sciences Division office at (734) 384-4102.

### **Technical Standards**

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 these standards is to notify prospective and current nursing students and 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 outcomes 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](http://www.monroeccc.edu/health_sciences/TechnicalStandardsMCCCNursingProgramOrigFeb2010.pdf)

- **Motor**

- o 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**

- o The student will have sufficient function to:
  - See
  - Hear
  - Touch
  - Smell

- **Communication**

- o 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**

- o 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**

- o The student will have sufficient problem-solving skills to:
  - Make safe, immediate, well-reasoned judgments often in unpredictable situations.

- **Emotional, Psychological, Mental Stability**

- o 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.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

	<b>Credits</b>
<b>Required General Education Courses</b>	<b>20</b>
C1 BIOL 151 (Biological Sciences) . . . . .	4
C2 Mathematics Competency . . . . .	4
C3 ENGL 151 (English Composition I). . . . .	3
C4 Computer Literacy Competency). . . . .	3
C5 Expressions of the Human Experience Competency . . . . .	3
C6 PSYCH 151 (General Psychology). . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

**Required Courses and Sequence**

**June accepted applicants:**

**Fall 2015 (Non-Nursing Semester)**

- <sup>1</sup>ENGL 151 (English Composition I). . . . . C3
- <sup>1</sup>PSYCH 151 (General Psychology). . . . . C6
- <sup>1</sup>BIOL 151 (Biological Sciences) . . . . . C1
- <sup>1</sup>BIOL 157 (Anatomy & Physiology I) . . . . . 4

**Winter 2016 (1<sup>st</sup> Nursing Semester)**

- \*NURS 100 (RN Student Nurse Success) . . . . . 1
- NURS 103 (Fundamental Nursing Care) . . . . . 9
- <sup>1</sup>BIOL 158 (Anatomy & Physiology II) . . . . . 4
- <sup>1</sup>ENGL 152 (English Composition II) . . . . . 3

**Fall 2016 (2<sup>nd</sup> Nursing Semester)**

- <sup>1</sup>HLTSC 120 (Pharmacology) . . . . . 3
- NURS 105 (Medical Surgical Nursing Care I) . . . . . 5
- NURS 110 (Mental Health Nursing Care) . . . . . 3.5

**Winter 2017 (3<sup>rd</sup> Nursing Semester)**

- NURS 204 (Obstetrical Nursing Care) . . . . . 4
- NURS 205 (Pediatric Nursing Care) . . . . . 3.5
- NURS 210 (Nursing Leadership & Management) . . . . . 3

**Fall 2017 (4<sup>th</sup> Nursing Semester)**

- NURS 208 (Medical Surgical Nursing Care II) . . . . . 8.5
- NURS 212 (Nursing Practicum) . . . . . 2.5

**Required Courses and Sequence**

**October accepted applicants:**

**Winter 2016 (Non-Nursing Semester)**

- <sup>1</sup>ENGL 151 (English Composition I). . . . . C3
- <sup>1</sup>PSYCH 151 (General Psychology). . . . . C6
- <sup>1</sup>BIOL 151 (Biological Sciences) . . . . . C1
- <sup>1</sup>BIOL 157 (Anatomy & Physiology I) . . . . . 4

**Fall 2016 (1<sup>st</sup> Nursing Semester)**

- NURS 100\* (RN Student Nurse Success) . . . . . 1
- NURS 103 (Fundamental Nursing Care) . . . . . 9
- <sup>1</sup>BIOL 158 (Anatomy & Physiology II) . . . . . 4
- <sup>1</sup>ENGL 152 (English Composition II) . . . . . 3

**Winter 2017 (2<sup>nd</sup> Nursing Semester)**

- <sup>1</sup>HLTSC 120 (Pharmacology) . . . . . 3
- NURS 105 (Medical Surgical Nursing Care I) . . . . . 5
- NURS 110 (Mental Health Nursing Care) . . . . . 3.5

**Fall 2017 (3<sup>rd</sup> Nursing Semester)**

- NURS 204 (Obstetrical Nursing Care) . . . . . 4
- NURS 205 (Pediatric Nursing Care) . . . . . 3.5
- NURS 210 (Nursing Leadership & Management) . . . . . 3

**Winter 2018 (4<sup>th</sup> Nursing Semester)**

- NURS 208 (Medical Surgical Nursing Care II) . . . . . 8.5
- NURS 212 (Nursing Practicum) . . . . . 2.5

<sup>1</sup>Courses may be taken prior to entry into the nursing program.

\*Optional Course

**Additional courses to satisfy General Education Graduation Requirements:**

These courses are not program requirements; however, they must be completed in order to be eligible to graduate from the college. Students may chose a satisfier course from the college catalog and take the course during a semester of their preference. Suggested semesters to take the courses are listed below.

- (C2) Mathematics Competency<sup>1</sup>  
(Suggested: 3rd semester)
- (C4) Computer Literacy Competency<sup>1</sup>  
(Suggested: 2nd semester)
- (C5) Human Experience Competency  
(Suggested: Non-Nursing semester)

<sup>1</sup>Can be satisfied through ACT/COMPASS scores (Math Competency) or through a competency test (Computer Literacy Competency)

**Total Degree Requirements 73 maximum**  
**Total Degree Costs 106.5 billable contact hours maximum**



# PHLEBOTOMY TECHNICIAN

Health Sciences Division

**Web Site:** [http://www.monroecc.edu/health\\_sciences/phlebotomy.htm](http://www.monroecc.edu/health_sciences/phlebotomy.htm)

A phlebotomist has a vital role in the healthcare system. Phlebotomists may work in free-standing laboratories, hospitals, clinics, physicians' offices, home care areas and blood donation centers. Additionally, phlebotomists may be cross-trained as patient care technicians. The starting yearly pay range for a phlebotomist is \$23,000 to \$27,000.

A phlebotomy technician performs dermal and venipuncture techniques to collect blood specimens necessary in the diagnosis and treatment of a client. In addition to blood collection skills, successful specimen collection requires a phlebotomist to demonstrate competence, professionalism, and good communication and public relations skills. Moreover, the phlebotomist may perform point-of-care testing, obtain non-blood specimens for analysis, process and transport specimens, and maintain safety and quality control procedures. The aforementioned procedures, as well as anatomy and physiology, communication, legal, ethical and professional concepts related to the role of the phlebotomist will be studied in this program.

The phlebotomy certificate program consists of two classes. Students must be 18 years of age to participate in either class. HLTSC 156, Phlebotomy Basics, is a six-credit hour course that includes the theory of phlebotomy as well as laboratory skills experience in the classroom. HLTSC 157, Phlebotomy II, is a three-credit hour course and includes a 120 hour clinical externship at a CMS-approved and accredited laboratory facility, and preparation to take the American College for Clinical Pathology national phlebotomy certification exam.

The requirements for a clinical externship include:

1. Passing HLTSC 156 with a grade of "C" or better.
2. HLTSC 156 and the clinical externship course, HLTSC 157, must be taken in consecutive semesters.
3. Have physician documented good mental and physical health.
4. Proof of immunizations for hepatitis B, measles, mumps, rubella, varicella (chickenpox), tetanus, diphtheria, pertussis, and seasonal influenza.
5. Two-part tuberculosis test prior beginning the externship (results not more than one year old).
6. An active American Heart Association or American Red Cross cardiopulmonary resuscitation (CPR) certificate for professional rescuer of infant, child and adult.

7. Pass a criminal background check.
8. Pass an impromptu drug screen conducted during HLTSC 156.
9. Active medical health insurance (required for both HLTSC 156 & HLTSC 157).

*Note: Any expense accrued for the above requirements is the responsibility of the student.*

In addition to college rules, phlebotomy technician students are required to adhere to policies and procedures outlined in the Phlebotomy Technician Student Handbook provided in HLTSC-156. Students must be available to work 120 hours in consecutive days during the clinical externship. Be aware that afternoon shifts cannot be guaranteed for the clinical externship. The clinical externship will be arranged by the phlebotomy instructor in a CMS-regulated laboratory facility. The clinical externship will be completed without monetary compensation.

The student must complete both HLTSC 156 & HLTSC 157 with a "C" average or better in order to be awarded the phlebotomy technician certificate.

## Credits

### Required Courses

HLTSC 156 (Phlebotomy Basics) . . . . .	6
HLTSC 157 (Phlebotomy II). . . . .	3

<b>Total Certificate Requirements</b>	<b>9 credits</b>
<b>Total Certificate Cost</b>	<b>16.3 minimum billable contact hours</b>

*NOTE: A minimum of 10 students is required for this class to run.*

## Technical Standards

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 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 MCCC.

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 MCCC phlebotomy program. Examples of each standard are available at: [http://www.monroecc.edu/health\\_sciences/phlebotomy.htm](http://www.monroecc.edu/health_sciences/phlebotomy.htm)

- **Motor**

- o 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**

- o The student will have sufficient function to:
  - See
  - Hear
  - Touch
  - Smell

- **Communication**

- o 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**

- o 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**

- o The student will have sufficient problem-solving skills to:
  - Make safe, immediate, well-reasoned judgments often in unpredictable situations.

- **Emotional, Psychological, Mental Stability**

- o 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.

# PRODUCT AND PROCESS TECHNOLOGY

## (FORMERLY MANUFACTURING TECHNOLOGY)

Applied Science and Engineering Technology Division

Web Site: <http://www.monroecc.edu/aset/default.htm>

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, 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.

### Career Opportunities

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

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

<b>Required General Education Courses</b>		<b>Credits</b>
		<b>21</b>
C1	PHY 101 (Technical Physics) or PHY 151 (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I) . . . . .	4
C2	MATH 124* (Technical Mathematics II) or competency . . . . .	4
C3	ENGL 151 (English Composition I) . . . . .	3
C4	MDTC 160 (Mechanical Drafting CAD I) . . . . .	4
C5	Expressions of the Human Experience Competency . . . . .	3
C6	Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

<b>Required Core Courses</b>		<b>Credits</b>
		<b>47-49</b>
<b>1st Semester</b>		
	MECH 102 (Manufacturing Processes) . . . . .	4
	MECH 103 (Machining Basics and CNC) . . . . .	4
	MDTC 160 (Mechanical Drafting and CAD I) . . . . .	C4
	MATH 119* (Elementary Technical Mathematics) . . . . .	2
<b>2nd Semester</b>		
	ELEC 125 (Fundamentals of Electricity) . . . . .	3
	MATL 101 (Industrial Materials) . . . . .	3
	MECH 104 (CNC II) . . . . .	3
	MECH 201 (CAD/CAM I) . . . . .	3
	MATH 124* (Technical Mathematics II) . . . . .	C2
<b>3rd Semester</b>		
	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 Electives . . . . .	3-4
<b>4th Semester</b>		
	METC 220 (Statics & Strength of Materials) . . . . .	4
	MECH 231 (CAD/CAM III) . . . . .	3
	Restricted Electives . . . . .	3-4

### Restricted Electives List (select two)

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 Solid Modeling – SOLIDWORKS) . . . . .	3

<b>Total Degree Requirements</b>	<b>68-70 credits</b>
<b>Total Degree Cost</b>	<b>84 minimum billable contact hours</b>

\*Program requires at least 6 credit hours of Math. MATH 119 (Elementary Technical Mathematics) and 124 (Technical Mathematics II) are required 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.

## 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

	Credits
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**

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
 Gainful employment information for the product and process technology: CNC technician certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/PPCNC\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/PPCNC_CERT/Gedt.html).

## Certificate: CAD/CAM Technician

	Credits
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**

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
 Gainful employment information for the product and process technology: CAD/CAM certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/PPCAD\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/PPCAD_CERT/Gedt.html).

# QUALITY SYSTEMS TECHNOLOGY

Applied Science and Engineering Technology Division  
**Web Site:** <http://www.monroecc.edu/aset/default.htm>

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.

## Career Opportunities

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

**Credits**  
**38**

## Required Core Courses

### 1st Semester

MATL 101 (Industrial Materials) . . . . .	3
CIS 109 (Spreadsheet Software) . . . . .	3
MATH 119* (Elementary Technical Mathematics) . . . . .	2

### 2nd Semester

MDTC 109 (Mechanical Blueprint Reading) . . . . .	2
MECH 102 (Manufacturing Processes) . . . . .	4
QSTC 111 (Quality Management) . . . . .	3
MATH 162 (Introduction to Statistics) . . . . .	3

### 3rd Semester

ENGL 102 (Business Writing)	
or SPCH 151 (Communication Fundamentals) . . . . .	3
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

## General Electives

(as required to complete 60 hours)

**Total Degree Requirements**

**56-60 credits**

**Total Degree Cost**

**61-64 minimum billable contact hours**

\*or MATH 151 (Intermediate Algebra)

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

**Credits**

## Required General Education Courses

**20**

C1	PHY 101 (Technical Physics)	
	or PHY 151 (General Physics I)	
	or CHEM 150 (Fundamental Principles of Chemistry)	
	or CHEM 151 (General College Chemistry I) . . . . .	4
C2	MATH 124 (Technical Mathematics II)	
	or MATH 151 (Intermediate Algebra)	
	or competency . . . . .	4
C3	ENGL 151 (English Composition I) . . . . .	3
C4	CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5	Human Experience Competency . . . . .	3
C6	Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.



# RENEWABLE ENERGY

Applied Science and Engineering Technology Division

Web Site: <http://www.monroecc.edu/aset/default.htm>

Renewable energy is one of the fastest growing industries in Michigan and the U.S. Michigan is poised to become a major force in renewable energy technologies, with jobs ranging from entry level assembly, production and installation to technician-level maintenance, support and operation. Career opportunities within the field are also emerging in technical sales and marketing, office and business management, and engineering design. Renewable energy jobs require special knowledge and training that is just becoming available because the industry is so new and continues to evolve so rapidly. The job market is made up of both large multi-national companies that typically require apprenticeships or formal degrees, as well as a significant number of smaller family-owned and operated businesses and service providers. These smaller contractors represent opportunities for people who have acquired the proper skills to find useful work at reasonable pay.

The renewable energy field is expected to create major job growth during the next several years, and demand for trained qualified individuals is expected to remain high. These are well paying technical jobs that cannot be exported overseas.

MCCC offers several paths into a renewable energy career:

1. Individual specialty classes for the small business owner or skilled tradesperson wishing to add specific skills to an existing business or career.
2. Certificates in wind energy and solar energy showing basic, entry-level knowledge. MCCC recognizes that many employers place value on certificates which show specialized education and training in a particular job skill. These certificates concentrate on the basic core courses with skill development and job upgrading being the primary objectives. Each certificate can be completed in just two or three semesters. And, since the basic core courses are the same, it is possible to complete both certificates with some additional course work.
3. A formal two-year associate of applied science degree in electronics with a specialization in renewable energy is planned for the near future.

## Certificate Program: Solar Energy

This certificate concentrates on the basic core competencies required to prepare the student for entry-level positions in the solar energy field.

### Career Opportunities:

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

- Crop and slab engineer
- Crystal growing engineer
- Laser operations technician
- Logistics manager
- Module manufacturing engineer
- Production planner/scheduler
- Quality insurance manager
- Silicon crystal grower
- Wire technology engineer

	Credits
<b>Required Courses</b>	
CONM 101 (Materials of Construction) . . . . .	3
ELEC 125 (Fundamentals of Electricity) . . . . .	3
ELEC 127 (AC/DC Motors) . . . . .	3
ELEC 132 (Electronics I) . . . . .	4
ELEC 156 (Introduction to Renewable Energy) . . . . .	3
ELEC 157 (Introduction to Solar Energy) . . . . .	3
ELEC 214 (National Electric Code) . . . . .	2
ELEC 257 (Applied Solar Photovoltaics) . . . . .	3
MATH 119 (Elementary Technical Mathematics) . . . . .	2

<b>Total Certificate Requirements</b>	<b>26 credits</b>
<b>Total Certificate Cost</b>	<b>34 minimum billable contact hours</b>

### GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE

Gainful employment information for the solar photovoltaic energy certificate is available on our website at [http://www.monroecc.edu/consumer/gainfulemp/SOLPV\\_CERT/Gedt.html](http://www.monroecc.edu/consumer/gainfulemp/SOLPV_CERT/Gedt.html).





# RESPIRATORY THERAPY

Health Sciences Division

**Web Site:** [http://www.monroeccc.edu/health\\_sciences/respiratory\\_therapy.htm](http://www.monroeccc.edu/health_sciences/respiratory_therapy.htm)

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.

A registered respiratory therapist requires a minimum of a two-year degree program and most RRTs work in a hospital. Monroe County Community College graduates of the respiratory therapy program exceed the national averages for success on board exams.

Future employment for registered respiratory therapists is considered excellent nationwide.

Graduate therapists are prepared to:

- Assume basic or advanced respiratory care positions in hospitals, nursing homes, sub-acute 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.

## Transfer Information

For information regarding transfer opportunities for this, or any program, please go to <http://www.monroeccc.edu/academicadv-transfer/transindex.htm>

## Additional Program Information

The Monroe County Community College respiratory therapy program is accredited by the Commission on Accreditation for Respiratory Care (CoARC). Interested parties may contact CoARC or visit the website for additional information on program performance comparisons.

Commission on Accreditation  
for Respiratory Care  
1248 Harwood Road  
Bedford, Texas 76021-4244  
(817) 283-2835  
[www.coarc.com](http://www.coarc.com)

## 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<sup>st</sup> 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<sup>st</sup> 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 1<sup>st</sup>.

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 and Guidance 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 one-year high school chemistry or CHEM 150, Fundamental Principles of Chemistry, or a higher-level (e.g. 151, 152, etc.) chemistry course with a "C" or better. 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 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 recent 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, MDTC 160, BMGT 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 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 or the respiratory therapy program director. 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 abbreviated technical standards and the related functions required by the Monroe County Community College respiratory therapy program. An extended version and examples of each standard are available at [www.monroeccc.edu](http://www.monroeccc.edu)

- **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 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.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**  
 (C1) GE Natural Sciences Competency  
 (C2) GE Mathematics Competency  
 (C3) GE Writing Competency  
 (C4) GE Computer Literacy Competency  
 (C5) GE Human Experience Competency  
 (C6) GE Social Systems Competency

	<b>Credits</b>
<b>Required General Education Courses</b>	
	<b>20</b>
C1 BIOL 151 (Biological Sciences) . . . . .	4
C2 MATH 151 (Intermediate Algebra) . . . . .	4
or competency . . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 Computer Literacy Competency . . . . .	3
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

	<b>Credits</b>
<b>Pre-Admission</b>	
ENGL 151* (English Composition I) . . . . .	C3
MATH 151 (Intermediate Algebra) . . . . .	C2
BIOL 151 (Biological Sciences I) . . . . .	C1
BIOL 157 (Anatomy & Physiology I) . . . . .	4
Computer Literacy Competency <sup>1</sup> . . . . .	C4
CHEM 150 <sup>2</sup> (Fundamental Principles of Chemistry) . . . . .	0-4
	<b>4 to 8</b>

<b>Fall Semester (1st)</b>	
RTH 100 (Respiratory Care Techniques I) . . . . .	6.5
RTH 104 (Cardiopulmonary Assessment) . . . . .	3
BIOL 158** (Anatomy & Physiology II) . . . . .	4
	<b>13.5</b>

<b>Winter Semester (2nd)</b>	
RTH 110 (Respiratory Care Techniques II) . . . . .	5
RTH 111 (Respiratory Care Clinical Practice I) . . . . .	4.5
RTH 116 (Cardiopulmonary Pathophysiology) . . . . .	4
	<b>13.5</b>

<b>Spring/Summer Semester (3rd)</b>	
RTH 120 (Respiratory Care Techniques III) . . . . .	4
RTH 121 (Respiratory Care Clinical Practice II) . . . . .	2
RTH 220 (Pharmacology for Respiratory Therapists) . . . . .	2

8



# TEACHER PARAPROFESSIONAL

Science/Mathematics Division

Web Site: <http://www.monroeccc.edu/scimath/scimath.htm>

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.

## Transfer Information

Because many of the 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. For information regarding transfer opportunities for this or any program, please go to <http://www.monroeccc.edu/academicadv-transfer/transindex.htm>.

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

	<b>Credits</b>
<b>Required General Education:</b>	<b>19-20</b>
C1 Natural Science Competency . . . . .	4
C2 MATH 151 (Intermediate Algebra) or higher or competency . . . . .	3 or 4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5 ENGL 256 (Children's Literature) . . . . .	3
C6 PSYCH 151 (General Psychology) . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

	<b>Credits</b>
<b>Required Core Courses</b>	<b>26</b>
ENGL 152 (English Composition II) . . . . .	3
POLSC 151 (Introduction to Political Science) . . . . .	3
ART 158 (Art for Elementary Teachers) . . . . .	3
EDUC 151 (Exploring Teaching) . . . . .	3
ENGL 256 (Children's Literature) . . . . .	C5
HPE 151 (First Aid and Safety) . . . . .	2
ECE 104 (Nutrition, Health & Safety for ECE) . . . . .	3
PSYCH 251 (Child Psychology) . . . . .	3
ECE 110 (Diverse Populations in ECE) . . . . .	3
SPCH 151 (Communication Fundamentals) . . . . .	3

	<b>11</b>
<b>Additional General Electives</b>	<b>11</b>
<i>(To earn a minimum of 60 credits)</i>	
Additional general electives must be selected from:	
ACCT (Accounting)	
ANTHR (Anthropology)	
ART (Art)	
ASTRN (Astronomy)	
BIOL (Biology)	
CHEM (Chemistry)	
COMM (Communication)	
ECE (Early Childhood Education)	
ESC (Earth Science)	
ENGL (English)	
FREN (French)	
GEOG (Geography)	
GERMN (German)	
HPE (Health-Physical Education)	
HIST (History)	
HUMAN (Humanities)	
JOURN (Journalism)	
MATH (Mathematics)	
MUSIC (MUSIC)	
PHIL (Philosophy)	
PHYSC (Physical Science)	
PHY (Physics)	
POLSC (Political Science)	
PSYCH (Psychology)	
SWK (Social Work)	
SOC (Sociology)	
SPAN (Spanish)	
SPCH (Speech)	
THEA (Theater)	

<b>Total Degree Requirements</b>	<b>60 credits</b>
<b>Total Degree Cost</b>	<b>62 minimum billable contact hours</b>

# WELDING TECHNOLOGY

Applied Science and Engineering Technology Division  
**Web Site:** <http://www.monroecc.edu/aset/default.htm>

The associate of applied science degree with specialization in welding technology parallels the highly technological demands in the joining and fabrication areas of the 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). The subject matter and laboratory experiences in the welding technology program provide training for the serious welding technologist, with emphasis on welding skill development, welding metallurgy, weldment evaluation and testing, and related technical courses. A pathway to certification in nondestructive testing (NDT) is also available for students with prior experience in welding. Students can take individual NDT courses or pursue the entire certificate for additional credentials. The MCCC welding technology program will fully articulate with Ferris State University's four-year degree program starting fall of 2015.

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. Students may, within certain parameters, progress at their own rate of speed. This allows students to complete course requirements based on their own ability rather than be locked into a set rate of progress for a given class.

## Career Opportunities

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 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

**Note: The following codes identify courses that satisfy MCCC's General Education Requirements:**

- (C1) GE Natural Sciences Competency
- (C2) GE Mathematics Competency
- (C3) GE Writing Competency
- (C4) GE Computer Literacy Competency
- (C5) GE Human Experience Competency
- (C6) GE Social Systems Competency

	<b>Credits</b>
<b>Required General Education:</b>	<b>21</b>
C1 PHY 101 (Technical Physics) or PHY 151 (General Physics I) or CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I) . . . . .	4
C2 MATH 124* (Technical Mathematics II) or competency . . . . .	4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 MDTC 160 (Mechanical Drafting CAD I) . . . . .	4
C5 Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on Page 38 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

	<b>Credits</b>
<b>Required Core Courses:</b>	<b>43</b>
<b>1st Semester</b>	
MATL 101 (Industrial Materials) . . . . .	3
WELD 100 (Introduction to Welding Processes) . . . . .	4
MATH 119* (Elementary Technical Mathematics) . . . . .	2
<b>2nd Semester</b>	
WELD 110 (Welding Symbols and Blueprint Reading) . . . . .	2
WELD 114 (GMAW and GTAW Applications) . . . . .	6
MATH 124* (Technical Mathematics II) . . . . .	C2
<b>3rd Semester</b>	
METC 220 (Statics & Strength of Materials) . . . . .	4
WELD 102 (Advanced SMAW) . . . . .	6
WELD 103 (Weldment Evaluation and Testing) . . . . .	3
<b>4th Semester</b>	
WELD 105 (Welding Metallurgy) . . . . .	3
WELD 106 (Basic Pipe Welding) . . . . .	6
<b>Spring</b>	
WELD 216 (Basic Pipefitting) . . . . .	4

**Total Degree Requirements 64 credits**  
**Total Degree Cost 83 minimum billable contact hours**

*\*MATH 119 (Elementary Technical Mathematics) and 124 (Technical Mathematics II) are required 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.*

## Welding Technology Certificate Programs

The college offers two levels of certificate programs in welding. The basic certificate is oriented toward developing those skills required for entry level jobs in the welding field. The advanced certificate program is also a skills intensive program but takes students through higher-level skill proficiencies, utilizing additional welding procedures and applications. All courses taken in the certificate program are applicable toward the associate of applied science degree.

### Certificate Program: Basic Welding\*

	Credits
WELD 100 (Introduction to Welding Processes) . . . . .	4
WELD 102 (Advanced SMAW) or WELD 114 (GMAW and GTAW Applications) . . . . .	6
WELD 103 (Weldment Evaluation and Testing) . . . . .	3
WELD 110 (Welding Symbols and Blueprint Reading) . . . . .	2

**Total Certificate Requirements            15 credits**  
**Total Certificate Cost                    20 minimum billable  
 contact hours**

*\*This certificate is not federal financial aid eligible.*

### Certificate Program: Advanced Welding

	Credits
MATL101 (Industrial Materials) . . . . .	3
WELD 100 (Introduction to Welding Processes) . . . . .	4
WELD 102 (Advanced SMAW) or WELD 114 (GMAW and GTAW Applications) . . . . .	6
WELD 103 (Weldment Evaluation and Testing) . . . . .	3
WELD 105 (Welding Metallurgy) . . . . .	3
WELD 216 (Basic Pipefitting) . . . . .	4
WELD 110 (Welding Symbols and Blueprint Reading) . . . . .	2

**Total Certificate Requirements            25 credits**  
**Total Certificate Cost                    34 minimum billable  
 contact hours**

**GAINFUL EMPLOYMENT INFORMATION—CERTIFICATE**  
 Gainful employment information for the welding technology certificate is available on our website at [http://www.monroeccc.edu/consumer/gainfulemp/WELDADV\\_CERT/Gedt.html](http://www.monroeccc.edu/consumer/gainfulemp/WELDADV_CERT/Gedt.html)

## American Welding Society Certification

The college also offers course work to prepare students to qualify for American Welding Society certification at entry and advanced levels of proficiency. In addition to verification of skill levels to national standards, AWS certification also includes nationwide registry in the AWS bank. Equivalencies to associate of applied science degree requirements in welding are available upon completion of the certifications. See the division dean for further details.

### American Welding Society (AWS) Entry Level Welding Certification (conforms to AWS-QC-10 standard)

WELD 115 (Entry Level Welding) . . . . .	12
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**Total Certificate Requirements            12 credits**  
**Total Certificate Cost                    16.67 minimum billable  
 contact hours**

### American Welding Society (AWS) Advanced Level Welding Certification (conforms to AWS-QC-11 standard)

WELD 215 (Advanced Level Welding) . . . . .	12
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**Total Certificate Requirements            12 credits**  
**Total Certificate Cost                    16.67 minimum billable  
 contact hours**







## ■ COURSE DESCRIPTIONS



## ACCOUNTING (ACCTG)

### 151 Accounting Principles 4 Credit Hours 4 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 and completion of, or co-register in BSMTH 101, MATH 092, MATH 119, MATH 124, 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 and partnership accounting.

### 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 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 reviews the fundamental accounting process studied in the principles of accounting and continues with a more comprehensive study of the major categories of the balance sheet and statement of cash flow and income statements. Students will also be introduced to the applicable FASB pronouncements and related topics.

### 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 continues ACCTG 251 with a comprehensive study of the major categories of the balance sheet, statement of cash flow, and income. In addition, students will be introduced to the accounting, analysis, and reporting of special topics such as earnings per share, investments, deferred taxes, and revenue recognition. Students will also be introduced to the applicable FASB pronouncements and related topics.

### 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

Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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

Prerequisite: Minimum test competencies in Reading must be met before registering for this course

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 or WPR 103 will not receive credit for this course. This class may not be taken concurrently with any of the above courses.

**106 Numeric Keypad** **1 Credit Hour**  
**1 Billable Contact Hour**  
Prerequisite: Minimum test competencies in Reading must be met before registering for this course  
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.

**131 Beginning Keyboarding** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests and 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: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests and touch keyboarding skills of 40 NWPM

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests  
F, W, Sp

Cultural anthropology provides the conceptual and methodological tools necessary to understand the diversity of human lifeways on a global basis. The course introduces such powerful concepts as culture and socialization and explores the effects of these on people's worldview. This allows students to enhance their understanding of the underlying reasons why some societies have beliefs, lifeways, and customs vastly different from their own and allows them to see themselves and their own culture in a new light. This course is a satisfier course for the Global Studies Degree Designation.

**155 Introduction to Archaeology** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests  
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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests  
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.

**175 Archaeological Field Methods** **3 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests  
Sp, Su

Archaeological Field Methods introduces the theory and methodology of fieldwork to Monroe County Community College students. Students spend the majority of this class out-of-doors engaging in hands-on activity while working on actual archaeological sites. As such, students experience the excitement and hard work that goes into recovering artifacts and other archaeological material. Students will learn how archaeologists plan and conduct research, learn proper excavation and recording methods, and learn how to identify artifacts. As importantly, you will recognize the social aspects of archaeology, including the value of individual work and self-discipline as well as the value of teamwork. When finished with the class, students will have a basic yet thorough knowledge of archaeological fieldwork techniques and will be prepared for more advanced study.

## ART (ART)

### **151 Art Fundamentals** **3 Credit Hours** **6 Billable Contact Hours**

**Prerequisite:** RDG 090 and ENLG 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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. This course is a satisfier course for the Global Studies Degree Designation.

### **158 Art for Elementary Teachers** **3 Credit Hours** **3 Billable Contact Hours**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** ART 180

F, W

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** ART 190

F, W

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**

**Prerequisite:** RDG 090 and ENLG 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** ART 250

F, W

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**  
Prerequisite: ART 181 or ART 191 or ART 251  
F, W

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests  
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**  
Prerequisite: ART 270  
F, W

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**  
Prerequisite: ART 271  
F, W

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**  
Prerequisite: ART 272  
F, W

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: Prehistoric to Gothic** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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. This course is a satisfier course for the Global Studies Degree Designation.

**281 Art History: Renaissance to Baroque** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

This course is an exploration of the artists and ideals that 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. This course is a satisfier course for the Global Studies Degree Designation.

**282 Art History:Neo-Classical/Early Modern** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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. This course is a satisfier course for the Global Studies Degree Designation.

## **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**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests  
F

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 & Emission Control Systems** **4 Credit Hours**  
**6 Billable Contact Hours**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

W

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**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

W

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**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

F

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 Technicians** **3 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS test

F

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 092 or MATH 150 or qualifying score on ACT or COMPASS tests

F, W, Sp

General Biology is designed to cover selected biological topics that 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 includes units of modern cell biology, chemistry, metabolism, genetics, evolution and ecology. This is the first semester of a two-semester sequence. Course requires laboratory work.

**153 Biological Sciences II** **4 Credit Hours**  
**6 Billable Contact Hours**  
Prerequisite: BIOL 151

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.

**156 Introduction to Environmental Science** **4 Credit Hours**  
**6 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests

F, W

An introduction to environmental science stressing fundamental concepts and principles of ecology, ecosystem structure and function, population dynamics, resources and pollution. This course reflects applications of physical, chemical, biological and geological principles to define ecological change, both natural and anthropogenic. 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. Course requires laboratory work. This course is open to both science- and non-science majors.

**157 Anatomy & Physiology I** **4 Credit Hours**  
**6 Billable Contact Hours**  
Prerequisite: BIOL 151 or admission into the Associate Degree Nursing (ADN) program

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**  
**6 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.

**251 Elements of Botany** **4 Credit Hours**  
**6 Billable Contact Hours**  
Prerequisite: BIOL 151

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

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 admission into the Associate Degree Nursing (ADN) program

This is an introductory microbiology course designed according to the American Society for Microbiology Curriculum Guidelines for Undergraduate Microbiology. The course specifically teaches core competencies essential to an introductory microbiology course, including fundamental skills used in a microbiology laboratory. This course also includes topics that are of particular significance to allied health majors. Course requires laboratory work.

**264 Fundamentals of Genetics** **4 Credit Hours**  
**6 Billable Contact Hours**  
Prerequisite: BIOL 151

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

This course introduces students to small business and 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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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.

F, W

## **BUSINESS MANAGEMENT (BMGT)**

**160 Managing in the Digital Enterprise** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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, email, and other networked resources used to turn data into commercial information. Keyboarding skills will be beneficial.

F, W

**201 Principles of Management** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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.

F, W

**202 Business Communication in a Digital Age** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 151 and one of the following: BUSAD 151, BMGT 160, BMGT 201 or ENGL 102

This course covers the principles, practices, ethics, and management of communication in a business environment, with an emphasis on both traditional and emerging media. Students will learn effective methods for planning, creating, transmitting, and managing information for a variety of purposes, and they will develop an understanding of the effective use of digital communication tools like social media and web sites. Students will also study strategies for managing a business' presence on the Internet.

**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

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.

W

## **BUSINESS MATH (BSMTH)**

**101 Business Mathematics** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and MATH 090 or qualifying scores on COMPASS or ACT tests

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.

F, W

**141 Mathematics for Business and Finance** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 and MATH 092 or qualifying scores on ACT or COMPASS tests.  
Concurrent enrollment in CIS 130 or BMGT 160

This course covers business mathematics emphasizing applications to problems in accounting and finance. The course includes algebra in business mathematics, mathematics of finance using formulas, exponents, and graphical expression and analysis. Also included are linear equations, ratio, proportion, percent, simple and compound interest, bank discount, simple and compound discount, basic marketing mathematics, annuities and amortization schedules. Financial calculators and spreadsheet software are integral to the course.



## CERTIFIED NURSE AIDE (CNA)

**100 Certified Nurse Aide** **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's aide.

## CHEMISTRY (CHEM)

**150 Fundamental Principles of Chemistry** **4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 and MATH 124 or MATH 092 or MATH 150 or qualifying score 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

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**

Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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.

## COMMUNICATIONS (COMM)

**151 Introduction to Mass Media** **3 Credit Hours**

**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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.

## COMPUTER INFORMATION SYSTEMS (CIS)

### **109 Spreadsheet Software 3 Credit Hours** **3 Billable Contact Hours**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

F, W, Sp

This course provides students with basic knowledge of computer information systems. This course 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 092 or qualifying score on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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.

### **150 Computer Science I 4 Credit Hours** **4 Billable Contact Hours**

**Prerequisite:** BSMTH 101 or MATH 092 or higher or qualifying score on ACT or COMPASS tests

F, W

This course focuses on the design stage of computer program development and coding of programs using an object-oriented programming language such as C++. Students will design solutions to a variety of computer problems. Documentation will be created using standard methods. Program solutions will be coded, executed and tested.

### **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.

### **153 Desktop App Development 3 Credit Hours** **3 Billable Contact Hours**

**Prerequisite:** CIS 150

F

This course focuses on the development of computer applications (apps) that feature controls and user interface elements required by today's desktop environments. Students will utilize the C# language in an integrated development environment (IDE) and other tools to design, document, implement and test a variety of desktop apps.

### **155 Database Management Systems 3 Credit Hours** **3 Billable Contact Hours**

**Prerequisite:** CIS 112

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** **4 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: MATH 159 or MATH 164 or MATH 171  
Corequisite: CIS 250. Must be successfully completed prior to or concurrently.

This course covers mathematical principles and techniques required for analysis, proofs and general understanding of algorithms used in computer science. Topics include: algorithms, advanced counting, sets, Boolean algebra, graphs, trees, functions, mathematical induction and understanding and doing proofs.

**170 Web Design for Non-Designers** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: CIS 130 or MDTC 160 or WPR 102 **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.

**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, 176, 177, 182, 184, 185, 186, 187, or 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 Android Programming** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: CIS 150

This course covers the design, implementation and publishing of apps for the Android platform. Android applications will be designed and created using Java or other programming languages. Students will work with integrated development environments and other tools to create and test complete apps.

**176 Web Animation** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: CIS 130 and one of the following: CIS 172, 178, 180, 182, 184, 185, 186, 187 or 189. **F**

This course covers the skills and techniques for producing and delivering high-impact Web sites using industry standard software. 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** **4 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: CIS 130 **F**

This course covers HTML, CSS and introduces XHTML, JavaScript, and DHTML. Students will be using a case-oriented, problem-solving approach to creating web pages using these web development markup languages.

**178 Design Concepts** **4 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: RDG 090 or ENGL 090 or qualifying score on ACT or COMPASS tests **F, W**

This course covers the fundamentals of designing informative, attractive and efficient designs. It includes design processes, techniques, color theory and typography as they relate to print, Web and interactive designs.

**179 Web Script Programming** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: 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 tools, features, and techniques of the image editing software 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. Knowledge of Adobe Photoshop and/or Adobe Illustrator are recommended for this course.

**186 Multimedia Development 3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: CIS 130

W

This course covers industry standard tools and techniques for producing multimedia content. This development platform will stress the creation of compositions with sound, graphics, animation, and video that can be deployed on the Web, on DVD or 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.

**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** **4 Credit Hours**  
**4 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. Abstract data types studied include: stacks, queues and lists. This course is designed for students who wish to continue their computer science education beyond the community college level.

**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 write programs that demonstrate major lecture topics. Students will also design and implement complete computer games. The programs and games created will utilize a variety of programming techniques and tools, including C++ programming language, graphics API, a game engine, software engineering, audio editing and playback, user input, image editing software, network programming, collision detection and game design.

**268 Assembly Language/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 112 and CIS 150 or CIS 152

This course covers server-side programming in PHP and the use of MySQL for the purpose of creating dynamic Web sites.

**274 Database Web Development (.NET)** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: CIS 112 and CIS 152

This course covers the design and maintenance of dynamic Web applications using .NET technology.

**284 Advanced Photoshop Graphics** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: CIS 180 and CIS 184

This course covers advanced tools, features, and techniques of the image editing software Photoshop.

W

**CONSTRUCTION MANAGEMENT TECHNOLOGY (CONM)**

**100 Introduction to Design and Construction** **3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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**

Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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**

Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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: RDG 090 and 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 & 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: RDG 090 and 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**  
 Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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.

**160 Green Building and LEED Rating System** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS test

This course examines the practice sustainability in the built environment. Discussions and activities will explore how researchers, designers, builders and the public define/ implement sustainability and green building. Case studies and other examples of current practice will present the business case for sustainability and green building by examining the "triple bottom line" of people, plant and profit. Strategies for implementation of green building techniques will be presented by guest speakers with current field experience certifying projects using the U.S. Green Building Council's LEED rating systems. Students will also prepare for the LEED Green Associate Exam.

**201 Site Planning and Development** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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**  
 Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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 40 hour completion card.

**240 Construction Planning & Scheduling with Primavera** **3 Credit Hours**  
**3 Billable Contact Hours**  
 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 professional scheduling software to complete assigned projects.

**242 Construction Documents and Law** **3 Credit Hours**  
**3 Billable Contact Hours**  
 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**  
 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 Hour**  
 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 15-20 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.

## CRIMINAL JUSTICE (CRJ)

**154 Introduction to Law Enforcement** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

F, W

This course addresses the basic elements of our legal system, the nature of crime and criminal responsibility, the criminal justice system and the role of professionals in the criminal justice system.

**156 Fundamentals of Criminal Investigation** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

This course examines investigative procedures including theory, conduct, collection and preservation of physical evidence.

**170 Introduction to Corrections** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

F, W

This course is an introduction to a 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 Criminal Law** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

F, W

This course is designed to provide a foundation for criminal law in the United States, providing definitions of crimes, their elements, penalties and defenses. The essential skill emphasized in the course is critical thinking.

**252 Juvenile Delinquency** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: SOC 151

F, W

This course deals with theories of causation and prevention with emphasis on juvenile courts, institutional treatment and community resources for prevention.

**255 Police Organization and Administration** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

F, W

The administration of police-line operations including patrol, the 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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

W

This course focuses on the day-to-day operations of a police organization. Emphasis focuses on patrol, reports, communications, arrests, officer survival skills, community relationships and jail operations.

## 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, & 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 Preparation** **2 Credit Hours**  
**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.

**Advanced Food Preparation I**

**201A Introduction to Hospitality Industry** **2 Credit Hours**  
**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 & Supervision** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: CSM 201A and CSM 201B and CSM 201C and CSM 201D and CSM 201E

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: Take CSM 201A and CSM 201B and CSM 201C and CSM 201D and CSM 201E

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

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

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

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.

**219 Beverages in Food Service** **2 Credit Hours**  
**2 Billable Contact Hours**  
Prerequisite: CSM 116A and CSM 116B and CSM 116C and CSM 116D

This blended format course familiarizes the student with laws related to serving alcohol with the server's responsibility, basic mechanics and principles of bartending. Students also study the processes that produce different alcoholic beverages, such as wine, beer and spirits, and liqueurs. A major emphasis of this course will be on the study of wines, and food and wine pairings.

## DANCE (DANCE)

**151 Ballet I** **1 Credit Hour**  
**2 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on COMPASS or ACT tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying score on COMPASS or ACT tests

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**  
Prerequisite: RDG090 and ENGL 090 or qualifying score on COMPASS or ACT tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests  
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 & Fundamental Movements** **2 Credit Hours**  
**2 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests  
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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests  
F, W

This course serves as a foundation in which to develop a greater understanding of the chronological events, people and places that shaped dance into an art form, a medium of expression and aesthetic experience. Students will examine dance as it has served as ritual, play and art from primitive societies to present. Participants will investigate the major genres including ballet, modern, jazz, tap, musical theater, social dance and world dance forms. The course promotes research and discoveries of key figures, major contributors and collaborators. The relevance of dance education and dance career options are also discussed.

## EARLY CHILDHOOD EDUCATION (ECE)

**100 Foundations of Early Childhood Education** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests  
F, W

This course provides an introduction to the field of early childhood education for students interested in pursuing a career in the profession. An overview of the foundational content of early childhood education is presented with the focus on the young child, the teacher, the family, and the learning environment. It presents a respectful, culturally sensitive, and child-family centered approach to the care, development, and learning of the young child.

**102 Child Growth and Development** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests  
F, W

This course presents the theory and stages of child development from the prenatal period through the young child of eight years. The student will gain an understanding of child development in the areas of perceptual, motor and physical development, emotional and social development, and cognitive, language and literacy development. The related topics of health, nutrition, safety, and children with special needs are also discussed. The focus of the course is to prepare the student with knowledge of growth and development to enhance their ability to provide educational experiences and interactions that support children's development and learning.

**104 Nutrition/Health/Safety for Early Childhood Education** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests  
Corequisite: ECE 102.  
F, W

This course presents a holistic approach to the wellness of children in relation to their safety, nutrition, and health in various environments and early childhood education settings. It discusses the provision of quality early childhood education environments that ensure the physical and emotional well-being of children. Knowledge of child development is reviewed to address the safety, nutritional and health needs of children throughout the developmental stages. Students will develop an instructional unit on one of these areas related to the wellness of children.

**106 Observation and Assessment of Childhood Development** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ECE 100 and ECE 102 and ECE 104  
W

This course assists the student to develop the skills and experience essential to the observation, recording, and assessment of the development and behavior of young children. Child and family communication and guidance techniques consistent with knowledge of child development and professional standards are emphasized. Students will participate 45 hours in an approved early childhood setting to perform various observation assignments and to develop a case study on a select child. Students will also compile a portfolio documenting the observation and assessment of the child's development and behavior. The portfolio assessment is discussed in relation to curriculum and program development.

**108 Caring and Learning of Infants & Toddlers 4 Credit Hours  
4 Billable Contact Hours**

Prerequisite: ECE 100 and ECE 102 and ECE 104

W

This course focuses on the provision of developmentally appropriate practice in the care and learning of infants and toddlers from birth to age three. It presents the design of curriculum, activities, and experiences to support the child's physical, sensory-motor, cognitive, language, and social-emotional development. Child, family, and caregiver interactions and guidance techniques consistent with knowledge of child development and professional standards are emphasized. The creation of active learning environments and child and program assessment is addressed. Students will participate 45 hours in an approved early childhood setting to perform observation assignments and develop a unit of instruction for the infant and toddler.

**110 Diverse Populations in Early Childhood Education 3 Credit Hours  
3 Billable Contact Hours**

Prerequisite: ECE 100 and ECE 102 and ECE 104

F, W

This course focuses on the care, development, and learning needs of diverse children. It discusses children with special needs related to cognitive, speech and language, motor and sensory impairments. Children with acute and chronic health problems and emotional disorders are also discussed. Significant social issues including poverty, homelessness, and family violence are explored. Strategies for communicating and working with diverse children and families and use of school and community resources are presented.

**200 Caring and Learning of Preschool Children 4 Credit Hours  
4 Billable Contact Hours**

Prerequisite: ECE 100 and ECE 102 and ECE 104

F

This course focuses on the provision of developmentally appropriate practice in the care and learning of preschool children ages three through five. It presents the design of curriculum, activities, and experiences to support the child's physical, language and literacy, creative arts, and cognitive development. Child and family communication and guidance techniques consistent with knowledge of child development and professional standards are emphasized. Students will participate 45 hours in an approved early childhood setting to perform child observation assignments and develop a unit of instruction for the preschool child.

**202 Caring and Learning of School Age Children 4 Credit Hours  
4 Billable Contact Hours**

Prerequisite: ECE 100 and ECE 102 and ECE 104

F

This course focuses on the provision of developmentally appropriate practice in the care and learning of school-age children. It presents the design of curriculum, activities, and experiences to support the child's physical, cognitive, psychological, moral, and social development. Child, family, and caregiver interactions and guidance techniques consistent with knowledge of child development and professional standards are emphasized. The planning of curriculum, including programs, learning environments, and activities for school-age children is discussed. Students will participate 45 hours in an approved early childhood setting to perform quality program assessments and develop a unit of instruction with activities and experiences for school-age children.

**204 Administration of a Child Care Program 3 Credit Hours  
3 Billable Contact Hours**

Prerequisite: ECE 100 and ECE 102 and ECE 104

W

This course focuses on the competencies and requirements central to the development and administration of early childhood education programs. It discusses the role of the director/administrator and details the administrative responsibilities in the management of these programs. Professional standards designated by the National Association for the Education of Young Children (NAEYC) are emphasized. Background knowledge of growth and development, assessment, and the needs of children are reviewed. The creation of the developmentally appropriate curriculum, communications with children, families and community, and child, staff, and program evaluations are discussed.

**206 Early Childhood Education Practicum 5 Credit Hours  
5 Billable Contact Hours**

Prerequisite: ECE 106 and ECE 108 and ECE 200 and ECE 202

Corequisite: ECE 110

F, W

This capstone course prepares the student teacher for future employment through a weekly practical experience in the care and teaching of children under the supervision of qualified staff in a child care facility. Classroom instruction addresses the fundamentals of the teaching-learning process and competent mastery of the role of beginning early childhood teacher. The application of acquired knowledge to support the care, development, and learning of the young child is emphasized. Students will demonstrate their performance in the care and teaching role during a 150 hour placement under the supervision of staff and faculty in a licensed child care facility. Students will compile a portfolio as a representative collection of their student teacher accomplishments.

## 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

This course is 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**

Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying score on ACT or COMPASS test

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**  
Prerequisite: RDG 090 and ENGL 090 and MATH 090 or  
qualifying score on ACT or COMPASS test

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**  
Prerequisite: ENGL 090 and RDG 090 or qualifying  
scores on ACT or COMPASS tests

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: RDG 090 or qualifying scores on ACT or  
COMPASS tests and 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

F

This course is designed to provide students with a knowledge of AC/DC motor operating characteristics and control circuits. It will provide hands-on experience with wiring control circuits, checking the operational characteristics of motors and the use/installation of circuit protection devices. Development and application of ladder logic theory, diagrams and circuits will be covered. This course acquaints the student with concepts and applications of three-phase power, including wye and delta configurations. 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.

**130 Introduction to Programmable Logic Controls 3 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: ELEC 125

F

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**  
Prerequisite: ELEC 125

W

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 157 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.

**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**  
Prerequisite: ELEC 125

W

Measuring and Test Equipment (M&TE) is a vital part of almost all industry. This course examines the characteristics and limitations of common instruments. A major focus is on calibration techniques and standards for such equipment. Topics covered include safety, lab techniques, AC and DC meters, digital multimeters, bridges, signal-processing circuits, and typical instruments for measuring parameters such as torque, pressure, temperature, dimensional, mass, force, and others.

**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 3 Credit Hours****& Process Control 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 2 Credit Hours****Control 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.

**156 Introduction to Renewable 3 Credit Hours****Energy Systems 4 Billable Contact Hours**

Prerequisite: RDG 090 and MATH 119 or qualifying score on COMPASS or ACT tests

F

This course explores the basic principles of energy systems for both renewable and conventional energy. Topics include the technical nomenclature and critical analysis techniques for energy systems, as well as its generation, flow, conversion, storage, economics, consumption, sustainability, conservation, environmental impact, and regulatory concerns.

**157 Introduction to Solar Energy 3 Credit Hours****Systems 4 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying COMPASS or ACT scores

Corequisite: MATH 119 or qualifying COMPASS score and ELEC 125 and ELEC 156

F

This course introduces the basics of solar energy systems: collection, conversion, transmission, and storage for both thermal and photovoltaic systems. Topics include history, terminology, solar radiation, domestic hot water systems, passive solar house heating, and photovoltaic power systems.

**158 Introduction to Wind Power 3 Credit Hours****4 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying COMPASS or ACT scores

Corequisite: MATH 119 or qualifying COMPASS score and ELEC 125 and ELEC 156

F

This course introduces the field of wind energy. The course will cover the history and development of the wind industry, along with its terminology, technologies, electronics, power generation and storage, on/off grid operation, siting and permitting. Safety, economics, and environmental issues will be covered as well.

**200 Electronic & Electrical 4 Credit Hours****Troubleshooting 6 Billable Contact Hours**

Prerequisite: ELEC 132

F

This course introduces the logic and concepts of a 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

W

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

F

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.

**257 Applied Solar Photovoltaic Systems** **3 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: ELEC 157 (Grade of C or better)

W

This course expands on and applies the PV concepts and principles from ELEC 157. This is a hands-on course where PV systems are sized, designed, configured, procured, built, tested, and maintained.

## ENGLISH (ENGL)

*Students who score below specified minimum on the ACT or COMPASS English placement test must successfully complete ENGL 090 prior to enrolling in a 100-level or higher English course.*

**090 Basic Writing Skills** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: Minimum test competencies in English must be met before registering for this course (This class does not count toward graduation)

F, W, Sp

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 & Oral Communication** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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**

Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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

W

This is a survey course of major literary works by African American authors from the 18th century to the present. This course is designed to expose the student to a broad range of works by African Americans, develop critical reading and writing skills, analyze African American literature and art as an important part of American culture, and promote a better understanding of our multicultural society. This course is a satisfier course for the Global Studies Degree Designation.

**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. The major units constitute a general framework for American writers from early American authors to the present. The literature covers numerous genres, but mainly short fiction, poetry, and essays.

**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 students to writings by women. This course will trace the development of women's writings in a variety of genres, including, but not limited to: novels, short stories, poetry, diaries, journals, essays, and autobiographies. The readings will represent diverse cultures, as well as a variety of historical periods. Students in the class will also learn about the social, political, and historical context of the assigned readings, as well as a number of critical approaches to their interpretations. This course is a satisfier course for the Global Studies Degree Designation.

**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 practice methods for introducing literature to children from pre-school age to high school. Coursework will include writing assignments, class presentations and library research. This course is a satisfier course for the Global Studies Degree Designation.

**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. This course is a satisfier course for the Global Studies Degree Designation.

**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. This course is a satisfier course for the Global Studies Degree Designation.

**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 Anglo-Saxon poetry 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. This course is a satisfier course for the Global Studies Degree Designation.

**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 Seamus Heaney. 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. This course is a satisfier course for the Global Studies Degree Designation.

## FRENCH (FREN)

**151 Elementary French I** **4 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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. This course is a satisfier course for the Global Studies Degree Designation.

**152 Elementary French II** **4 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: FREN 151 or one year high school French

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. This course is a satisfier course for the Global Studies Degree Designation.

**251 Second Year French I** **4 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: FREN 152 or two years high school French

F

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. This course is a satisfier course for the Global Studies Degree Designation.

**252 Second Year French II 4 Credit Hours**  
**4 Billable Contact Hours**  
 Prerequisite: FREN 251 or three years high school French

W

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. This course is a satisfier course for the Global Studies Degree Designation.

## 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

This course is 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**  
 Prerequisite: ENGL 090 and RDG 090 or qualifying scores on COMPASS or ACT tests

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**  
 Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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. This course is a satisfier course for the Global Studies Degree Designation.

**152 Elementary German II 4 Credit Hours**  
**4 Billable Contact Hours**  
 Prerequisite: GERMN 151 or one year high school German

W

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. This course is a satisfier course for the Global Studies Degree Designation.

**251 Second Year German I 4 Credit Hours**  
**4 Billable Contact Hours**  
 Prerequisite: GERMN 152 or two years high school German

F

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. This course is a satisfier course for the Global Studies Degree Designation.

**252 Second Year German II 4 Credit Hours**  
**4 Billable Contact Hours**  
 Prerequisite: GERMN 251 or three years high school German

W

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. This course is a satisfier course for the Global Studies Degree Designation.

## HEALTH SCIENCES (HLTSC)

**110 Medical Terminology 2 Credit Hours**  
**2 Billable Contact Hours**  
 Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

F, W, Sp, Su

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. This class utilizes a text/workbook, computer assisted instruction, audio tapes and classroom instruction.

**120 Pharmacology 3 Credit Hours**  
**3 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 & Diet Therapy 3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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, Sp

The purpose of this class is to promote quality phlebotomy standards and prepare students to work within the health care community as phlebotomy technicians. Instruction includes: Safety and quality control, basic anatomy as it pertains to phlebotomy, specimen collection, phlebotomy techniques, processing and transporting laboratory specimens, communication skills, and legal, ethical, and professional conduct.

**157 Phlebotomy II** **3 Credit Hours**  
**8.3 Billable Contact Hours**  
Prerequisite: HLTSC 156 with a "C" or better

F, W, Sp

The purpose of this course is to apply phlebotomy techniques and procedures in a clinical setting to obtain "hands-on" experience, gain confidence, and improve phlebotomy skill level. Students will work 120 hours in a CLIA regulated accredited laboratory, and complete 100 successful, unaided blood collections. Additionally, there is a computer component on Blackboard for this class. The student must be 18 years old.

**160 Perspectives of Aging** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying  
scores on ACT or COMPASS tests

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**  
Prerequisite: ENGL 090 and RDG 090 or qualifying  
scores on ACT or COMPASS tests

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**  
Prerequisite: ENGL 090 and RDG 090 or qualifying  
scores on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying  
scores on ACT or COMPASS test

F, W, Sp

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.

**165 Karate** **1 Credit Hour**  
**2 Billable Contact Hours**

F, W

The purpose of the course is to help the participating student understand the art of Karate, not only as a method of self-defense, but as an art to develop coordination between mind and body. Emphasis will be placed on physical fitness, history of the art, self-discipline and self-defense. Involved are body movement principles, a progressive exercise program, and other desirable health and technical aspects of the art of Karate.

**170 Exercise Walking** **1 Credit Hour**  
**2 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying  
scores on ACT or COMPASS test

F, Sp, Su

Course content for physical fitness activities will include: section of clothing, equipment, terminology, basic 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 exercise walking skills and the knowledge and understanding of concepts related to those skills. 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.

**171 Jogging** **1 Credit Hour**  
**2 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS test

F, Sp, Su

Course content for physical fitness activities will include: section of clothing, equipment, terminology, basic 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 jogging skills and the knowledge and understanding of concepts related to those skills. 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.

**173 Aerobics** **1 Credit Hour**  
**2 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS test

F, W, Sp, Su

The purpose of this course is to introduce the student to aerobic exercise done to music and using various styles and equipment. Attire, terminology, health effects, and safety issues are discussed. Emphasis is on individual fitness needs, including increasing flexibility, toning, strengthening and cardiovascular improvement. Written and skills tests are part of the course. A medical release may be required.

**174 Tae Kwon Do** **1 Credit Hour**  
**2 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS test

Sp, Su

The purpose of this class is to introduce the student to the martial art form of Tae Kwon Do. Tae Kwon Do is a Korean martial art that literally translates into "the way of kicking and punching" with proper attitude and concentration. Students practice Tae Kwon Do to learn mind and body control through unarmed self-defense techniques, discipline, and concentration.

**175 Kick Boxing** **1 Credit Hour**  
**2 Billable Contact Hours**

The purpose of the course is to help the participating student understand the art of the Karate term of KickBoxing, not only as a means to attain physical fitness and cardiovascular exercise, but also as a method of self-defense. Emphasis will be placed on physical fitness, self-discipline and self-defense. Involved are body movement principles, a progressive cardiovascular exercise program and other desirable health and technical aspects of the art of KickBoxing.

**177 Weight Training** **1 Credit Hour**  
**2 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS test

F, W

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**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS test

F, W

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.

**181 Volleyball** **1 Credit Hour**  
**2 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS test

F, W

Course content for physical fitness activities will include: section of clothing, equipment, terminology, basic 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 volleyball skills and the knowledge and understanding of concepts related to those skills. 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.

**184 Basketball** **1 Credit Hour**  
**2 Billable Contact Hours**  
**Prerequisite:** ENLG 090 and RDG 090 or qualifying scores on ACT or COMPASS test

F, W

Course content for physical fitness activities will include: section of clothing, equipment, terminology, basic 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 basketball skills and the knowledge and understanding of concepts related to those skills. 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.

**185 Snowboarding** **1 Credit Hour**  
**2 Billable Contact Hours**  
**Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS test

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**  
**Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS test

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.

**265 Intermediate Karate** **1 Credit Hour**  
**2 Billable Contact Hours**

**Prerequisite:** HPE 165

W, Sp, Su

This course will allow students previously completing HPE 165, Karate, to proceed to an intermediate level. Continued emphasis will be placed on physical fitness, history of the art, self-discipline and self-defense. Involved are body movement principles, a progressive exercise program, and other desirable health and technical aspects of the art of karate.

**285 Intermediate Snowboarding** **1 Credit Hour**  
**2 Billable Contact Hours**

**Prerequisite:** HPE 185

W

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**

**Prerequisite:** HPE 193

W

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 to intermediate level snow skiing or an appropriate level of skill determined by mutual student and faculty analysis.

**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.

<b>165 Karate</b>	<b>F, W</b>
<b>170 Exercise Walking</b>	<b>F, Sp, Su</b>
<b>171 Jogging</b>	<b>F, Sp, Su</b>
<b>173 Aerobics</b>	<b>F, W, Sp, Su</b>
<b>174 Tae Kwon Do</b>	<b>Sp, Su</b>
<b>175 Kick Boxing</b>	<b>F, W, Sp, Su</b>
<b>177 Weight Training</b>	<b>F, W</b>
<b>178 Weight Lifting</b>	<b>F, W</b>
<b>181 Volleyball</b>	<b>F, W</b>
<b>184 Basketball</b>	<b>F, W</b>
<b>185 Snowboarding</b>	<b>W</b>
<b>193 Snow Skiing</b>	<b>W</b>

**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** F, W  
**285 Intermediate Snowboarding** W  
**293 Intermediate Snow Skiing** W

**HISTORY (HIST)****151 Western Civilization to 1650 3 Credit Hours**  
**3 Billable Contact Hours****Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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 to take both Western Civilization 151 and Western Civilization 152 in their freshman year. This course is a satisfier course for the Global Studies Degree Designation.

**152 Western Civilization: 1650 to Present 3 Credit Hours**  
**3 Billable Contact Hours****Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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. This course is a satisfier course for the Global Studies Degree Designation.

**153 History of Michigan 3 Credit Hours**  
**3 Billable Contact Hours****Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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****Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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 the U.S.: 1877-Present 3 Credit Hours**  
**3 Billable Contact Hours****Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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****Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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 the movement of goods and people from a comparative perspective. This course is a satisfier course for the Global Studies Degree Designation.

**159 World History: 1500 to Present 3 Credit Hours**  
**3 Billable Contact Hours****Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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. This course is a satisfier course for the Global Studies Degree Designation.

**160 Civil War and Reconstruction 3 Credit Hours**  
**3 Billable Contact Hours****Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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.

**173 20th Century History and Civilization** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

F

This course provides the necessary background to understand today's important global events, especially interactions between the industrial world and developing world cultures. This course examines developments in art, science, technology, economics, society, politics and religion. Completing this course provides students with the ability to identify the most important individuals and ideologies of history since the 20th century and discuss the causes and effects of the era's most important events. Students will have a better understanding of the cultural and ideological sources of nationalism, imperialism, militarism, globalization, as well as the causes and effects international forms of violence. This course is a satisfier course for the Global Studies Degree Designation.

**255 History of East Asia** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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. This course is a satisfier course for the Global Studies Degree Designation.

**256 African-American History** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

F, W

This course focuses on what the humanities reveal about human values. Throughout the semester students will be encouraged to explore the impact of the humanities on society and the forces which have influenced the humanities through history. This is a course to initiate students in the study of drama, art, sculpture, architecture, and music as well as one or more of the other humanities. In particular, students will learn the proper vocabulary to discuss these genres. In addition, students will examine methods of evaluating and critiquing works of art. Attending live performances and museum exhibitions will, whenever possible, be part of the course. This course is a satisfier course for the Global Studies Degree Designation.

**152 Exploring Creativity** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: ENGL 151

F, W

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 & American Society: 1920s to Early 1960s** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 151

F

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, this course will explore the various ways in which filmmakers adapted to and/or criticized these same influences.

**257 Film & American Society: 1960s to Present** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 151

W

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, this course will explore the various ways in which filmmakers adapted to and/or criticized these same influences.

## 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 (Applied Sciences and Technology, Business, Health Sciences, Humanities/Social Sciences 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.

## **INFORMATION ASSURANCE AND SECURITY (IAS)**

### **103 Information Security Principles 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests  
**Corequisite:** CIS 130

This course provides an introduction and overview of information security/assurance for incoming students. This course will enhance technical, communication, problem solving and teaming skills, as they relate to the study of Information Security and Information Assurance. This course will also cover a broad spectrum of pertinent IS/IA base information, including voice and data network connectivity. In addition an introduction to cryptography, intrusion detection systems, data firewalls, malicious software, information operations and warfare, and denial of service attacks, regulations, law and governance.

### **105 Computing and Social Responsibility 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying score on ACT or COMPASS tests

F

This course combines extensive exploration of ethical issues faced by everyday computer users with hands-on practice using a broad variety of online and computer productivity tools to support socially responsible computer use.

### **202 Risk Vulnerability Analysis 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** IAS 103 or CIS 216

This course covers tools, techniques and methodologies in performing computer system and network security vulnerability risk analyses. Security best practices and audit requirements for specific environments will be studied. Topics to be covered include internal and external penetration tests, wireless security technology, risk analysis methodology and security audits. The purpose of this course is to provide undergraduate level students with an educational experience in the application of risk management theory and principles to information security policy, information systems computer and network facilities, and the life cycle development process.

### **210 Advanced Networking Practices 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** CIS 209

This course will cover concepts and functions of networks and related business technology. The course emphasizes administration client/server and peer-to-peer networks. The course includes description of equipment, networking procedures and protocols. It will also include installing, configuring and troubleshooting a computer network. It then provides coverage of the most important concepts in contemporary networking, such as TCP/IP, Ethernet, wireless transmission and security. The course will prepare students for selecting the best network design, hardware and software for the application or environment.

### **213 Privacy and Technology 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** CIS 216 or IAS 103

This course prepares students to recognize, analyze and manage privacy challenges created by technology. Both business and self-regulatory efforts will be reviewed.

## **JOURNALISM (JOURN)**

### **161 Introduction to Journalism 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** JOURN 161

F, W

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**

**Prerequisite:** JOURN 161

W

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.

### **251 Photojournalism 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying score on ACT or COMPASS tests

F

This course is an introduction to the basic principles and practices of photojournalism, as it is practiced at newspapers, magazines, and online media. The emphasis will be on using still and video photography to tell stories and provide information. It will cover the basics of photography skills, from exposure and composition to digital editing and caption writing. The history and ethics of photojournalism also will be covered, as well as the impact of new technology and emerging fields in photojournalism. Students will develop a digital portfolio of images, and may cover news and feature assignments for the student newspaper and website.

### **261 Journalism Workshop II 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** JOURN 162

F, W

This course is a continuation of Journalism 162.

### **262 Journalism Workshop III 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** JOURN 261

F, W

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**

Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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**

Prerequisite: One year high school algebra or MATH 090 or qualifying score on ACT or COMPASS tests

F, W

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**

Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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**

Prerequisite: This class does not count toward graduation

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.

**092 Beginning Algebra** **4 Credit Hours**  
**(formerly MATH 150)** **4 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on ACT or COMPASS tests

Formerly MATH 150, this course covers fundamental concepts of algebra 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. The institutional credits earned in this course do not count toward graduation. This course does not fulfill the math competency requirements.

**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. Calculator use will not be permitted in this course.

**126 Mathematics for Business 3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 and MATH 092 or  
qualifying scores on ACT or COMPASS tests

F, W, Sp, Su

This is an algebra-based business mathematics course emphasizing applications to problems in accounting and finance. Topics include payroll, taxes, markup, interest, loans, annuities, depreciation, stocks and bonds. Technology will be utilized to assist students with the calculations.

**151 Intermediate Algebra 4 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 and MATH 092 or  
MATH 150 or qualifying score on ACT or COMPASS  
tests

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.

**154 Mathematics Explorations 4 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: MATH 151 or qualifying score on ACT or  
COMPASS tests

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 tests

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 tests

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 Analytical Geometry 3 Credit Hours**  
**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 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: RDG 090 and ENGL 090 and MATH 124,  
MATH 126 or MATH 151 or 157 or 159 or 164 or 171 or  
172 or 251 or 271 or 273 or qualifying score 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 tests

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 tests

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

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

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

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**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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

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: RDG 090 or qualifying scores on ACT or COMPASS tests

This course is a first exposure to the drafting and design field. Orthographic projection, dimensioning, sectioning, tolerancing, threads and fasteners, and assembly drawings 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.

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.

F, W

W

F, W

F, W

**224 CAD Applications-Mechanical 3 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: MDTC 121 and MDTC 101 or MDTC 151 or MDTC 160 and MDTC 161

F

This course focuses on the process of interpreting complex engineering drawings and developing the detail drawings which are used in manufacturing parts. The course is designed to simulate the engineering environment from a detailer's perspective and provide application-based drawings/projects commonly found in industry. The projects will consist of commercial details, machine from solid details, casting details and weldment details. This course will pull together the skills acquired in MDTC 160 and MDTC 161 and will enable the student to develop and critique their research skills. CAD lab is required to complete drawings.

**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 ASME Y14.5-2009. Emphasis is placed on how GD&T is utilized by engineering, manufacturing and inspection departments.

**228 Introduction to SOLIDWORKS-CSWA 3 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: RDG 090 or qualifying score on ACT or COMPASS tests.

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.

**232 Advanced SOLIDWORKS-CSWP 3 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: MDTC 228

W

The Advanced SOLIDWORKS-CSWP course teaches students how to design and analyze parametric parts and moveable assemblies using a variety of complex features in SOLIDWORKS. Advanced part modeling, advanced assembly modeling, sheet metal, and weldments are covered. Additionally, the course is designed to help students prepare and successfully pass the Certified SOLIDWORKS Professional (CSWP) 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 Capstone Project 4 Credit Hours**  
**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 & Technology 3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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 Computer Aided Design** **4 Credit Hours**  
**UG/NX** **6 Billable Contact Hours**  
Prerequisite: MDTC 121 or MDTC 160 or equivalent

W  
In this course, students learn concepts in the use of profiles and parametric features as building blocks for 3D solid models using the UG/NX 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** **4 Credit Hours**  
**Machine Design** **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 & 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 171 or MATH 172 or qualifying score on COMPASS or ACT tests

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** **4 Credit Hours**  
**Sciences** **6 Billable Contact Hours**  
Prerequisite: MATH 124 or MATH 160 or MATH 164 or MATH 157 and MATH 159

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.

## MUSIC (MUSIC)

**150 Agora Chorale** **1 Credit Hour**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying score on ACT or COMPASS tests

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**  
Prerequisite: MUSIC 150

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.

**152 Voice Class** **2 Credit Hours**  
**2 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: MUSIC 154

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying score on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying score on ACT or COMPASS tests

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**  
Prerequisite: MUSIC 161I

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**  
Prerequisite: MUSIC 161V

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.

**165 Music for Classroom Teachers 3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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. Mandatory off campus student teaching assignments are required.

**170 Introduction to Music Theory I 3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: MUSIC 151

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.

**251 Agora Chorale 1 Credit Hour**  
**3 Billable Contact Hours**  
Prerequisite: MUSIC 250

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.

**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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying score on ACT or COMPASS tests.

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 and ENGL 090 and MATH 151 or 157 or 159 or 164 or 171 or 172 or 251 or 271 or 273 or qualifying score on ACT or COMPASS tests

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.

**102 Introduction to Non-Destructive Testing** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

Non-Destructive Testing (NDT) is a process that involves the inspection, testing, or evaluation of materials, components and assemblies for materials' discontinuities, properties and machine problems without further impairing or destroying the parts serviceability. This is an introductory course that will cover the basic concepts of the five major inspection methods studied through the Monroe County Community College NDT program: Visual Testing (VT), Liquid Penetrant Testing (PT), Magnetic Particle Testing (MT), Ultrasonic Testing (UT), and Radiographic Testing (RT). Through course progression, the student will become familiar with scope and limitations of each method, as well as develop a deeper understanding of how Non-Destructive Testing impacts the world in which we live.

**103 Liquid Penetrant/Magnetic Particle Test** **2 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests and NUET 102

This course is to train students to carry out liquid penetrant and magnetic particle testing of engineering components. The course is divided into two parts. In the first part students will learn the principles of liquid penetrant testing, classification of penetrant materials, testing methods and testing equipment. In the second part, the students will learn the principle of magnetic particle testing performing magnetic particle test, and steps and sequence involved in magnetic particle testing will be learned in theory and practice. The types and characteristics of magnetic fields and magnetization processes will be studied. The measurement of magnetic fields and the instruments used to measure the magnetic field, classification of materials, process of demagnetization, and equipment for demagnetization will also be learned in theory and practice. Students will also learn the precautions to be observed during testing, interpretation and evaluation of indications formed by discontinuities, procedure and applicable codes for acceptance and rejection of discontinuities. The classroom lectures will be supplemented by a series of laboratory exercises to provide hands-on training in performing these tests.

**104 Visual Testing** **2 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests and NUET 102

The course will train students on how to detect visible surface discontinuities, especially those found in welded joints. The fundamentals of light and vision, visual perception and different types of equipment used to detect discontinuities on the surface will be covered. More emphasis on practical welding as well as inspection of weld joints using a variety of weld gauges will be done during the practical sessions. Material attributes and physiological factors affecting the performance and judgment of the inspector will be studied along with the procedure and applicable codes for acceptance and rejection of discontinuities. Students will perform a complete series of laboratory exercises to provide hands-on training in the practice of each test procedure.

**105 Radiography-Level 1** **2 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests and NUET 102

F

This is a first course in Radiographic Testing. The students will study volumetric discontinuities using radiographic tests; understand penetrating radiation, its properties and limitations; and safety precautions. The principle of image formation, sensitivity and quality of radiographic process, codes and standards will be studied. Development of film, reading the films for discontinuities, film interpretations, procedures and codes for acceptance and rejection criteria for flaws will be learned in practical sessions.

**106 Radiography-Level 2** **2 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: NUET 105

W

This is the continuation of the Level 1 course. However, the same aspects are studied at a higher level of difficulty and responsibility. Students will study volumetric discontinuities using radiographic tests; understand penetrating radiation, its properties and limitation; and safety precautions. The principle of image formation, sensitivity and quality of radiographic process, codes and standards will be studied. Development of film, reading the films for discontinuities, film interpretations, procedures and codes for acceptance and rejection criteria for flaws will be learned in practical sessions.

**107 Ultrasonic-Level 1** **2 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests and NUET 102

F

This is a first level course in Ultrasonic Testing (UT). The students will learn the principles of sound wave propagation and attenuation, generation, nature, types and properties of sound waves and modes will be studied. Testing methods and techniques, responses from a variety of flaws, equipment and its operating principles to detect flaws by using different detectors will be taught during the practical sessions. Standard reference blocks and calibration will be used. Procedure and codes for acceptance and rejection criteria for flaws will be taught.

**108 Ultrasonic-Level 2** **2 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: NUET 107

W

This is the continuation of the Level 1 course. However, the same aspects are studied at a higher level of difficulty and responsibility. The principles of sound wave propagation and attenuation, generation, nature, types and properties of sound waves and modes will be studied. Testing methods and techniques, responses from a variety of flaws, equipment and its operating principles to detect flaws by using different detectors will be taught during the practical sessions. Standard reference blocks and calibration will be used. Procedure and codes for acceptance and rejection criteria for flaws will be taught.

**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 productions 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, Su

This course is held in cooperation with DTE's Fermi2 Nuclear Power Plant Training Center. The course consists of 40 hours of training activities held on-site at Fermi2. 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

W

This course presents the fundamental and specific details of power plant components. Course content will include component types and characteristics, principles of operation, 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 1. The course will examine chemistry control systems, electrical power generation systems, 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; case studies.

## **NURSING (NURS)**

**CNA 100 Certified Nurse Aide 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 Nursing Student 1 Credit Hour**  
**Success Course 1 Billable Contact Hour**  
Prerequisite: Admission to the RN program

F, W

This blended 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 home demands.

**103 Fundamental Nursing Care 9 Credit Hours**  
**15 Billable Contact Hours**  
Prerequisite: Acceptance into the nursing program, ENGL 151, PSYCH 151, BIOL 157

Corequisite: BIOL 158 and ENGL 152 must be successfully completed prior to or concurrently

F, W

This course provides an introduction to the fundamental concepts of holistic nursing care. Nursing judgment, integral to the nursing process, will be emphasized as a means of facilitating foundational care of the adult patient. Special focus will be placed on the diverse needs of the older adult and exploring the role of the professional nurse within a multidisciplinary health care team. The clinical content will be applied 8-13 hours weekly, utilizing the campus laboratory and hospital.

**105 Medical Surgical Nursing 5.5 Credit Hours**  
**Care I 10.8 Billable Contact Hours**  
Prerequisite: NURS 103, BIOL 158, POLSC 151

Corequisite: HLTSC 120 and BIOL 260 (Both must be successfully completed prior to or concurrently) and NURS 110 unless course already passed

### **FALL 2015**

This course incorporates a holistic approach in the management of care for the adult patient with commonly occurring health problems while supporting the student's professional development. The student will use nursing judgment and effective communication while implementing the nursing process in providing safe quality care of patients with common medical surgical health care needs. During this course clinical content will be applied 13 hours per week utilizing the hospital and the campus laboratory.

**105 Medical Surgical Nursing 5 Credit Hours**  
**Care I 9.5 Billable Contact Hours**  
Prerequisite: NURS 103, BIOL 158, ENGL 152

Corequisite: HLTSC 120 (must be successfully completed prior to or concurrently) and NURS 110 unless course already passed

### **WINTER 2016**

This course incorporates a holistic approach in the management of care for the adult patient with commonly occurring health problems while supporting the student's professional development. The student will use nursing judgment and effective communication while implementing the nursing process in providing safe quality care of patients with common medical surgical health care needs. During this course, clinical content will be applied weekly utilizing the hospital and the campus laboratory.



**110 Mental Health Nursing Care 4 Credit Hours  
7 Billable Contact Hours**  
Prerequisite: NURS 103 and BIOL 158  
Corequisite: HLTSC 120 and BIOL 260 (must be  
successfully completed prior to or concurrently) and  
NURS 105 unless course already passed

**FALL 2015**

This course incorporates a holistic approach in the management of care for patients with mental health problems while supporting the students' professional development. The student will use nursing judgment and effective communication while implementing the nursing process in providing safe quality care for patients with mental health needs. The clinical content will have 13 hours per week for five weeks of clinical instruction in the acute psychiatric care setting, select community settings and campus laboratory.

**110 Mental Health Nursing Care 3.5 Credit Hours  
6 Billable Contact Hours**  
Prerequisite: NURS 103, BIOL 158, ENGL 152  
Corequisite: HLTSC 120 (must be successfully  
completed prior to or concurrently) and NURS 105  
unless course already passed

**WINTER 2016**

This course incorporates a holistic approach in the management of care for patients with mental health problems while supporting the students' professional development. The student will use nursing judgment and effective communication while implementing the nursing process in providing safe quality care for patients with mental health needs. Clinical will be held weekly in the acute psychiatric care setting, select community settings, and campus laboratory.

**204 Obstetrical Nursing Care 4.5 Credit Hours  
9 Billable Contact Hours**  
Prerequisite: NURS 105 and NURS 110, HLTSC 120,  
BIOL 260  
Corequisite: NURS 205 unless course already passed.  
Must successfully complete ENGL 152 prior to or  
concurrently F, W

This course incorporates a holistic approach to the care and management of the obstetrical patient and family while supporting the professional development of the student. Basic clinical reasoning principles and effective communication skills will be applied while implementing the nursing process in the provision of safe, quality patient care. Clinical content will be applied 13 hours per week utilizing the hospital, the outpatient community setting and the campus laboratory.

**205 Pediatric Nursing Care 4.5 Credit Hours  
9 Billable Contact Hours**  
Prerequisite: NURS 105 and NURS 110 and HLTSC 120  
and BIOL 260.  
Corequisite: NURS 204 unless course already passed  
F, W

This course incorporates a holistic approach in the management of care with the pediatric patient and their family while supporting professional development of the student. The student will use basic clinical reasoning and effective communication while implementing the nursing process to provide safe quality care. During this course, clinical content will be applied 13 hours per week utilizing the hospital, the outpatient community setting and the campus laboratory.

**208 Medical Surgical Nursing 9 Credit Hours  
Care II 15.33 Billable Contact Hours**  
Prerequisite: NURS 204 and NURS 205 and ENGL 152  
Corequisite: NURS 210 unless course already passed  
F, W

This course incorporates a holistic approach in the management of care for the adult patient with complex health problems while integrating the student's professional development. The student will use clinical reasoning and effective communication while implementing the nursing process in providing safe quality care for patients with complex medical-surgical health care needs. Clinical content will be applied 13 hours weekly utilizing the hospital, community settings and campus laboratory.

**210 Nursing Leadership and 3 Credit Hours  
Management 3 Billable Contact Hours**  
Prerequisite: HLTSC 120, NURS 105 and NURS 110  
Corequisite: NURS 204 and NURS 205  
F, W

This course facilitates the student's professional development and socialization into the nursing profession. Clinical reasoning skills and communication are integrated through discussion/content surrounding nursing leadership and management concepts.

**212 Nursing Practicum 3 Credit Hours  
8.1 Billable Contact Hours**  
Prerequisite: NURS 208 and NURS 210  
F, W

This four-week capstone course provides theoretical content related to the holistic management of groups of patients while collaborating with a multidisciplinary health care team. During the final three weeks, students have the opportunity to assume the identity of the professional nurse and increase their patient workload in a medical-surgical setting, utilizing a full-time preceptorship immersion. Clinical reasoning and communication skills continue to be emphasized through active decision making. Clinical practice during this time will be full-time work for a period of three weeks.

**PHILOSOPHY (PHIL)**

**151 Introduction to Logic 3 Credit Hours  
3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying  
scores on ACT or COMPASS tests  
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 3 Credit Hours  
Philosophy 3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying  
scores on ACT or COMPASS tests  
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  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

F, W

This course presents an introductory inquiry into the study of the philosophy of religion and how philosophers evaluate religious claims. 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 to give students philosophical tools to evaluate them. This course is a satisfier course for the Global Studies Degree Designation.

## PHOTOGRAPHY (PHOTO)

**151 History of Photography** 3 Credit Hours  
3 Billable Contact Hours  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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 092 or MATH 150 or qualifying score 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: RDG 090 and ENGL 090 and MATH 124, MATH 151 or higher or a qualifying score 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 qualifying score on ACT or COMPASS tests. Recommended: MATH 157 and MATH 159 or MATH 164

F

This course 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. This course focuses on the development of the ability to marshal physical principles and mathematical techniques in the solution of problems encountered in measurement, mechanics, relativity, rotational and wave motion, waves, sound and fluid mechanics.

**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)

**150 Global Studies Orientation** 1 Credit Hour  
1 Billable Contact Hour

F, W

This interdisciplinary course will give students a working knowledge of the concept of globalization, along with an awareness of international trends that affect all fields of study. In addition, students will gain basic knowledge about how to recognize international cultural differences and basic skills for communicating across cultures. This course will also introduce students to the benefits, opportunities, expectations and requirements of the Global Studies Degree Designation.

**151 Introduction to Political Science** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

F, W, Sp, S

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.

**211 Introduction to Comparative Politics** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: POLSC 151

F, Sp

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 use research, the Internet, and museums and travel to enhance their learning of the differences between political systems and institutions. This course is a satisfier course for the Global Studies Degree Designation.

**221 State and Local Government** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: POLSC 151

W

This course is a study of state and local government units, 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.

**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. This course is a satisfier course for the Global Studies Degree Designation.

**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.

F

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 home demands.

**121 Fundamentals of Practical Nursing** **9 Credit Hours**  
**17 Billable Contact Hours**

Prerequisite: Admission to Practical Nursing Program  
Corequisite: PNUR 123, HLTSC 120 and BIOL 158 must be successfully completed prior to or concurrently.

W

This course is the foundation nursing course from which other courses build and expand. It includes concepts and skills basic to nursing and introduces the role and scope of practice of the licensed practical nurse. The program's philosophy and organizing framework are introduced. Meeting the needs of clients experiencing a change in health status and the provision of basic nursing care is the focus. Integrated content includes normal and therapeutic nutrition, growth and development of the adult client, and mathematics for medication administration. The students will study in the classroom, the nursing skills laboratory, and acute and extended care clinical settings.

**123 Mental Health Concepts in Practical Nursing** **2 Credit Hours**  
**2 Billable Contact Hours**

Prerequisite: Admission to the Practical Nursing Program

Corequisite: PNUR 121, HLTSC 120 and BIOL 158 must be successfully completed prior to or concurrently.

W

This blended format course introduces the concepts of mental health and mental illness and the principles of therapeutic communication skills and nursing interventions. It is designed to assist the students in utilizing the nursing process to provide therapeutic nursing care and to meet the mental health needs of clients with various psychiatric and behavioral disorders, and maladaptive behaviors. The course discusses the application of the stress adaptation theory in assisting clients to develop health coping mechanisms in managing the thoughts, emotions and behaviors of various disorders and stressful events. Various treatment modalities and psychotherapeutic medications are discussed. Students will study in the classroom, participate in online discussions and other activities, and apply the principles and concepts to the general client population in all settings.

**124 Practical Nursing Care of Adults I** **6.5 Credit Hours**  
**12 Billable Contact Hours**

Prerequisite: PNUR 121 and PNUR 123 and HLTSC 120 and BIOL 158

Sp

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**

Prerequisite: PNUR 124

Su

This course introduces the use of the nursing process in the care of the hospitalized child and the childrearing family. It presents the principles and stages of growth and development from infancy through adolescence, common pediatric diseases and conditions, and conditions affecting the emotions and behaviors of children. Nursing and medication administration skills adapted to the care of children are demonstrated. Integrated content includes pharmacologic and nutritional needs of children. Students will study in the classroom, nursing skills laboratory, and acute care clinical settings.

**126 Practical Nursing Care of Obstetrical Clients**      **2 Credit Hours**  
**3.5 Billable Contact Hours**

Prerequisite: PNUR 125

F

The focus of this course is a holistic view of the childbearing family and its adaptation to pregnancy and childbirth. Practical nursing students will study the nursing care related to the phases of maternity, including pregnancy, labor and delivery, and postpartum periods and the care of the newborn. Basic family growth and development, family health promotion and maintenance, common cultural and ethnic variations in childbearing practices, common childbearing complications, influences of other health disorders and family planning are also covered. Students will study in the classroom, nursing laboratory and clinical settings.

**127 Practical Nursing Care of Adults II**      **5 Credit Hours**  
**9 Billable Contact Hours**

Prerequisite: PNUR 126

Corequisite: PNUR 128 unless previously passed

F

The focus of this course is the nursing care for clients with more complex or acute health alterations and complications related to these pathologies. Concepts in this course build on previously learned material in PNUR 124 and continue to build on the program's organizing framework. Dealing with medical emergencies and other 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 126

Corequisite: PNUR 127 unless previously passed

F

This blended format 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**  
**8.5 Billable Contact Hours**

Prerequisite: PNUR 127 and PNUR 128

F

This four-week capstone course focuses on the charge nurse role of the licensed practical nurse in the management of the care of multiple clients in extended care settings. The major units discussed are the LPN roles as manager of client care and as manager of staff in extended care. Students are assigned to LPN or RN preceptors in charge nurse roles in select extended care settings, with nursing faculty functioning in faculty liaison roles. Students work collaboratively with preceptors to assume increased responsibility for multiple clients and the supervision of certified nursing assistants. The course prepares the student for beginning practice in the charge nurse role upon program completion. Students will study in the classroom, the nursing skills laboratory and extended care settings.

## **PRODUCT AND PROCESS TECHNOLOGY (MECH)**

*(Formerly Manufacturing Technology)*

**102 Manufacturing Processes**      **4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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 are 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

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, and CNC lathe are 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.

**105 CNC III** **3 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: MECH 104

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 machines. Automation is covered. 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.

**111 Introduction to Fluid Power** **3 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: RDG 090 and 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**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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 & Refrigeration & Refrigeration Certification** **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**  
Prerequisite: RDG 090 or qualifying score on ACT or COMPASS tests  
F, W

This is a survey course for the world of automation. 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

This course covers advanced machine tool techniques with emphasis on lathes and mills. There will be detailed coverage of machine speeds, feeds, cutter materials, dies, tool geometry, heat treat, threads and surface speed. Students are introduced to the field of computer numerical control (CNC) of machine tools. Basic diemaking and use of Machinery Handbook is also covered.

**201 CAD/CAM I** **3 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: MECH 103 and MDTC 160

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. Appropriate theory and practice of safe work methods will be emphasized. This course was previously titled Introduction to CAD/CAM.

**216 Industrial Plumbing & 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

This course is second in sequence to the one on 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. 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

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 CAD/CAM technologist certification test.

## PSYCHOLOGY (PSYCH)

**151 General Psychology** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090, RDG 090, and MATH 092 or  
MATH 150 or higher or qualifying score on COMPASS  
or ACT tests

This course provides an overview of major subject areas in psychological science. We will explore several areas of psychology in two key ways: by understanding how scientific knowledge and principles are generated and evaluated and by exploring the implications of psychology's findings. Principles of scientific investigation, including scientific theories, hypotheses, methods, and evaluating results will be applied to the study of human behavior and experience, spanning content areas ranging from cellular to ecological, including biological psychology, sensation, perception, human development, cognition, learning, motivation, emotion, stress, and social processes. We will also apply this knowledge and these skills to psychology and other subjects. The course is designed to prepare students for future psychology classes and to enhance critical thinking skills for other academic studies, for careers, and for everyday life.

**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.

**156 The Exceptional Person** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: ENGL 090 and RDG 090 and MATH 092 or  
150 or higher or qualifying score on COMPASS or ACT  
tests

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**  
Prerequisite: PSYCH 151

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.

**253 Social Psychology** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: PSYCH 151

F, W

This course emphasizes the individual as a member of society. Social psychology focuses on how individuals and groups are impacted by, and have an impact on, their social worlds. Social psychology encompasses a broad range of topics, including such areas as conformity, attitudes, gender, aggression, prejudice and discrimination, and helping behavior. In this course, students will examine the theories and research in social psychology as both scientists and as members of our own social groups.

**254 Life Span Psychology** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: PSYCH 151

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**  
Prerequisite: RDG 090 or qualifying scores on ACT or  
COMPASS tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying score on ACT or COMPASS tests

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 119

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**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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 & 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**  
Prerequisite: Minimum test competencies in Reading must be met before registering for this course (This class does not count toward graduation)

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 6.5 Credit Hours 9 Billable Contact Hours

Prerequisite: Acceptance into the Respiratory Therapy program.

Corequisite: RTH 104 and BIOL 158

F

This classroom and laboratory course is an introduction to the duties and responsibilities of registered respiratory therapists. Topics covered include a review of physical science, cardiopulmonary anatomy and physiology, cardiopulmonary resuscitation, basic patient assessment skills, medical gas and aerosol administration, equipment processing, employee/patient safety, pulmonary medications, microbiology concepts and an orientation to clinical sites.

### 104 Cardiopulmonary Assessment 3 Credit Hours 3 Billable Contact Hours

Prerequisite: Acceptance into the Respiratory Therapy program

Corequisite: RTH 100 and BIOL 158

F

This course is an introduction to basic physical and laboratory assessments of cardiopulmonary patients. Topics include basic pulmonary function, medical lab values, microbiology, blood gas physiology and analysis, chest imaging, bronchoscopy, electrocardiograms and bedside cardiopulmonary patient assessment.

### 110 Respiratory Care Techniques II 5 Credit Hours 7 Billable Contact Hours

Prerequisite: RTH 100, RTH 104 and BIOL 158

Corequisite: RTH 111 and 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 Clinical Practice I 4.5 Credit Hours 14 Billable Contact Hours

Prerequisite: RTH 100 and RTH 104

Corequisite: 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 Pathophysiology 4 Credit Hours 4 Billable Contact Hours

Prerequisite: RTH 100 and RTH 104

Corequisite: RTH 110 and RTH 111

W

This course gives the student an introduction to common cardiopulmonary diseases and conditions encountered by respiratory therapists. Topics include lung defense mechanisms, cardiopulmonary manifestation of disease, obstructive and restrictive lung diseases, review of microorganisms causing pulmonary infections and pulmonary diseases/conditions encountered in the critically ill patient population.

### 120 Respiratory Care Techniques III 5 Credit Hours 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 Clinical Practice II 2 Credit Hours 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.

### 211 Respiratory Care Clinical Practice III 5 Credit Hours 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 Anatomy & Physiology 4 Credit Hours 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/endocrine 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 neural control of ventilation and lung responses to changing environments and conditions.

### 214 Adult Critical Care Management 4 Credit Hours 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 Management** **3 Credit Hours**  
**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.

**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 principles and various drug categories that surround the care of cardiopulmonary patients. Emphasis will be made on drugs used in the critical care management of cardiopulmonary conditions, as well as a thorough treatment of drugs administered directly by respiratory therapists.

**221 Respiratory Care Clinical Practice IV** **4 Credit Hours**  
**13 Billable Contact Hours**  
Prerequisite: RTH 211 and RTH 216. Must also register for RTH 226

W

This clinical course provides a varied experience for about-to-graduate students. A major emphasis will be in assessment and management of neonatal and pediatric patients in the intensive care unit on mechanical ventilation. Other rotations will be held in alternate settings such as home care, pulmonary rehabilitation, sleep disorders lab, long-term acute care and other areas where respiratory therapists are employed. This course will have an adult critical care clinical rotation to refresh skills for students nearing completion of the program. Weekly seminars on campus will facilitate student learning.

**222 Respiratory Care Seminar** **2 Credit Hours**  
**2 Billable Contact Hours**

Prerequisite: RTH 214

W

This course presents a wide variety of topics for discussion including respiratory care department continued professional development, management and supervision, job acquisition skills, medical research, end-of-life ethics and preparation for respiratory care boards. Discussion, class presentations and written assignments are part of this capstone program course.

**226 Respiratory Care Techniques IV** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RTH 214. Must also register for RTH 221

W

This course covers a variety of diagnostic and therapeutic setting topics as a companion course to RTH 221. Goals, procedures, and equipment associated with alternate sites includes advanced pulmonary functions, home care, pulmonary rehabilitation, sleep disorders, long-term acute care and emergency management and preparing for mass casualty events.

## **SOCIAL WORK (SWK)**

**106 Child Welfare** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying score on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying score on ACT or COMPASS tests

F, W, Sp, Su

This course introduces the concepts of culture, socialization, social structure, social stratification, racial and ethnic relations and deviancy. These concepts are used principally to examine life in contemporary United States. Whereas psychology focuses on individual behavior, sociology focuses on behavior resulting from membership within and between groups.

### **152 Marriage & Family 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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." This course is a satisfier course for the Global Studies Degree Designation.

### **160 Social Gerontology 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

W

This course analyzes the historical, socio-cultural, psychological and political construction of death, dying and bereavement in the United States and across world cultures. 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.

### **251 Modern Social Problems 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** SOC 151

W

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.

## **SPANISH (SPAN)**

### **151 Elementary Spanish I 4 Credit Hours 4 Billable Contact Hours**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying score on ACT or COMPASS tests

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. This course is a satisfier course for the Global Studies Degree Designation.

### **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. This course is a satisfier course for the Global Studies Degree Designation.

### **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. This course is a satisfier course for the Global Studies Degree Designation.

### **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. This course is a satisfier course for the Global Studies Degree Designation.

## **SPEECH (SPCH)**

### **151 Communication Fundamentals 3 Credit Hours 3 Billable Contact Hours**

**Prerequisite:** RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: SPCH 151  
W

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**  
Prerequisite: SPCH 151  
F, W

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

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**  
Prerequisite: RDG 090 or ENGL 090 qualifying scores on ACT or COMPASS tests  
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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests

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**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests  
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 (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**  
Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests  
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**  
 Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

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**

Prerequisite: WELD 101B

F, W

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**

Prerequisite: WELD 100

F, W

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**

Prerequisite: WELD 100

F, W

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**

Prerequisite: WELD 102A

F, W

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 and Testing** **3 Credit Hours**  
**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**

Prerequisite: RDG 090 or qualifying scores on ACT or COMPASS tests

F, W

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: RDG 090 and ENGL 090 or qualifying scores on ACT or COMPASS tests and 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

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

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## MISSION

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