



# 2020 ■ 2021 CATALOG

MONROE COUNTY COMMUNITY COLLEGE



MONROE COUNTY  
COMMUNITY COLLEGE

[monroecc.edu](http://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

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

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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).

## MISSION STATEMENT

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Monroe County Community College enriches lives in our community by providing opportunity through student-focused, affordable, quality higher education and other learning experiences.

MCCC accomplishes its mission through:

- Post-secondary pathways for students who plan to pursue further education
- Occupational programs and certificates for students preparing for immediate employment upon completion
- Curriculum that prepares students to effectively communicate, think critically, and be socially and culturally aware
- Comprehensive student support services
- A wealth of opportunities for intellectual, cultural, personal and career enhancement
- Training and retraining to meet the needs of an evolving economy
- Key partnerships to enhance educational services and opportunities

## VISION STATEMENT

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Monroe County Community College will be recognized for our student-focused service, academic excellence, affordability, innovation, community responsiveness and student success.

## CORE VALUES

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These core values form our attitudes and guide our behavior:

- **Student-focus:** Execute student-centered decision making
- **Excellence:** Offer high-quality educational opportunities, programs and services
- **Accessibility:** Offer ease of access to educational opportunities, programs and services
- **Affordability:** Provide affordable educational opportunities, programs and services
- **Diversity and Inclusion:** Celebrate the individuality and diversity of our students, community, nation and world
- **Respect:** Practice equity and mutual respect
- **Stewardship:** Manage our resources with efficiency and integrity to ensure the long-term health of the college and infuse responsible, sustainable and transparent practices throughout all operations and programs
- **Outreach and Engagement:** Advance a culture of engagement and collaboration
- **Relevance:** Offer relevant educational programs through innovation and responsiveness

## 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.acennursing.org
- Respiratory Therapy  
Committee on Accreditation  
for Respiratory Care (CoARC)  
264 Precision Blvd  
Telford, TN 37690  
(817) 283-2835  
www.coarc.com
- Early Childhood Education  
NAEYC Committee on the Accreditation of  
Early Childhood Higher Education Programs  
1313 L St. NW, Suite 500  
Washington, D.C. 20005  
(202) 232-8777 / (800) 424-2460  
www.naeyc.org

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

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.

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## **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).

## **MAIN CAMPUS**

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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** contains classrooms, faculty offices, the John "Doc" Holladay Theatre, the Writing Center and the necessary space to house a library, which has a print collection of more than 30,000 resources and subscribes to 51 electronic databases.

**The Audrey M. Warrick Student Services/Administration Building**, across the mall from the Campbell Learning Resources Center, provides dining facilities, a student lounge and recreation area and a bookstore. In addition, this facility houses four community-use conference rooms, an art room 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.

**Founders Hall** is comprised of the former East and West Technology buildings that were connected in 2020 to create one entirely renovated and larger facility that houses state-of-the-art learning environments along with expanded and enhanced student services, including the Student Success Center, Disability Services, various departments, classroom spaces, and more.

**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. A 2,500-square foot student collaborative space for individual and group study is also available in the Life Sciences Building.

**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.

**The La-Z-Boy Center** is equipped for education and training along with the Meyer Theater, a world-class performing arts venue. The La-Z-Boy Center also houses the Corporate and Community Services Division offices.

**The Career Technology Center** houses programs related to applied sciences and engineering technology curricula.

## **LIBRARY**

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The Library provides students and faculty with services, print materials and online resources selected to support the college curricula and promote independent research and lifelong learning. A complete list of all databases can be found in our A-Z List, including ProQuest Central, Academic Search Complete, JSTOR, and many more. 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. Faculty librarians can help students learn how to use the wide variety of information sources available on and off-campus. Reference librarians provide both individual reference help and research education sessions for specific classes. Library staff can be reached at 734.384.4204 during open hours, by emailing [askalibrarian@monroecc.edu](mailto:askalibrarian@monroecc.edu), or through the Library Chat feature found on the Library homepage.

## STUDENT SUCCESS SERVICES

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The Student Success Center provides academic support services as well as services to students with disabilities. The goal of the SSC is to help students improve their classroom performance and achieve academic success. All SSC services are free to MCCC students. Most of the SSC services are provided in Founders Hall except for the Writing Center, which is located in the Campbell Learning Resources Center. 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-to-one, and 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.

### 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 been proven to be helpful.

### 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 the college website for First Steps workshop dates. Call 734.384.4167 to register.

### 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 ENGL 254 (Advanced Composition). Many courses at MCCC are assigned a Writing Fellow; however, assistance on any writing project is also available on the second floor of the Campbell Learning Resources Center.

## DISABILITY SERVICES

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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 SSC to request accommodations, plan their schedule, obtain career and transfer information and receive collaborative services 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 that 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 each semester, students can order their textbooks online at the Bookstore website using a credit card as a form of payment. These orders can be picked up on Main Campus, delivered to the Whitman Center for pickup or shipped directly to their home.

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 approximately the last week at the end of Fall and Winter semesters. Information on upcoming buy backs, including days and times, is available by calling the Bookstore or checking the Bookstore section of the college's website.

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.

## **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 Safety Expo and presentation of College Supporter of the Year award, as well as other programs that reflect the diverse interests of the community.

### **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 workforce. Through contract education with area business and industry, specific training programs may be offered onsite or at the workplace. CCS personnel are regularly involved in county-wide programs with the Chamber of Commerce, the Business Development Corporation, Michigan Works! 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 college's website.

### **Lifelong Learning**

The Lifelong Learning Office provides educational opportunities in a wide range of non-credit, non-degree programs. Through the Lifelong Learning schedule of classes a variety of classes and programs are offered for professional development in business, computers, construction, real estate, industrial technology, medical skill training and professional licensure. Personal interest, crafts/hobby, sports/recreation and health/wellness classes are also offered for individuals seeking personal development and leisure activities. In addition, summer camps in a variety of topics are offered annually to K – 12-aged students.

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 MCCC website.

### **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. For more information about registering for employment opportunities or posting a job, contact the Workforce Development Office at 734.384.4229 or visit the college's website.

## **WHITMAN CENTER**

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The Whitman Center, on Lewis Avenue in Bedford Township, exemplifies the community service commitment of the college. 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. For more information on Whitman Center office hours, available classes, counseling appointments, etc., visit the MCCC website.

## **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.

## **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 Summer Semester; announcements regarding the program are made during the prior Summer or Fall semesters. Student exchange opportunities also exist in a variety of countries. For more information, contact the Business Division.

## **CAMPUS AND COMMUNITY EVENTS**

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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. This calendar is mailed annually in the summer to all Monroe County residences. 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**

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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 are 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 MCCC website.

## **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 scholarships, 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 [www.monroeccc.edu](http://www.monroeccc.edu) and select the GIVE tab on the homepage.

# ADMISSIONS

## ADMISSIONS POLICY

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

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:

**Regular Admission:** In Fall and Winter semesters, students may carry a maximum of 17 credit hours per semester. During the shorter Summer semester, students may carry a maximum of nine credit hours. Approval of the vice president of instruction, vice president of enrollment management and student success or their designees is required to exceed either limit.

**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 the Summer semester. Admission will

be based upon an evaluation of the applicant's background, experience and assessment scores. The vice president of enrollment management and student success 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

**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 qualifying placement tests should consult with a counselor or an academic advisor to begin planning the steps necessary to improve their reading and/or writing skills.

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 improve their math skills to achieve the minimum score required for placement into MATH 090.

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

**Programs with Selective Admission:** The following programs have selective admission:

- Licensed Practical Nursing
- Nursing
- PN to RN Program Option
- Respiratory Therapy

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

**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.

**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:

Submission of an MCCC Application for Admission.

1. 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.

2. The MCCC High School Approval Form must be completed and signed by the high school principal prior to each semester of attendance.
3. Official high school transcripts are required prior to admission.
4. Approval by the vice president of enrollment management and student success or his/her designee is required for enrollment.

**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, which 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 enrollment management and student success 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.

**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.

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

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

**Advanced Placement (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 50<sup>th</sup> 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.

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

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

**Definition of Class Standing:** A **freshman** at Monroe County Community College is one who has earned 29 or fewer semester hours, including semester hours transferred from other institutions. A **sophomore** is one who has earned 30 or more semester hours, including approved semester hours transferred from other institutions.

## **ADMISSIONS/GUIDANCE SERVICES**

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**Orientation:** Prior to the first session of classes, new students are introduced to the college through a mandatory 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 required 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 in the Transfer section of the MCCC website.

**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.

# 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 credits must obtain the approval of the vice president of instruction, the vice president of enrollment management and student success 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.

### Summer Semester

As part of the regular academic calendar, the college schedules an eight to ten-week Summer semester from mid-May through the first week of August.

The maximum number of credits allowed without official approval in Summer semester is nine 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 nine credits for Summer semester. 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 – Summer semester 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 AND WITHDRAWALS

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Adds and drops may be processed via myWebPAL or by completing an Add/Drop Form and returning it to the Registrar's Office on Main Campus or the Whitman Center.

**Student-initiated Drop from Class or Classes:** Upon official voluntary withdrawal from class or classes, a "W" (indicator of withdrawal) is assigned as follows:

- If a drop is made by the end of the first week of a full semester (15 weeks) class, no "W" will be recorded.
- After week one but before the end of the 12<sup>th</sup> week of a full semester class (prorated for classes less than the full semester), the "W" (withdrawal) is automatically recorded.
- After the 12<sup>th</sup> 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.

- The "W" (indicator of withdrawal) is not assigned by instructor. After the semester (Fall, Winter, Summer) has ended, no grade may be changed to "W." Properly documented exceptions, including medical emergencies or an error in processing, may be considered.
- Summer semester 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 Summer semester 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, or Summer) has ended, no grade may be changed to "W."

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

## PASS/FAIL OPTION

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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 various graduate schools.

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

## **STUDENT LEARNING DEFINITIONS**

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

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

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

## **AUDITING COURSES**

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

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

## **SENIOR CITIZEN SCHOLARSHIPS**

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

## **INCOMPLETE COURSE WORK**

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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 12<sup>th</sup> 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.

## **REPEATING COURSES**

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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**

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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**

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

## **VETERANS' BENEFITS**

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

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

Audited courses are not eligible for the GI Bill.

Applications and information regarding veterans benefits may be obtained in the Registrar's Office.

Visit the college website for additional veterans' information and forms.

## **ATTENDANCE**

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

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

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

## **RELEASE OF INFORMATION**

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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, email 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 inform the registrar, in writing, each semester. MCCC does not sell or otherwise provide mailing lists to companies or individuals outside the college other than required by state or federal regulations.

## **RECORDS RETENTION**

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

## **TUITION AND FEES**

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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.

## **PAYMENT OF TUITION AND FEES**

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

## **RESIDENCE STATUS**

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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.
  - Any individual using educational assistance under either Chapter 30 (Montgomery GI Bill - Active Duty Program), Chapter 31 (Vocational Rehabilitation), Chapter 33 (Post 9/11 GI Bill), Chapter 35 (Survivors' and Dependents' Educational Assistance Program) and Chapter 1606 of Title 10 U.S.C. (Montgomery GI Bill - Selected Reserve), of Title 38, United States Code, and/or the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. §3311 (b)(9)) who lives in the State of Michigan while attending Monroe County Community College (regardless of his/her formal state of residence) shall be charged no more than in-county tuition.
4. The student's 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.

## **REFUND OF TUITION AND FEES**

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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 myWebPAL. 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.

## **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 14-84 calendar days, the 100 percent refund will apply when withdrawing on the first four business days of the semester. If withdrawing on the fifth through eighth business days of the semester, students will receive a 50 percent refund; however, lab fees are not refundable. No refunds will be issued after this time.

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

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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 Loan, Parent Loan for Undergraduate Students, or other federal assistance, 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:

1. Unsubsidized Stafford Direct Loan
2. Subsidized Stafford Direct Loan
3. Parent Loan for Undergraduate Students
4. Pell Grants
5. Iraq and Afghanistan Grant
6. Supplemental Educational Opportunity Grant
7. 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.

## **TUITION RECIPROCITY AGREEMENT**

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### **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.

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

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## 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 a high school diploma or the recognized equivalent of a high school diploma, such as general education development (GED) certificate or other state sanctioned test or diploma-equivalency certificate.
- Be enrolled as a regular student in an eligible degree or certificate program
- Be a U.S. citizen or national, permanent resident, or other eligible noncitizen
- Have a Social Security number
- Make satisfactory academic progress
- Register with the Selective Service, if required
- Not owe an overpayment on Title IV grants or loans
- Not be in default on a Title IV loan
- Have repaid Title IV loan amounts in excess of annual or aggregate limits
- Not have a federal or state conviction for drug possession or sale, with certain time limitations
- 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 online at [www.FAFSA.gov](http://www.FAFSA.gov). You must reapply each school year.

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 on or after October 1.

### Financial Need

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

The information reported when applying for financial aid through the FAFSA is used in a formula, established by Congress, that calculates your Expected Family Contribution, an amount families are expected to pay toward education.

The Financial Aid Office reserves the right to request financial documents to verify eligibility for need-based aid. Failure to provide the requested information will result in cancellation of the financial aid offer. 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 offers for the prospective student are not finalized before the student has attained regular admission status through the Admissions and Guidance Office.

### Financial Aid Deadlines

Fall - July 1

Winter - November 1

Summer - April 1

Students who complete their files after the deadline date may not receive a financial aid offer before tuition is due.

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

### 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, 1997
- 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 may ask for proof before awarding any federal student aid. If you think you have unusual circumstances that would make you independent even though you normally would be considered dependent, talk to the financial aid administrator. The aid administrator can change your status to independent if he or she thinks your circumstances warrant it. Remember, the financial aid administrator won’t automatically do this. That decision is based on his or her judgment, and is final – you cannot appeal it to the U.S. Department of Education.

*NOTE: Independence criteria are determined annually by the federal government and are subject to change.*

## **THE STUDENT'S FINANCIAL AID OFFER**

A combination of gift (scholarship and grant) and self-help (job and loan) aid may be offered to the student. The proportion is determined annually. Where Pell Grant, Michigan Competitive Scholarship or Federal Direct Loan estimates appear, students are responsible for obtaining and completing necessary application forms to secure this aid.

### **Changes to the Financial Aid Offer**

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

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

### **Special Circumstances**

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

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

### **Financial Aid Revisions**

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.

### **Financial Aid Disbursement**

Scholarships, Pell Grants and Direct Loans are credited directly toward the semester bill after the semester has started and the Financial Aid Office has verified that students are attending and participating in their classes. Bookstore authorizations are usually available one week

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.

## **STATEMENT OF STUDENT FINANCIAL AID RIGHTS AND RESPONSIBILITIES**

1. Students have the right to be informed of, and to apply for, all financial aid programs for which they are eligible. The responsibility to apply by program deadlines and to acquaint themselves with the application procedure resides with the student.
2. Students have the right to know how financial need and financial aid offers will be determined and to request a review of the financial aid offer 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 complete 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. 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.

## **CLASSES ELIGIBLE FOR FINANCIAL AID**

U.S. Department of Education regulations require that a student must be enrolled in an eligible degree or certificate program to receive federal financial aid. Additionally, only classes that are required for the student to earn the degree or certificate are eligible for financial aid funding. (Note: Developmental courses are eligible for financial aid funding, up to a maximum of 30 attempted credits of development coursework.)

If a student is enrolled in any courses that do not count toward fulfilling the requirements of the student's degree or certificate program, those courses cannot be used to determine enrollment status for federal financial aid. While students may take classes that are not required for their degree or certificate program, MCCC cannot award federal financial aid for those classes.

### **What programs are eligible for federal financial aid?**

All associate degree programs at MCCC are eligible for federal financial aid. Most certificate programs that meet a minimum of 15 weeks and are at least 16 credit hours in length are eligible for federal financial aid. Contact the Financial Aid Office 734.384.4135 if you have questions about whether a certificate program meets the minimum requirements to qualify for federal financial aid.

## SATISFACTORY ACADEMIC PROGRESS POLICY FOR FINANCIAL AID

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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, Iraq and Afghanistan 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 SAP requirements.

### What is Satisfactory Academic Progress?

Satisfactory academic progress is evaluated after each payment period (Fall, Winter, 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 66.66 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.

Students will be notified of their SAP status via email and Colleague Financial Aid Self-Service after each evaluation period.

*\*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.
- Courses taken as pass/fail are not included in the GPA calculation.
- Pass/Fail grades (H, U, P, F, or S) are not included in the GPA calculations.
- Grades for non-credit developmental courses are not included in the GPA calculation.

### Completion Rate

Students must complete a minimum of 66.66 percent of the total credit hours they attempt. The 66.66 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 (this includes +/- grades).

- 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.
- Credit hours for pass/fail courses are counted as attempted credits in this calculation. A passing grade (P) counts as attempted and completed credit hours in this calculation. A non-passing grade (F) counts as attempted but not completed in this calculation.
- Credit hours for non-credit development courses are counted as attempted credits in this calculation. A passing grade (H) counts as attempted and completed credit hours in this calculation. A non-passing grade (U) counts 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.
- Credit hours for pass/fail courses are counted as attempted credits in this calculation.
- Credit hours for non-credit development courses are counted as attempted credits in this calculation.

### Repeated Courses

Repeated courses will count toward determination of enrollment status and attempted credit hours. Financial aid may be used to pay for repeated courses once for classes in which a student previously earned credit and for courses that need to be repeated for which credit has not been earned. When repeating a course, the most recent grade earned is the "grade of record" for computing the grade point average. Please see MCCC's Repeating Course Procedure (Grading System, Procedure 3.12a) for further details.

*Note: While MCCC has an academic forgiveness policy (Academic Forgiveness Policy, Policy 3.31) that allows students to petition to have his/her GPA recalculated with failing E grades forgiven based on specific eligibility criteria, the Federal Student Aid Program regulations make no provision for the concept of academic forgiveness. Therefore, courses that have been excluded from the student's MCCC GPA calculation on the academic transcript based on the institution's academic forgiveness policy may not be excluded from the GPA calculation required for monitoring SAP for financial aid eligibility.*

### Grade Changes

The Registrar's Office will notify the Financial Aid Office when a student is granted a grade change. Once the grade change has been updated in the Colleague system, the Financial Aid Office will re-run the Satisfactory Academic Progress calculation for the student at

that time. If the student's Satisfactory Academic Progress changes (example: student's status is updated from Warning to Satisfactory), the student will be notified by the Financial Aid Office via an email message to the student's MCCC email account.

### Changes in Major or Degrees

When a student changes his or her major or degree, Satisfactory Academic Progress for each student requesting financial assistance at MCCC is still based on an academic transcript review of all previous enrollments at MCCC, including periods when financial aid was not requested or received. The calculation does NOT exclude courses attempted or grades earned while the student was working toward the prior major or degree.

Additionally, if a student is returning to MCCC to earn a second degree, Satisfactory Academic Progress for each student requesting financial assistance at MCCC is still based on an academic transcript review of all previous enrollments at MCCC, including periods when financial aid was not requested or received. The calculation does NOT exclude courses attempted or grades earned from the previous degree earned by the student.

### What is Financial Aid Warning?

Students who fail to make the satisfactory academic progress standards of the minimum GPA and/or the 66.66 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 section **How Do I Appeal** 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.

### Reestablishing Eligibility for Financial Aid

A student who is on Financial Aid Denial is not eligible to receive federal or state financial aid, but may reestablish eligibility for these aid programs in the following ways:

1. If the student continues to take classes at MCCC (and is not using federal or state financial aid to pay for those classes), and subsequently meets the academic progress standards required for these aid programs, the student will regain eligibility to receive these funds for the student's next semester of attendance at MCCC.
2. If the student submits a Satisfactory Academic Progress Appeal to the Financial Aid Office and that appeal is approved, the student will be placed on Financial Aid Probation and will be eligible to receive financial aid, as long as the student meets the requirements of the academic plan that has been put in place for the student.

### 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 SAP requirements.

Examples of extraordinary circumstances may include, but are not limited to:

- Health issues experienced by yourself or an immediate family member
- Death of an immediate family member
- Significant trauma in your life that impacted your emotional and/or physical health
- Other unexpected circumstances beyond your control

All appeals and supporting documents must be submitted no later than the end of the 100% tuition refund period for the semester, in order for the student to receive consideration for that semester. Appeals will be reviewed within 1-2 weeks and students will be notified via a letter from the Financial Aid Office of the outcome of the appeal. If an appeal is approved, the student's status will also be updated on Colleague Financial Aid Self-Service. Appeals should be forwarded to:

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

## SOURCES OF STATE AND FEDERAL FINANCIAL AID

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### Pell Grants

Students may apply for a Pell Grant by filing the FAFSA at [www.FAFSA.gov](http://www.FAFSA.gov).

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 financial aid eligibility 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 \$639 to \$6,345. The amount of the award will be determined by enrollment status after the 100 percent refund period.

### **Supplemental Educational Opportunity Grants (SEOG)**

These are federal grants offered 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. This scholarship 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.

### **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 [www.collegecentral.com/monroeccc](http://www.collegecentral.com/monroeccc).

### **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 [www.collegecentral.com/monroeccc](http://www.collegecentral.com/monroeccc).

### **Off-campus Employment**

Businesses throughout Monroe County and the surrounding areas utilize the Workforce Development Office to advertise available full- and part-time positions through up-to-date job postings. Qualified students, alumni and county residents are eligible to utilize this service. Information on summer employment is also posted and includes local, state, national and international opportunities. Contact the Workforce Development Office at 734.384.4229, or register online with the Workforce Development Office and search for jobs by visiting [www.collegecentral.com/monroeccc](http://www.collegecentral.com/monroeccc).

## **LOAN PROGRAMS**

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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 offered 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 offered 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.

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 Direct 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."

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 1. Check with the Financial Aid Office for additional information about the current interest rate on Direct Loans.

## 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. Scholarships open on December 1 and the deadline to apply is March 1. Remember, you must apply for admission to qualify for Monroe County Community College scholarships. AcademicWorks Online™ can be accessed via the MCCC website.

## Scholarships Provided by MCCC

### Presidential Scholarship

**Eligibility:** Monroe County, Michigan resident, graduating high school student with a cumulative high school GPA of 3.5 or better, leadership qualities, demonstrated participation in school and/or community affairs, must be enrolled for 12 or more credit hours per semester in both fall and winter semesters. **Contact:** High school counseling office or financial aid office

### Performing Music Scholarship

**Eligibility:** Monroe County, Michigan resident, full-time student enrolled in a minimum of 12 credit hours per semester, participating in the MCCC Band or MCCC Agora Chorale, audition required **Contact:** College Humanities/Social Science Division

### Trustee Merit Scholarship

**Eligibility:** Scholarships are automatically awarded based on ACT or SAT score. Students must be enrolled with full-time course load (minimum of 12 credit hours in both the Fall and Winter semesters). Recipients must successfully complete a total of 24 credit hours during the academic year. The scholarship is automatically renewable for a consecutive second year providing the recipient had completed a minimum of 24 credit hours with a 2.5 cumulative GPA at MCCC by the end of the spring semester of the freshman year. Scholarships for any one individual will not be extended beyond two academic years. Students who are approved for the accommodation of a reduced course load through the Disability Services Office will receive scholarship funding which will be distributed proportionally. **Contact:** Financial Aid Office

# STUDENT RIGHTS AND RESPONSIBILITIES

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## GRADUATION/COMPLETION INFORMATION

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### Student Right to Know Act

The United States Department of Education requires all community colleges to provide current and prospective students with historical data regarding the number of students who complete a degree or a certificate. This data has been standardized so all colleges provide the information on a consistent basis. The reporting covers only students who indicated at the time of their college admission that they were seeking a degree or a certificate, and is compiled three years after their date of admission. The information was retrieved from college records and responses from a student questionnaire.

In addition to the above criteria, the following numbers cover only full-time (12 credit hours or more) students whose first semester at Monroe County Community College was Fall 2005. MCCC is proud to note that community colleges in general have an excellent reputation for meeting their students' goals, whether those goals are to receive a degree or certificate or prepare for a career or improve job skills. Because many of the programs offered at MCCC do not lead to a degree or certificate, we are especially pleased with our 33 percent graduation rate that compares favorably with other Michigan community colleges.

## ACADEMIC FORGIVENESS POLICY

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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.

### 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.

## ACADEMIC PROBATION AND ACADEMIC DISMISSAL POLICY

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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 20<sup>th</sup> 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 enrollment management and student success or his/her designee.

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

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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 Student Success Center in Founders Hall.

### **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:

- Obstruction or disruption of teaching, administration or other normal college operations or activities.
- Dating violence, domestic violence, stalking and sexual assault. Failure to comply with directions of college officials, Safety Services or other law enforcement officers while acting in the performance of their duties.
- Direct or indirect threats to the health or safety of self or others.
- Illegal use, possession or distribution of alcoholic beverages, narcotics or controlled substances, or public intoxication.
- Theft or destruction on college property.
- Unauthorized entry or use of college facilities.
- Misuse of college or personal technology or violation of the Acceptable Use Policy.
- Harassment or discrimination.
- Possession of firearms, explosives, chemicals or other dangerous weapons.
- Conduct which is disorderly, lewd or indecent.

### **Disciplinary Procedure**

Action by the vice president of enrollment management and student success 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 enrollment management and student success 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:
  - Warn the student that past conduct or behavior has not been satisfactory and/or
  - Curtail specified privileges for a designated period of time and/or
  - Have the student make financial restitution to the college and/or
  - 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 enrollment management and student success 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 enrollment management and student success 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.

## **ANTI-BULLYING POLICY**

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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 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 enrollment management and student success 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 enrollment management and student success, and the faculty member will submit the Academic Dishonesty Report Form to the vice president of enrollment management and student success, the student and the dean. Upon receipt of notification, the vice president of enrollment management and student success 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 email, 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 enrollment management and student success 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 enrollment management and student success shall make available an opportunity for consultation with both parties. Following consultation (if desired by either or both parties), the vice president shall inform, in writing, the faculty member and student of his/her acceptance, rejection or modification of the disciplinary recommendation within seven days of receipt of the deadline to appeal.
4. The vice president shall inform both parties of the appeal/due process available.
5. The vice president shall maintain a record of all acts of academic dishonesty.
6. Once the faculty member recommends disciplinary action, the student shall not be permitted to withdraw from the course until the review process is completed. If the charge of academic dishonesty is set aside, the student may withdraw from the course following the withdrawal procedures for the time period of the initial incident.
7. Procedural timelines may be waived by the vice president in the interest of facilitating due process and fairness.

## Appeals Procedure

1. A student subject to disciplinary action for academic dishonesty or the faculty member who reported the act of academic dishonesty may appeal the decision of the vice president of enrollment management and student success 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.*

## ACCESS TO CAMPUS FACILITIES

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In addition to sponsoring and co-sponsoring a variety of events in which college facilities and grounds are open to the public, the college may allow non-profit community groups and profit organizations to use college facilities. (MCCC Policies and Procedures 6.18(a)).

Students may also receive permission to access college buildings during non-operating hours if authorization is granted via a Building Admittance Permit. (MCCC Policies and Procedures 6.23).

## CHILDREN ON CAMPUS

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MCCC students, staff and visitors are absolutely prohibited from bringing children into the classroom or leaving children of any age on college property.

MCCC assumes no responsibility for the safety of children left on college property. Compliance with this rule is essential. There are no exceptions to the absolute prohibition against leaving children on college property.

## SMOKING AND TOBACCO USE POLICY

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Smoking and the use of all tobacco products is prohibited at the college and is subject to all applicable laws, including Federal and State "clean air" acts.

This tobacco-free policy prohibits the use of all tobacco products and includes use of all devices intended to simulate smoking, including electronic cigarettes and other similar types of devices.

## DRUG AND ALCOHOL POLICY

Monroe County Community College is concerned about the health and welfare of its employees and students. The college recognizes alcohol/drug dependency as an illness and a major health problem. The college also supports the state and federal laws regarding substance abuse and strives to create a healthy and productive academic, working and social environment. The abuse of alcohol and drugs raises not only serious health issues for those involved, but also can lead to accidents, poor productivity, property damage and even personal injury.

In compliance with the federal Drug-Free Schools and Campuses Regulations, as well as the federal Drug-Free Workplace Act, MCCC has adopted a policy that requires employees and students to assist in maintaining a campus environment free from the effects of alcohol, drugs or other intoxicating substances.

Employees are prohibited from the following when reporting for work, while on the job or performing job related functions regardless of location, while attending any college-related activity, while on campus, or while in any vehicle used for college business.

Similarly, students are prohibited from the following when attending classes, when attending any college-sponsored activity or program, regardless of the location, while on campus or while in any vehicle used for college business.

- The unlawful use, possession, transportation, manufacture, sale or other distribution of an illegal or controlled substance or drug paraphernalia, or the misuse of or distribution to anyone other than the person to whom prescribed, of any prescription drug.
- The unauthorized use, possession, transportation, manufacture, sale or other distribution of alcohol.
- Being impaired by alcohol regardless of blood alcohol level, or having a blood alcohol level of legal limit, whether visibly impaired or not.
- Having a detectable amount of an illegal or controlled substance in the blood or urine (whether visibly impaired or not) or abuse of any controlled substance or prescription medication.

This policy includes the prohibition against use, manufacture, possession or distribution of marijuana, whether or not for medical use and whether or not the individual possesses a certificate of medical need, since such use, manufacture possession or distribution of marijuana continues to be a violation of federal law.

In addition, no alcoholic beverages will be permitted on campus or sold or provided by the district at any college-sponsored event off campus, unless approved in writing by the college's president or the president's designee.

This policy extends to off-campus activities including, but not limited to, class-related trips, field trips, athletic events, study or review sessions at a faculty member's home or other facility if faculty is present at the session. Presidential approval for the availability of alcohol under this policy will normally require the following.

- Sponsors of an event must implement precautionary measures to ensure that alcoholic beverages are not accessible or served to persons under the legal drinking age or to persons who appear intoxicated. This shall include, but not be limited to, checking identification and training serving people and bartenders in alcohol management techniques.
- Alcoholic beverages may be sold, furnished and consumed only within the area approved and designated for the event.

- Non-alcoholic beverages must be available and identified at the same place as alcoholic beverages and be featured equally and at least as prominently as the alcoholic beverages.
- No event shall include any form of "drinking contest" in its activities or promotion.
- Advertisements for any college event where alcoholic beverages are served shall not focus on the availability of alcoholic beverages.
- Compliance with the terms of any college insurance policy, if any, is required.
- Any other requirements as the college, in its sole discretion, may impose.
- Any student with a conviction for any offense under any federal or state law involving the possession or sale of illegal drugs during a period of enrollment for which the student is receiving Title IV HEA program funds will result in the loss of eligibility for any Title IV HEA grant, loan or work study assistance.

For the purpose of this policy, the term "controlled substance" refers to drugs and chemical substances listed in Schedules I through V of the Federal Controlled Substances Act (21 USC 812) and related regulations, such as, but not limited to, marijuana, cocaine, crack cocaine, heroin, peyote, mescaline, LSD, etc. Substances prohibited under this policy are prohibited in any form, including but not limited to pills, inhalants and beverages. Any individual whose test for controlled substances or their metabolites is confirmed positive will be deemed to be in violation of this policy. A blood alcohol content (BAC) test will be deemed positive, and therefore the individual will be deemed to be in violation of this policy, if the BAC level is of legal limit or above.

### Additional Requirements

A particular college-sponsored or related program or event, such as the Study Abroad Program, may have additional or different requirements or conditions which are applicable to employees or students involved with that particular program or event. Anyone involved with or participating in such programs or events is required to adhere to and comply with this policy as well any additional requirements of the particular program or event. However, to the extent that alcoholic beverages are consumed while participating in a Study Abroad Program, such use may be permitted if consistent with the Study Abroad Program policy and with the terms of the particular program in which a person is participating.

### Violations by Employees

The college will impose disciplinary action up to and including the immediate termination of employment for violation of this drug and alcohol policy. Violations or suspected violations of this policy may also result in a referral to a law enforcement agency. Suspected violations by employees are to be reported to the Office of Human Resources as soon as possible.

### Violations by Students

Students whom the college determines have violated this drug and alcohol policy will be placed on disciplinary status up to and including dismissal or suspension from the college. These students also may be subject to losing financial aid. Violations or suspected violations of this policy may also result in a referral to a law enforcement agency. Suspected violations by students are to be reported to the Office of the Vice President of Enrollment Management and Student Success as soon as possible. (See MCCC Policy 3.10, Due Process with Regard to Discipline other than Academic.)

### Notice of Drug-Related Convictions

Any employee, student or student assistant convicted under any drug or alcohol statute for a violation occurring while working for the college, while on campus, while in any vehicle used for college business, or under any other circumstances which constitute a violation of this policy must notify the college's Office of Human Resources immediately after such a conviction. A conviction includes any finding of guilt, any guilty plea or plea of no contest and/or imposition of a fine, jail sentence or other penalty. The college will determine if college policies have been violated and what, if any, disciplinary action will be administered.

Any student with a conviction for any offense under any federal or state law involving the possession or sale of illegal drugs during a period of enrollment for which the student is receiving Title IV Higher Education Act (HEA) program funds will result in the loss of eligibility for any Title IV, HEA grant, loan or work study assistance.

### Resources

MCCC is interested in the continued good health and personal well-being of the employees and students and we recognize that employees and students suffering from alcohol or drug dependence can be treated. Employees and students may contact the Director of Human Resources at 734.384.4245 or designee for a referral service. Any such contact will be kept in strict confidence except insofar as may be required by law. Employees may also contact Harbor Behavioral Health, the College's Employee Assistance Program, by calling 800.422.5338. Local assistance may also be available through Promedica Monroe Regional Hospital. In addition, employees may be entitled to apply for a leave of absence so that they may address a substance abuse problem prior to it impacting their ability to do their job. We encourage any employee or student to seek professional care and counseling prior to any violation of this policy.

Violations of this policy will not be tolerated. For more information and additional resources, please see the Drug and Alcohol Resource Guidelines brochure found in Admissions or the College's website [www.monroecc.edu](http://www.monroecc.edu).

### Substance Abuse/Behavioral Health Resources

Alcoholics Anonymous 734.457.4777	Monroe County Mental Health Authority 1001 S. Raisinville Rd. Monroe, MI 48161 734.243.7340 800.866.7340
Arrowhead Behavioral Health 1725 Timberline Maumee, OH 43537 419.891.9333	Promedica Monroe Regional Hospital Behavioral Health Dept. 718 N. Macomb St. Monroe, MI 48162 734.240.8400
Catholic Social Services 16 East 5th Street Monroe, MI 48161 734.242.3800	Salvation Army Harbor Light 3250 N. Monroe St. Monroe, MI 48162 734.384.3402
Harbor Behavioral Health 4334 Secor Rd. Toledo, OH 43623 419.475.4449	

### Publication

A copy of this policy is available to the students and public on the college website or by request.

### Biennial Review and Records

The college will biennially review this policy as required by federal law. The college will also retain records regarding the implementation of this policy for at least three years, as required by federal law.

## COPYRIGHT POLICY

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It shall be the policy of the Community College District of Monroe County to abide by the provisions of the U.S. Copyright Act of 1976 (Title 17, United States Code).

Employees of the District are expected to, without exception, work within the confines of the law. Penalties and/or liabilities which result due to failure to follow the precepts as outlined in the procedures statement 6.43 (a) will be borne solely by the violator. Monroe County Community College will not defend students, faculty, or staff who engage in violations of copyright laws or license agreements.

## ACCEPTABLE USE POLICY

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MCCC enforces an Acceptable Use Policy for the Information Technology Systems at Monroe County Community College (Policy 2.38). MCCC owns and operates a variety of systems (hardware, software and networks). Each time access is made to any of the above, users are agreeing to the Acceptable Use Policy 2.38.

## CHOSEN NAME POLICY

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It is the policy of the college that any individual may indicate a chosen first name in addition to their legal name, which will be displayed in college systems and in communication correspondences from the college, except where the use of the legal name is required, such as certain records, including transcripts, diplomas, grade reports, enrollment verifications, financial aid documents, IRS forms, paychecks, payroll records, retirement records, and other records that require use of a legal name of record.

Individuals may provide chosen name on the Admissions Application and will have access to manage chosen first name through the Profile area in the myWebPAL Self-Service Main Page accessible through the the Students area of myWebPAL.

# CAMPUS SAFETY

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## SAFETY SERVICES

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Providing a safe and secure campus is a key element in assisting the college in accomplishing its mission. The college is committed to providing a safe campus, and in addition to institutional procedures, students and staff are encouraged to be personally responsible for their own security as well as others.

Safety Services is the direct responsibility of the vice president of administration, while the chief of safety services is responsible for day-to-day operations. The safety services staff is comprised of individuals with extensive law enforcement/security experience and knowledge, and possesses an excellent working relationship with local law enforcement agencies, including the Monroe County Sheriff's Department and the Michigan State Police. Criminal acts are investigated by local area law enforcement authorities. There are currently no memorandums of understanding between Safety Services and local law enforcement.

Safety Services provides a safe and secure campus environment for students, staff, faculty and visitors. Both foot and vehicle security/safety patrols are conducted in order to minimize and deter the occurrence of crime, protect the peace and serve the interests of the college.

## AWARENESS AND PREVENTION PROGRAMS

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MCCC is committed to increasing the awareness and prevention of violence. MCCC continues the effort to provide students and employees with educational programming and strategies intended to prevent domestic violence, dating violence, sexual assault and stalking. The purpose of these programs is to help students, staff and visitors feel empowered to act by giving them specific processes and resources to intervene in a safe, early and effective manner.

At New Employee Orientation, all new employees receive orientation on Title IX, sexual harassment, sexual assault, domestic violence, dating violence and stalking through the Office of Human Resources.

## ANNUAL CAMPUS SAFETY AND CRIME AWARENESS REPORT

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### Description of Campus Security Policies

Providing a safe and secure campus is a key element in assisting the college in accomplishing its mission of offering instructional programs and student and community activities.

The college's Board of Trustees and administration is committed to providing a safe campus. In addition to various measures that have been taken by the Board and administration to create a safe campus, students and staff are encouraged to be responsible for their own security and the security of others.

Following are various policies and procedures that the college has adopted to prevent and deal with security issues on college premises.

### Incident Reporting - Other than Emergencies

The college asks that all criminal actions, suspected criminal actions, accidents or unusual incidents be reported immediately. If you

are a student, this can be done through your instructor. If you are an employee, this can be done through your supervisor. Both students and employees may also report directly to the switchboard receptionist. The receptionist will contact Safety Services or the Office of the Vice President of Administration to complete an incident report. Monroe County Community College does not have a confidential reporting program, and all victims are encouraged to report crimes and emergencies to Safety Services. Effective crime prevention begins with personal involvement and responsibility. By taking a few moments to think before acting, we can all make ourselves less likely to become a victim or a statistic.

Crime prevention is everyone's job. With some effort and forethought we can maintain a safe campus environment.

### Crime Statistics

#### Monroe County Community College 2019 Annual Security Report (Data includes 2016, 2017, 2018)

There have been no crimes reported to the college's safety services authorities or to the local law enforcement agencies that are required by the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act and the Higher Education Opportunity Act.

This act requires institutions to disclose three general categories of crime statistics:

- **Criminal Offenses**—Criminal homicide, including: a) murder and non-negligent manslaughter, and b) negligent manslaughter; sex offenses including: a) forcible, and b) non-forcible; robbery; aggravated assault; burglary; motor vehicle theft; and arson.
- **Hate Crimes**—Any of the above-mentioned offenses, and any incidents of larceny-theft, simple assault, intimidation, or destruction/damage/vandalism of property that were motivated by bias; and

The 2008 HEOA regulations expanded the list of hate crime statistics to be included in Clery Act statistical disclosures.

- **Arrests and Referrals for Disciplinary Action for Weapons:** carrying, possessing, etc., drug abuse violations and liquor law violations.

In accordance with the federal Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics and the Campus SaVE acts, Monroe County Community College commits to providing all current and prospective students and employees with access to annual campus security reports for both of our campuses by October 1 of each year.

This federal law requires institutions to publish an annual report including crime statistics for the prior three years, policy statements regarding safety and security measures, campus crime prevention program descriptions, and procedures to be followed in the investigation and prosecution of alleged sex offenses.

The Clery Act also requires universities to keep an up-to-date crime log to issue timely warnings in the event of a crime threatening the safety of students or employees, and to keep accurate crime statistics. This information is available in the Safety Services section of the MCCC website.

MCCC publishes this information to inform members of the campus community and other interested parties of incidents of crime and to educate them in effective crime prevention and safety measures to assist them in making informed decisions relative to their safety. A notice is sent to all students and employees with a direct link to this report every Fall and Winter semester. These crime statistics reflect incidents that occurred on MCCC property, on public property adjacent to the college or at sites owned or leased by the college during the previous three years. Monroe County Community College does not provide residential dormitories or facilities for on campus student housing. The vice president of student and information services has primary responsibility for categorizing, disseminating and publishing crime statistics collected on-campus and includes statistics obtained from various local law enforcement entities.

### **CAMPUS SaVE ACT: POLICY CONCERNING SEXUAL ASSAULT, DOMESTIC VIOLENCE, DATING VIOLENCE AND STALKING (INCLUDING PREVENTION, STATISTICS AND RESPONSE)**

MCCC is committed to providing a safe learning and working environment. In compliance with federal law, specifically the Jeanne Clery Act (Clery Act) and the Campus Sexual Violence Elimination Act (SaVE Act), MCCC has adopted policies and procedures to prevent and respond to incidents of sexual assault, domestic violence, dating violence and stalking. These guidelines apply to all members of the MCCC community (students, faculty and staff) as well as contractors and visitors. Every member of the MCCC community should be aware that such behavior is prohibited by law and college policy.

Monroe County Community College does not tolerate stalking, dating violence, domestic violence or sexual assault in any form, including acquaintance rape, attempts to obtain sexual favors through coercion, including but not limited to, threats to embarrass or intimidate the victim (even when this does not include threat of force). Individuals who the college determines more likely than not engaged in these types of behaviors are subject to penalties up to and including dismissal or separation from MCCC.

### **SEXUAL ASSAULT, DOMESTIC VIOLENCE, DATING VIOLENCE, AND STALKING EMERGENCY REPORTING**

Monroe County Community College encourages victims of sexual assault, domestic violence, dating violence, and stalking to report the incident immediately in order to ensure that victims receive the services they need. Reports should be made immediately to Safety Services, and/or to the local or state police authorities. Promedica Monroe Regional Hospital Rape Crisis Center 734.240.4508 – 24 hour hotline at 734.240.8800 also provides immediate advice and assistance to victims. A report should also be made as soon as possible to the vice president of administration if the assault occurred on campus.

For complete reporting instructions, please visit the MCCC Annual Campus Crime Report by visiting the Safety Services area of the college's website.

### **YOUR ROLE IN PREVENTING DOMESTIC VIOLENCE, DATING VIOLENCE, SEXUAL ASSAULT OR STALKING:**

Please visit one or both of these valuable resources:

- <https://www.rainn.org/get-information/sexual-assault-prevention/bystanders-can-help>
- <http://stepupprogram.org/topics/sexual-assault/>

## **SEXUAL OFFENDER INFORMATION**

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In an effort to provide the best service for the MCCC campus community, we have provided a link to the Michigan Public Sex Offender Registry (PSOR): [http://www.communitynotification.com/cap\\_main.php?office=55242/](http://www.communitynotification.com/cap_main.php?office=55242/).

The link will take you to a disclaimer, which you must first agree to before viewing the site.

Ohio's ESCORN site can be found at [http://theoffenderlist.com/Ohio\\_Sex\\_Offender\\_List\\_Ohi.php](http://theoffenderlist.com/Ohio_Sex_Offender_List_Ohi.php).

This site provides links to databases of sexual offenders for all 88 Ohio counties.

## **CAMPUS EMERGENCIES**

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MCCC has established procedures to immediately notify the campus community upon the confirmation of a significant emergency or dangerous situation involving an immediate threat to the health or safety of students, employees or visitors occurring on campus. These procedures provide for rapid notice to local law enforcement and senior administration to evaluate and confirm an emergency or dangerous situation and if confirmed, for same persons to determine the appropriate content of the notification.

In cases of emergency, the college's switchboard operator (-0- from any campus phone) should be contacted immediately. The switchboard operator will directly contact Safety Services. If the switchboard is closed, assistance can be requested by dialing 911 from a pay phone. No money is needed.

MCCC will, without delay, and taking into account the safety of the community, determine the content of emergency/dangerous situation notifications and initiate the notification system, unless issuing a notification will, in the professional judgment of responsible authorities, compromise efforts to assist a victim or to contain, respond to or otherwise mitigate the emergency.

The warnings will be communicated with the college community regarding the procedure for an emergency response and/or evacuation. The warning may be issued in the following manner:

- Emergency Notification System
- Email to currently enrolled students at their MCCC student email account
- Email to all MCCC campus email users, including faculty, staff and administrators
- Notices placed on entry/exit doors in all buildings
- Public address system
- Campus television network
- Local media
- MCCC main webpage – [www.monroecc.edu/](http://www.monroecc.edu/)

Depending on the particular circumstances, especially in all situations that could pose an immediate threat to the community and individuals, MCCC will notify the Monroe County Sheriff's Department and the Michigan State Police.

To view the MCCC Campus Emergency Response Plan, please go to the Safety Services section of the college's website.

## **Timely Warnings and Campus Emergencies**

Timely Notifications: A timely warning will be issued by the vice president of administration when a situation arises that constitutes an ongoing or continuing threat to the health or safety of students or employees occurring on MCCC owned or leased property.

Depending on the nature and/or severity, the warning may be issued by the following methods:

- Emergency Notification System
- Email to currently enrolled students at their MCCC student email account
- Email to all MCCC campus email users, including faculty, staff, administrators
- Notices placed on entry/exit doors in all buildings
- Public address system
- Campus television network
- Local media
- MCCC main web page – [www.monroecc.edu/](http://www.monroecc.edu/)

A timely warning will include any information that would promote safety. Anyone with information that may justify a timely warning should contact the vice president of administration at 734.384.4224 or contact the switchboard by dialing "0" from a campus phone or by dialing 734.457.6007. Every attempt will be made to distribute the alert within 48 hours of the filed report or incident.

For more information about Timely Notifications, please visit the Safety Services are of the MCCC website.

# GRADING SYSTEM

## GRADE REPORTS

Grades are available to students online via myWebPAL. 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 every Friday.

## 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
WA	Withdrawal Appeal approved for extenuating circumstances
AU	Audit
*S	Satisfactory
*U	Unsatisfactory
V	Indicates Transfer Credit Accepted
TR	Indicates Transfer Credit Accepted
N	No Grade
X	Grade Processing Error
*P	Pass (A, A-, B+, B, B-, C+, C)
*F	Fail (C-, D, E)
*H	Satisfactory completion of a developmental course – credit does not apply toward graduation
HON	Honors section
1	Denotes prior attempt of a repeated course
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

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

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

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

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

## CREDIT HOURS

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

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

## ACADEMIC HONORS

### Dean's List

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

### Graduation with Honors

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

<b>Honors Designation</b>	<b>GPA Required</b>
Summa Cum Laude	3.900 to 4.000
Magna Cum Laude	3.700 to 3.899
Cum Laude	3.500 to 3.699

## **TRANSCRIPTS**

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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.

Students request official transcripts online at [www.monroeccc.edu](http://www.monroeccc.edu) or via myWebPAL. MCCC will not release a transcript if the student has a financial hold.

Unofficial transcripts can be viewed and printed via myWebPAL or may be obtained at no charge upon request. (Picture ID is required).

All official transcripts are requested online at [www.monroeccc.edu](http://www.monroeccc.edu).

Transcripts from other institutions will not be released or photocopied.

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

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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.

## 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.

## GLOBAL STUDIES DEGREE DESIGNATION

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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.”

### 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, complete a Global Studies designation application. You will then plan your program in conjunction with your departmental advisor. See the college’s website for additional information.

## HONORS DESIGNATION

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MCCC has an Honors Program that provides high-achieving and highly motivated students with opportunities for service leadership, community-based civic-engagement and advanced academic scholarship. Students who complete the requirements for the program will receive an Honors Designation on their transcript. For more information, contact the Admissions Office at 734.384.4104.

## 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\*

## **C1** GE Natural Sciences Competency

**BIOL 151** Biological Sciences I  
**BIOL 156** Introduction to Environmental Science  
**CHEM 150** Fundamental Principles of Chemistry  
**CHEM 151** General College Chemistry I  
**CHEM 155** Chemistry and Society  
**ESC 151** Earth Science  
**MET 151** Introduction to Meteorology and Climate  
**PHY 101** Technical Physics  
**PHY 151** General Physics  
**PHY 251** Engineering Physics I  
**PHYSC 151** Physical Science

## **C2** GE Mathematics Competency

**MATH 124** Technical Mathematics II  
**MATH 126** Mathematics for Business  
**MATH 151** Intermediate Algebra  
**MATH 154** Mathematics Explorations  
**MATH 157** College Algebra  
 or higher or competency

## **C3** GE Writing Competency

**ENGL 151** English Composition I

## **C4** GE Computer Literacy Competency

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

## **C5** GE Human Experience Competency

**ART 155** Art Appreciation  
**ART 280** Art History: Prehistoric to Gothic  
**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 Literature  
**ENGL 256** Children's Literature  
**ENGL 260** Introduction to Shakespeare  
**ENGL 261** Introduction to Creative Writing  
**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 152** Exploring Creativity  
**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  
**PHIL 254** Introduction to Medical Ethics  
**THEA 151** Introduction to Theater  
**THEA 251** Fundamentals of Acting

## **C6** GE Social Systems Competency

**ANTHR 152** Introduction to Cultural Anthropology  
**COMM 151** Introduction to Mass Media  
**GWST 151** Introduction to Gender Studies  
**HIST 151** Western Civilization to 1650  
**HIST 152** Western Civilization: 1650 to Present  
**HIST 153** History of Michigan  
**HIST 154** History of the U.S., 1607-1877  
**HIST 155** History of the U.S., 1877- present  
**HIST 158** World History to 1500  
**HIST 159** World History: 1500 to Present  
**HIST 160** Civil War and Reconstruction  
**HIST 173** 20<sup>th</sup> Century History and Civilization  
**POLSC 151** Introduction to Political Science  
**POLSC 158** Introduction to Political Theory  
**PSYCH 151** General Psychology  
**SOC 151** Principles of Sociology  
**SOC 160** Social Gerontology  
**SOC 161** Death, Loss and Grief  
**SOC 253** Race and Ethnicity

\*See website for the most current list of course satisfiers.

## General Education Goal: Critical Thinking

### **C1** GE Natural Sciences 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.)

<b>BIOL 151</b>	Biological Sciences I
<b>BIOL 156</b>	Introduction to Environmental Science
<b>CHEM 150</b>	Fundamental Principles of Chemistry
<b>CHEM 151</b>	General College Chemistry I
<b>CHEM 155</b>	Chemistry and Society
<b>ESC 151</b>	Earth Science
<b>MET 151</b>	Introduction to Meteorology and Climate
<b>PHY 101</b>	Technical Physics
<b>PHY 151</b>	General Physics
<b>PHY 251</b>	Engineering Physics I
<b>PHYS 151</b>	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.)

<b>MATH 124</b>	Technical Mathematics II
<b>MATH 126</b>	Mathematics for Business
<b>MATH 151</b>	Intermediate Algebra
<b>MATH 154</b>	Mathematics Explorations
<b>MATH 157</b>	College Algebra

or higher or competency

## 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.)

<b>ENGL 151</b>	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.

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

<b>BMGT 160</b>	Managing in the Digital Enterprise
<b>CIS 130</b>	Introduction to Computer Information Systems
<b>MDTC 160</b>	Mechanical Drafting and CAD I or competency

## 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.)

<b>ART 155</b>	Art Appreciation
<b>ART 280</b>	Art History: Prehistoric to Gothic
<b>ART 281</b>	Art History: Renaissance to Baroque
<b>ART 282</b>	Art History: Neo-Classical/Early Modern
<b>DANCE 251</b>	History of Dance
<b>ENGL 240</b>	African American Literature
<b>ENGL 251</b>	Introduction to Poetry and Drama
<b>ENGL 252</b>	Introduction to Short Story and Novel
<b>ENGL 253</b>	American Literature
<b>ENGL 255</b>	Women's Literature
<b>ENGL 256</b>	Children's Literature
<b>ENGL 260</b>	Introduction to Shakespeare
<b>ENGL 261</b>	Introduction to Creative Writing
<b>ENGL 266</b>	Non-Western Literature
<b>ENGL 267</b>	British Literature: Anglo Saxon to 18 <sup>th</sup> Century
<b>ENGL 268</b>	British Literature: Romantic to Modern
<b>FREN 151</b>	Elementary French I
<b>HUMAN 151</b>	Introduction to Humanities
<b>HUMAN 152</b>	Exploring Creativity
<b>HUMAN 250</b>	Visual Media Literacy
<b>HUMAN 256</b>	Film & American Society: 1920s to Early 1960s
<b>HUMAN 257</b>	Film & American Society: 1960s to Present
<b>MUSIC 150</b>	Agora Chorale
<b>MUSIC 265</b>	History and Appreciation of Jazz
<b>MUSIC 266</b>	History of Rock Music
<b>MUSIC 268</b>	Popular Music in America
<b>PHIL 152</b>	Introduction to Western Philosophy
<b>PHIL 253</b>	Introduction to the Philosophy of Religion
<b>PHIL 254</b>	Introduction to Medical Ethics
<b>THEA 151</b>	Introduction to Theater
<b>THEA 251</b>	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.)

<b>ANTHR 152</b>	Introduction to Cultural Anthropology
<b>COMM 151</b>	Introduction to Mass Media
<b>GWST 151</b>	Introduction to Gender Studies
<b>HIST 151</b>	Western Civilization to 1650
<b>HIST 152</b>	Western Civilization: 1650 to Present
<b>HIST 153</b>	History of Michigan
<b>HIST 154</b>	History of the U.S., 1607-1877
<b>HIST 155</b>	History of the U.S., 1877-present
<b>HIST 158</b>	World History to 1500
<b>HIST 159</b>	World History: 1500 to Present
<b>HIST 160</b>	Civil War and Reconstruction
<b>HIST 173</b>	20 <sup>th</sup> Century History and Civilization
<b>POLSC 151</b>	Introduction to Political Science
<b>POLSC 158</b>	Introduction to Political Theory
<b>PSYCH 151</b>	General Psychology
<b>SOC 151</b>	Principles of Sociology
<b>SOC 160</b>	Social Gerontology
<b>SOC 161</b>	Death, Loss and Grief
<b>SOC 253</b>	Race and Ethnicity

\*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 the 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 the courses taken to meet the 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 the courses taken to meet the 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.

### 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 course taken to meet 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 to the courses taken to meet the General Education Competencies (C5) and (C6), the student must successfully complete an additional six semester hours selected from two 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.

## 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

32 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.

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

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

#### Humanities – 3 Semester Hours

In addition to the courses taken to meet the General Education Competencies (C5) and (C6), the student must successfully complete an additional three semester hours selected from two 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.

# TRANSFER OPTIONS

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## TRANSFER AND PRE-PROFESSIONAL OPTIONS

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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.

## GENERAL EDUCATION TRANSFER DISTRIBUTION REQUIREMENTS

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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

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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

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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 at MCCC that transfer for health education. MCCC also offers a class (EDUC 151, Exploring Teaching) that fulfills the pre-teaching requirement of many four-year institutions.

## PRE-ENGINEERING PROGRAMS

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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 (Introduction to Differential Equations)
- 2 semesters of calculus-based physics
- 2 semesters of chemistry (4 semesters for chemical engineering majors)
- 2 semesters of English (composition and literature)
- 2 semesters of humanities (art, communication, journalism, music, philosophy, speech)
- 2 semesters of social science (anthropology, history, economics, geography, political science, psychology, sociology and social work)

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

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 that 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.

## TYPICAL BUSINESS/PRE-BUSINESS ELECTIVES

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*(These courses may also be required for some programs.)*

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

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

## COMPUTER SCIENCE

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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.

## 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.

## 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.

## ON-CAMPUS UNIVERSITY OPTIONS

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For students who plan to transfer to a four-year university, a high-quality MCCC education is a positive, low-cost stepping stone to completing a baccalaureate degree.

Our counselors and faculty advisors will help you select the proper courses for your desired area of study and the four-year institution where you intend to obtain your bachelor's degree. MCCC maintains numerous bachelor's degree completion agreements with four-year universities in our area.

In addition, two four-year universities have locations at MCCC.

- Siena Heights University offers a variety of its degree programs on MCCC's Main Campus, including bachelor's degrees in business administration, accounting, psychology, applied Science, multidisciplinary studies, RN-BSN and professional communication, as well as master's degrees in health care

leadership, organizational leadership and higher education leadership. For more information, call 734.384.4133 or visit the office in Room L 112 on Main Campus.

- Spring Arbor University's Metro-Toledo site is located at MCCC's Whitman Center location in Temperance. Spring Arbor offers bachelor degrees in social work, nursing and business as well as master's degrees in social work and counseling on-site at the Whitman Center. The university also offers master's in nursing, business and education online. For more information, call 734.854.6100 or visit the office at the Whitman Center.

## MICHIGAN TRANSFER AGREEMENT

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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. The Michigan Transfer Agreement was 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.

## BACHELOR'S DEGREE COMPLETION AGREEMENTS

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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 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**

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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.
- **Agribusiness and Agricultural Operations Options**  
Michigan State University and MCCC have partnered together to offer students an opportunity to earn a certificate and an associate of applied science in agriculture or a certificate and an associate degree of applied science in agribusiness. The certificates, awarded by MSU, will include 34 credits of agriculture-oriented courses through the Institute of Agricultural Technology. Combining those credits with a minimum of 26 additional credits from MCCC to total 60 credits (for agricultural operations) or 28-29 additional credits to total 62-63 credits (for agribusiness) will result in an associate of applied science degree. Students wishing to work toward a bachelor's degree may receive preferred transfer status at Michigan State University after earning the associate degree at MCCC.

# TRANSFER PATHWAYS

## Biological Sciences Transfer Pathway

The following are course recommendations for students who plan on transferring to a four year college or university to pursue a bachelor's degree in biology or related fields.

### Recommended Courses

#### 1<sup>st</sup> Semester

BIOL 151	Biological Sciences I	4 credits
ENGL 151	English Composition I	3 credits
MATH 157	College Algebra <sup>1</sup>	3 credits
CHEM 151	General College Chemistry I	4 credits
_____	Computer Skills Elective <sup>2</sup>	3 credits
		<b>17 credits</b>

#### 2<sup>nd</sup> Semester

BIOL 153	Biological Sciences II	4 credits
_____	Social Sciences Elective	3 credits
ENGL 152	English Composition II	3 credits
MATH 159	Trigonometry & Analytical Geometry <sup>1</sup>	3 credits
CHEM 152	General College Chemistry II	4 credits
		<b>17 credits</b>

#### 3<sup>rd</sup> Semester

BIOL _____	Biology Elective <sup>3</sup>	4 credits
CHEM 251	Organic Chemistry I <sup>4</sup>	4 credits
MATH 171	Calculus I	4 credits
_____	Social Science Elective	3 credits
		<b>15 credits</b>

#### 4<sup>th</sup> Semester

CHEM 252	Organic Chemistry II <sup>4</sup>	4 credits
BIOL _____	Biology Elective <sup>3</sup>	4 credits
_____	Social Science Elective	3 credits
_____	Humanities Elective	3 credits
		<b>14 credits</b>
		<b>(Total = 60 – 63 credits)</b>

<sup>1</sup> May take MATH 164 (Precalculus) in place of MATH 157 (College Algebra) and MATH 159 (Trigonometry & Analytical Geometry).

<sup>2</sup> See the computer skills alternatives listed in college catalog.

<sup>3</sup> Choose from BIOL 156 (Introduction to Environmental Science), BIOL 251 (Elements of Botany), BIOL 252 (Elements of Zoology), BIOL 260 (General Microbiology), BIOL 264 (Fundamentals of Genetics).

<sup>4</sup> May take PHY 151 (General Physics I) and PHY 152 (General Physics II) in place of CHEM 251 (Organic Chemistry I) and CHEM 252 (Organic Chemistry II) to be completed as required at transfer school)

## Chemistry Transfer Pathway

The following are course recommendations for students who plan on transferring to a four year college or university to pursue a bachelor's degree in chemistry or related fields.

### Recommended Courses

#### 1<sup>st</sup> Semester

CHEM 151	General College Chemistry I	4 credits
ENGL 151	English Composition I	3 credits
MATH 171	Calculus I	4 credits
_____	Computer Skills Elective <sup>1</sup>	3 credits
		<b>14 credits</b>

#### 2<sup>nd</sup> Semester

CHEM 152	General College Chemistry II	4 credits
ENGL 152	English Composition II	3 credits
MATH 172	Calculus II	4 credits
_____	Social Science Elective	3 credits
		<b>14 credits</b>

#### 3<sup>rd</sup> Semester

CHEM 251	Organic Chemistry I	4 credits
PHY 151/251	General or Engineering Physics I	4 – 5 credits
BIOL _____	Biology Elective	4 credits
MATH 271	Calculus III	4 credits
		<b>16 – 17 credits</b>

#### 4<sup>th</sup> Semester

CHEM 252	Organic Chemistry II	4 credits
PHY 152/252	General or Engineering Physics II	4 – 5 credits
_____	Social Science Elective	3 credits
_____	Social Science Elective	3 credits
_____	Humanities Elective	3 credits
		<b>17 – 18 credits</b>
		<b>(Total = 61 – 63 credits)</b>

<sup>1</sup> See the computer skills alternatives listed in the college catalog.

#### Transfer Information:

Transfer Institutions may require different courses for this transfer program. Students should tailor their MCCC program as closely as possible to the requirements at their four-year school of choice. Meet with an Enrollment Services representative for more information.

#### Prerequisites:

All students should check for prerequisites for a class before registering. Prerequisites can be found at [www.monroecc.edu](http://www.monroecc.edu).

## Elementary Education Transfer Pathway

The following are course recommendations for students who plan on transferring to a four year college or university to pursue a bachelor's degree in Elementary Education or other related field.

### Recommended Courses

<b>1<sup>st</sup> Semester</b>			<b>3<sup>rd</sup> Semester</b>		
ENGL 151	English Composition I	3 credits	ENGL 256	Children's Literature	3 credits
MATH 156	Math for Elementary Teachers I	3 credits	EDUC 158	Art for Elementary Teachers	3 credits
ECE 102	Child Growth and Development <sup>1</sup>	3 credits	ECE 110	Diverse Populations in ECE <sup>1</sup>	3 credits
_____	Science Elective <sup>2</sup>	4 credits	POLSC 151	Introduction to Political Science	3 credits
		<b>13 credits</b>	_____	Elective <sup>1</sup>	3 credits
					<b>15 credits</b>
<b>2<sup>nd</sup> Semester</b>			<b>4<sup>th</sup> Semester</b>		
ENGL 152	English Composition II	3 credits	EDUC 165	Music for Classroom Teachers	3 credits
MATH 166	Math for Elementary Teachers II	3 credits	GEOG 152	World Regional Geography	3 credits
ECE 108	Care and Learning of Infants/Toddlers <sup>1</sup>	4 credits	SPCH 151	Communication Fundamentals	3 credits
EDUC 151	Exploring Teaching	3 credits	HIST 154	History of the U.S.: 1607-1877	3 credits
_____	Computer Skills Elective <sup>2</sup>	3 – 4 credits	_____	Elective <sup>1</sup>	3 credits
		<b>16 – 17 credits</b>			<b>15 credits</b>
					<b>(Total = 60 credits)</b>

<sup>1</sup> Additional Requirements for Early Childhood Education Comprehensive Major. If Comprehensive Major is in another academic area please consult with four-year institution for additional courses for this transfer pathway.

<sup>2</sup> See the science and computer skills alternatives listed in college catalog.

## General Engineering Transfer Pathway

The following are course recommendations for students who plan on transferring to a four year college or university to pursue a bachelor's degree in engineering or related fields.

### Recommended Courses

<b>1<sup>st</sup> Semester</b>			<b>3<sup>rd</sup> Semester</b>		
ENGL 151	English Composition I	3 credits	PHY 251	Engineering Physics I	5 credits
MATH 171	Calculus I	4 credits	MATH 271	Calculus III	4 credits
CHEM 151	General College Chemistry I	4 credits	ECON 251	Principles of Macroeconomics	3 credits
_____	Computer Skills Elective <sup>1</sup>	3 credits	_____	Social Science Elective	3 credits
		<b>14 credits</b>			<b>15 credits</b>
<b>2<sup>nd</sup> Semester</b>			<b>4<sup>th</sup> Semester</b>		
ENGL 152	English Composition II	3 credits	PHY 252	Engineering Physics II	5 credits
MATH 172	Calculus II	4 credits	MATH 251	Introduction to Differential Equations	3 credits
CHEM 152	General College Chemistry II	4 credits	MATH 273	Introduction to Linear Algebra	3 credits
MATH 162	Introduction to Statistics	3 credits	_____	Humanities Elective	3 credits
_____	Social Science Elective	3 credits			<b>14 credits</b>
		<b>17 credits</b>			<b>(Total = 60 credits)</b>

<sup>1</sup> See the computer skills alternatives listed in the college catalog.

This pathway is a general course list for engineering. If student knows the type of engineering in which they wish to specialize, they should discuss course selection with MCCC's dean of math/science.

#### Transfer Information:

Transfer Institutions may require different courses for this transfer program. Students should tailor their MCCC program as closely as possible to the requirements at their four-year school of choice. Meet with an Enrollment Services representative for more information.

#### Prerequisites:

All students should check for prerequisites for a class before registering. Prerequisites can be found at [www.monroeccc.edu](http://www.monroeccc.edu).

## Environmental Science Transfer Pathway

The following are course recommendations for students who plan on transferring to a four year college or university to pursue a bachelor's degree in environmental science or related fields.

### Recommended Courses

#### 1<sup>st</sup> Semester

ESC 151	Earth Science	4 credits
ENGL 151	English Composition I	3 credits
MATH 157	College Algebra <sup>1</sup>	3 credits
BIOL 156	Environmental Science	4 credits
_____	Computer Skills Elective <sup>2</sup>	2 – 3 credits

**16 – 17 credits**

#### 2<sup>nd</sup> Semester

ENGL 152	English Composition II	3 credits
BIOL 151	Biological Sciences I	4 credits
MATH 159	Trigonometry & Analytical Geometry <sup>1</sup>	3 credits
_____	Humanities Elective	3 credits
_____	Social Science Elective	3 credits

**16 credits**

#### 3<sup>rd</sup> Semester

CHEM 151	General College Chemistry I	4 credits
MATH 171	Calculus I	4 credits
_____	Social Science Elective	3 credits
_____	Science Elective <sup>3</sup>	4 credits

**15 credits**

#### 4<sup>th</sup> Semester

CHEM 152	General College Chemistry II	4 credits
_____	Advanced Math Elective <sup>4</sup>	3 – 4 credits
_____	Science Elective <sup>3</sup>	4 credits
_____	Social Science Elective	3 credits

**14 – 15 credits**

**(Total = 61 – 63 credits)**

<sup>1</sup> May take MATH 164 (Precalculus) in place of MATH 157 (College Algebra) and MATH 159 (Trigonometry & Analytical Geometry)

<sup>2</sup> See the computer skills alternatives listed in college catalog.

<sup>3</sup> Choose from BIOL 251 (Elements of Botany), BIOL 252 (Elements of Zoology), BIOL 260 (General Microbiology), GEOG 151 (Elements of Physical Geography), MET 151 (Introduction to Meteorology & Climate), PHYSC 151 (Physical Science) or PHY 151 (General Physics I).

<sup>4</sup> Choose from MATH 162 (Introduction to Statistics), MATH 172 (Calculus II), or MATH 251 (Introduction to Linear Algebra).

## Geoscience/Earth Science Transfer Pathway

The following are course recommendations for students who plan on transferring to a four year college or university to pursue a bachelor's degree in geology or related fields.

### Recommended Courses

#### 1<sup>st</sup> Semester

ESC 151	Earth Science	4 credits
ENGL 151	English Composition I	3 credits
MATH 157	College Algebra <sup>1</sup>	4 credits
CHEM 151	General College Chemistry I	4 credits
_____	Computer Skills Elective <sup>2</sup>	2 – 3 credits

**17 – 18 credits**

#### 2<sup>nd</sup> Semester

ENGL 152	English Composition II	3 credits
MATH 159	Trigonometry & Analytical Geometry	3 credits
CHEM 152	General College Chemistry II	4 credits
_____	Humanities Elective	3 credits
_____	Social Science Elective	3 credits

**16 credits**

#### 3<sup>rd</sup> Semester

PHY 151	General Physics I	4 credits
MATH 171	Calculus I	4 credits
_____	Social Science Elective	3 credits
_____	Science Elective <sup>3</sup>	4 credits

**15 credits**

#### 4<sup>th</sup> Semester

PHY 152	General Physics II	4 credits
_____	Social Science Elective	3 credits
_____	Advanced Math Elective <sup>4</sup>	3 – 4 credits
_____	Humanities Elective	3 credits

**13 – 14 credits**

**(Total = 61 – 63 credits)**

<sup>1</sup> May take MATH 164 (Precalculus) in place of MATH 157 (College Algebra) and MATH 159 (Trigonometry & Analytical Geometry)

<sup>2</sup> See the computer skills alternatives listed in the college catalog.

<sup>3</sup> Choose from GEOG 151 (Elements of Physical Geography), BIOL 156 (Introduction to Environmental Science), or ASTRN 151 (Introduction to Astronomy) or PHYSC 151 (Physical Science) or MET 151 (Introduction to Meteorology & Climate).

<sup>4</sup> Choose from MATH 162 (Introduction to Statistics), MATH 172 (Calculus II), MATH 251 (Introduction to Linear Algebra), MATH 271 (Calculus III), or MATH 273 (Introduction to Differential Equations)

#### Transfer Information:

Transfer Institutions may require different courses for this transfer program. Students should tailor their MCCC program as closely as possible to the requirements at their four-year school of choice. Meet with an Enrollment Services representative for more information.

#### Prerequisites:

All students should check for prerequisites for a class before registering. Prerequisites can be found at [www.monroecc.edu](http://www.monroecc.edu).

## Journalism/Communications Transfer Pathway

This pathway is designed to provide the first two years of study for students who intend to continue their education in the diverse and rapidly changing news media field. Students who are interested in related fields, such as marketing, public relations, broadcast media and graphic arts, can add electives in those areas, preparing them for transfer to universities that offer journalism degrees with minors in their specialization, or vice versa. Courses involve extensive hands-on experience with student media outlets, including The Agora, [www.mcccagora.com](http://www.mcccagora.com), Rewind 94.3 radio and Monroe Public Access Cable TV (MPACT). Career opportunities include: online and other new media, newspapers and magazines, TV and radio news and production, and public relations and marketing.

### Recommended Courses

#### 1<sup>st</sup> Semester

JOURN 151	Introduction to Journalism	3 credits
ENGL 151	English Composition I	3 credits
MATH 157	College Algebra <sup>1</sup>	3 credits
_____	Laboratory Science <sup>2</sup>	4 credits
		<b>13 credits</b>

#### 2<sup>nd</sup> Semester

COMM 181	Digital Media	3 credits
JOURN 162	Journalism Workshop (Agora)	3 credits
ENGL 152	English Composition II	3 credits
POLSC 151	Introduction to Political Science	3 credits
CIS 130	Introduction to Computer Information Systems	3 credits
		<b>15 credits</b>

#### 3<sup>rd</sup> Semester

JOURN 251	Photojournalism	3 credits
JOURN 261	Journalism Workshop II (Agora)	3 credits
_____	CIS Elective <sup>4</sup>	3 credits
_____	Humanities General Education Satisfier	3 credits
_____	Science Elective <sup>2</sup>	4 credits
		<b>16 credits</b>

#### 4<sup>th</sup> Semester

JOURN 262	Journalism Workshop III (Agora)	3 credits
CIS 170	Web Design for Non-designers	3 credits
_____	Humanities Elective <sup>3</sup>	3 credits
_____	Social Science Elective <sup>5</sup>	3 credits
_____	Other Elective <sup>6</sup>	3 – 4 credits
		<b>15-16 credits</b>

**(Total = Min. 60 credits)**

<sup>1</sup> Also may take MATH 151 (Intermediate Algebra), MATH 154 (Mathematics Explorations), MATH 159 (Trigonometry & Analytical Geometry), MATH 164 (Precalculus) or higher.

<sup>2</sup> Choose from BIOL 151 (Biological Sciences I) or BIOL 156 (Introduction to Environmental Science), CHEM 150 (Fundamental Principles of Chemistry) or CHEM 151 (General College Chemistry I), ESC 151, PHY 101 (Technical Physics), PHY 151 (General Physics I), PHY 251 (General Physics II), PHYSC 151 (Physical Science).

<sup>3</sup> Choose from C5 Human Experience Competency courses. Some recommended courses include: HUMAN 250 (Visual Media Literacy), PHIL 152 (Introduction to Western Philosophy) or PHIL 253 (Introduction to the Philosophy of Religion), SPCH 151 (Communication Fundamentals)/SPCH 152 (Public Speaking), SOC 151 (Principles of Sociology)/SOC 251 (Modern Social Problems).

<sup>4</sup> Choose from CIS 172 (Web Design Concepts), CIS 176 (Web Animation), CIS 180 (Graphic Design Concepts), CIS 182 (Illustrator Graphics), CIS 184 (PhotoShop Graphics), CIS 186 (Multimedia Development), CIS 187 (Digital Video Editing), CIS 188 (InDesign Desktop Publishing).

<sup>5</sup> Any Social Science elective. Some recommended courses include: ANTHR 152 (Introduction to Cultural Anthropology)/ANTHR 155 (Introduction to Archaeology), POLSC 211 (Introduction to Comparative Politics)/POLSC 221 (State and Local Government), PSYCH 151 (General Psychology).

<sup>6</sup> Some recommended courses, if not already taken, include: ART 155 (Art Appreciation), ECON 251 (Principles of Macroeconomics)/ECON 252 (Principles of Microeconomics), MATH 154 (Mathematics Explorations), BIOL 151 (Biological Sciences I).

## Mathematics Transfer Pathway

The following are course recommendations for students who plan on transferring to a four year college or university to pursue a bachelor's degree in mathematics or related fields.

### Recommended Courses

#### 1<sup>st</sup> Semester

MATH 171	Calculus I	4 credits
ENGL 151	English Composition I	3 credits
_____	Social Science Elective	3 credits
CHEM 151	General College Chemistry I <sup>1</sup>	4 credits
_____	Computer Skills Elective <sup>2</sup>	2 credits
		<b>16 credits</b>

#### 2<sup>nd</sup> Semester

MATH 172	Calculus II	4 credits
POLSC 151	Introduction to Political Science	3 credits
ENGL 152	English Composition II	3 credits
SPCH 151	Communication Fundamentals	3 credits
CHEM 152	General College Chemistry II <sup>1</sup>	4 credits
		<b>17 credits</b>

#### 3<sup>rd</sup> Semester

MATH 271	Calculus III	4 credits
PHY 251	Engineering Physics I	5 credits
MATH 162	Introduction to Statistics	3 credits
_____	Social Science Elective	3 credits
		<b>15 credits</b>

#### 4<sup>th</sup> Semester

MATH 251	Introduction to Linear Algebra	3 credits
MATH 273	Introduction to Differential Equations	3 credits
PHY 252	Engineering Physics II	5 credits
PHIL 151	Introduction to Logic or Humanities Elective	3 credits
		<b>14 credits</b>

**(Total = 62 credits)**

<sup>1</sup> Choose a course that meets the Natural Sciences general education competency at MCCC and the Natural Sciences requirements for the major at the transfer institution.

<sup>2</sup> See the computer skills alternatives listed in the college catalog.

#### Transfer Information:

Transfer Institutions may require different courses for this transfer program. Students should tailor their MCCC program as closely as possible to the requirements at their four-year school of choice. Meet with an Enrollment Services representative for more information.

#### Prerequisites:

All students should check for prerequisites for a class before registering. Prerequisites can be found at [www.monroeccc.edu](http://www.monroeccc.edu).

## Physics Transfer Pathway

The following are course recommendations for students who plan on transferring to a four year college or university to pursue a bachelor's degree in physics or related fields.

### Recommended Courses

<b>1<sup>st</sup> Semester</b>			<b>3<sup>rd</sup> Semester</b>		
ENGL 151	English Composition I	3 credits	PHY 251	Engineering Physics I	5 credits
MATH 171	Calculus I	4 credits	MATH 271	Calculus III	4 credits
CHEM 151	General College Chemistry I	4 credits	ECON 251	Principles of Macroeconomics	3 credits
_____	Computer Skills Elective <sup>1</sup>	3 credits	_____	Social Science Elective	3 credits
		<b>14 credits</b>			<b>15 credits</b>
<b>2<sup>nd</sup> Semester</b>			<b>4<sup>th</sup> Semester</b>		
POLSC 151	Introduction to Political Science	3 credits	PHY 252	Engineering Physics II	5 credits
ENGL 152	English Composition II	3 credits	MATH 251	Introduction to Linear Algebra	3 credits
MATH 172	Calculus II	4 credits	MATH 273	Introduction to Differential Equations	3 credits
CHEM 152	General College Chemistry II	4 credits	_____	Humanities Elective <sup>2</sup>	3 credits
CIS 150	Computer Science I	3 credits			<b>14 credits</b>
		<b>17 credits</b>			<b>(Total = 60 credits)</b>

<sup>1</sup> See the computer skills alternatives listed in the college catalog.

<sup>2</sup> Recommended: SPCH 151 (Communication Fundamentals)

## Psychology Transfer Pathway

The following are recommended courses and a sequence for students planning to transfer to a four-year institution and major in psychology.

### Recommended Courses

<b>1<sup>st</sup> Semester</b>			<b>3<sup>rd</sup> Semester</b>		
PSYCH 151	General Psychology	3 credits	PSYCH ____	Psychology Elective (see list)	3 credits
ENGL 151	English Composition I	3 credits	PSYCH ____	Psychology Elective (see list)	3 credits
MATH 157*	College Algebra	3 credits	PHIL 151	Introduction to Logic	3 credits
_____	Laboratory Science Elective <sup>1</sup>	4 credits	MATH 162	Introduction to Statistics	3 credits
_____	Computer Skills Elective <sup>2</sup>	3 credits	_____	Humanities Elective	3 credits
		<b>16 credits</b>			<b>15 credits</b>
<b>2<sup>nd</sup> Semester</b>			<b>4<sup>th</sup> Semester</b>		
PSYCH ____	Psychology Elective (see list)	3 credits	PSYCH ____	Psychology Elective (see list)	3 credits
ENGL 152	English Composition II	3 credits	PSYCH ____	Psychology Elective (see list)	3 credits
MATH 159*	Trigonometry & Analytical Geometry	3 credits	_____	Humanities Elective	3 credits
_____	Laboratory Science Elective <sup>1</sup>	4 credits	_____	Elective	3 credits
_____	Social Science Elective <sup>3</sup>	3 credits	_____	Elective	3 credits
		<b>16 credits</b>			<b>15 credits</b>
					<b>(Total = 62 credits)</b>

<sup>1</sup> Choose at least two courses from two disciplines: BIOL 151 (Biological Sciences I), BIOL 153 (Biological Sciences II), BIOL 264 (Fundamentals of Genetics), CHEM 151 (General College Chemistry I), CHEM 152 (General College Chemistry II).

<sup>2</sup> See the computer skills alternatives listed in college catalog.

<sup>3</sup> ANTHR 152 (Introduction to Cultural Anthropology) or SOC 151 (Introduction to Sociology)

<sup>4</sup> To get an idea of the field's recommendations for the completion of a four-year psychology major degree, visit: <http://www.apa.org/ed/precollege/about/psymajor-guidelines.pdf>

\* May take MATH 164 (Precalculus) in place of MATH 157 (College Algebra) and MATH 159 (Trigonometry & Analytical Geometry)

Psychology Electives (choose from):

PSYCH 152 Psychology of Personality & Adjustment

PSYCH 251 Child Psychology

PSYCH 253 Social Psychology

PSYCH 254 Life Span Psychology

PSYCH 257 Psychology of Human Sexuality

PSYCH 258 Abnormal Psychology

#### Transfer Information:

Transfer Institutions may require different courses for this transfer program. Students should tailor their MCCC program as closely as possible to the requirements at their four-year school of choice. Meet with an Enrollment Services representative for more information.

#### Prerequisites:

All students should check for prerequisites for a class before registering. Prerequisites can be found at [www.monroeccc.edu](http://www.monroeccc.edu).

# ACADEMIC PROGRAMS

## OCCUPATIONAL CERTIFICATES AND DEGREE PROGRAMS OF STUDY

Individuals completing a prescribed course of study in one of the career program areas will receive an associate of applied science or associate of commerce degree.

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.

## 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.

Program	Degree	Certif.
Accounting	•	•
Agriculture - Agribusiness	•	
Agriculture - Agricultural Operations	•	
Automotive Engineering Technology	•	•
Automotive Service Technology	•	•
Business Management	•	
Entrepreneurship		•
Computer Information Systems:		
Accounting/CIS	•	
App Development	•	•
Computer Science	•	
Cybersecurity and Information Assurance	•	•
Office Professional	•	
Office Specialist		•
Office Software Specialist		•
PC Support Technician	•	•
System Administration Specialist	•	•
Construction Management Technology	•	
Residential and Light Commercial Construction		•
Heavy and Industrial Construction		•
Criminal Justice/Law Enforcement	•	•
Early Childhood Education	•	•
Electrical Engineering Technology	•	
Fine Arts	•	
Game Design and Development	•	
General Technology	•	
Graphic Design	•	
Computer Graphics-Basic		•
Digital Media-Basic		•
Digital Media	•	•
Illustration-Basic		•
Illustration	•	•
Interaction Design-Basic		•
Interaction Design		•
Manufacturing Technology (formerly Product and Process Technology)	•	•
CNC Technician		•
CAD/CAM Technician		•
Metrology Technology		•
Mechanical Design Technology	•	•
Mechanical Engineering Technology	•	
Metrology and Quality Technology	•	
Metrology Technology		•
Quality Technology		•
Non-Destructive Testing:		
Basic		•
Advanced		•
Nuclear Engineering Technology	•	
Nursing, Practical		•
Nursing, Registered	•	
PN to RN Program Option	•	
Phlebotomy Technician		•
Renewable Energy:		
Solar Energy		•
Wind Energy		•
Respiratory Therapy	•	
Teacher Paraprofessional (Elementary Education)	•	
Welding Technology	•	
Basic Welding		•
Advanced Welding		•

# ACCOUNTING

## Business Division

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

### 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.

## Certificate Program: Accounting

This certificate may be completed fully online via the MCCC-Online Option.

Required Core Courses	Credits
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

<b>Total Certificate Requirements</b>	<b>39 credits</b>
<b>Total Certificate Cost</b>	<b>39 minimum billable contact hours</b>

## Associate of Applied Science: Accounting

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

Suggested General Electives	3
(to complete degree requirements, not limited to those courses listed)	
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

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

<b>Total Degree Requirements</b>	<b>61-62 credits</b>
<b>Total Degree Cost</b>	<b>62 minimum billable contact hours</b>

The associate of applied science in accounting may be completed\* via the MCCC-Online Option. To learn more, contact a counselor, academic advisor, program faculty member or the Business Division dean to explore options.

\* Not all courses are offered online every semester.

\* Additional course fees may apply.

# AGRICULTURE - Agribusiness Pathway

## Business Division

The agriculture program at Monroe County Community College provides students with a solid background in plant and soil science, precision agriculture, agriculture management, entomology, plant pathology and additional fundamentals of core business courses.

## Career Opportunities in Agribusiness

Graduates typically will find employment opportunities in:

- Agribusiness opportunities such as farm insurance, commodity marketing, farm supply businesses
- Crop and farm product processing facilities
- Crop production management
- Equipment retail sales and service
- Farm operations
- Production and agriculture service companies

## Program and Transfer Information

Michigan State University and MCCC have partnered together to offer students an opportunity to earn a certificate in agricultural operations and an associate of applied science in agri-business. The certificate, awarded by MSU, will include 34 credits of agriculture-oriented courses through the Institute of Agricultural Technology, combined with a minimum of 28-29 additional credits from MCCC to total 62-63 credits.

The associate of applied science awarded by MCCC will include 34 credits offered by the MSU/Institute of Agricultural Technology plus 19-20 general education credits and a minimum of 9 elective credits from MCCC to equal 62-63 total credits.

Students wishing to work toward a bachelor's degree may receive preferred transfer status at Michigan State University after earning the associate degree at MCCC.

For more information please contact Andrew McCain, program coordinator, at 734.384.4155 or amccain@monroecc.edu.

## Courses Delivered By The Michigan State University - Institute of Agriculture Technology

### Credits

**28**

ABM 130 (Farm Management I) . . . . .	3
AE 131 (Agricultural Water Resource Management) . . . . .	3
AE 143 (Application of Precision Agriculture Technologies) . . . . .	3
AT 202 (Agricultural Regulation, Compliance and Safety) . . . . .	3
AT 293 (Professional Internship in Agricultural Technology) . . . . .	3
CSS 101 (Introduction to Crop Science) . . . . .	3
CSS 105 (Agricultural Industries Seminar) . . . . .	1
CSS 126 (Introduction to Weed Management) . . . . .	2
CSS 143 (Introduction to Soil Science) . . . . .	2
ENT 110 (Applied Entomology of Economic Plants) . . . . .	3
PLP 105 (Fundamentals of Applied Plant Pathology) . . . . .	2
A minimum of 6 additional MSU CANR/IAT credits must be completed with approval from the program coordinator. . . . .	6

**Total MSU/IAT Program Credits**

**34 credits**

## Courses Delivered by Monroe County Community College

### Credits

### General Education Competency Requirements 19-20

C1 Natural Science Graduation Elective . . . . .	4
C2 Mathematics Competency Elective . . . . .	3 or 4
C3 ENGL 151 (English Composition I) . . . . .	3
C4 BMGT 160 (Managing in the Digital Enterprise) or CIS 130 (Introduction to Computer Information Systems) . . . . .	3
C5 Human Experience Competency Elective . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on page 33 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

### Students must also complete an additional 9 elective credits offered at MCCC

### Credits

<i>(Recommended options, not limited to those listed)</i>	<b>9</b>
ACCTG 151 (Accounting Principles) . . . . .	4
BMGT 201 (Principles of Management) . . . . .	3
BSLW 251 (Business Law) . . . . .	4
BUSAD 151 (Introduction to Business) . . . . .	4
BUSAD 170 (Small Business and Entrepreneurship) . . . . .	3
ECON 251 (Principles of Macroeconomics) . . . . .	3
ECON 252 (Principles of Microeconomics) . . . . .	3
MCOM 201 (Principles of Marketing) . . . . .	3

### Total Credits Needed to Earn An MSU Certificate and an Associate of Applied Science in Agribusiness

**62-63 credits**

# AGRICULTURE - Agricultural Operations Pathway

## Business Division

The agriculture program at Monroe County Community College provides students with a solid background in plant and soil science, precision agriculture, agriculture management, entomology, plant pathology and additional fundamentals of agriculture.

### Career Opportunities in Ag Operations

Graduates typically will find employment opportunities in:

- Crop and farm product processing facilities
- Crop production management
- Equipment retail sales and service
- Farm operations
- Production and agriculture service companies

### Program and Transfer Information

Michigan State University and MCCC have partnered together to offer students an opportunity to earn a certificate in agricultural operations and an associate of applied science in agriculture. The certificate, awarded by MSU, will include 34 credits of agriculture-oriented courses through the Institute of Agricultural Technology, combined with a minimum of 26 additional credits from MCCC to total 60 credits.

The associate of applied science awarded by MCCC will include 34 credits offered by the MSU/Institute of Agricultural Technology plus 19-20 general education credits and a minimum of 6-7 elective credits from MCCC to equal 60 total credits.

Students wishing to work toward a bachelor's degree may receive preferred transfer status at Michigan State University after earning the associate degree at MCCC.

For more information please contact Andrew McCain, program coordinator, at 734.384.4155 or amccain@monroecc.edu.

### Courses Delivered By The Michigan State University - Institute of Agriculture Technology

	Credits
	<b>28</b>
ABM 130 (Farm Management I)3	3
AE 131 (Agricultural Water Resource Management)	3
AE 143 (Application of Precision Agriculture Technologies)	3
AT 202 (Agricultural Regulation, Compliance and Safety)	3
AT 293 (Professional Internship in Agricultural Technology)	3
CSS 101 (Introduction to Crop Science)	3
CSS 105 (Agricultural Industries Seminar)	1
CSS 126 (Introduction to Weed Management)	2
CSS 143 (Introduction to Soil Science)	2
ENT 110 (Applied Entomology of Economic Plants)	3
PLP 105 (Fundamentals of Applied Plant Pathology)	2

A minimum of 6 additional MSU CANR/IAT credits must be completed with approval from the program coordinator. . . . . 6

**Total MSU/IAT Program Credits                    34 credits**

### Courses Delivered By Monroe County Community College

	Credits
<b>General Education Competency Requirements</b>	<b>19-20</b>
C1 Natural Science Graduation Elective	4
C2 Mathematics Competency Elective	3 or 4
C3 ENGL 151 (English Composition I)	3
C4 BMGT 160 (Managing in the Digital Enterprise) or CIS 130 (Introduction to Computer Information Systems)	3
C5 Human Experience Competency Elective	3
C6 Social Systems Competency Elective	3

See the General Education Requirements on page 33 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

### Students must also complete an additional 6-7 elective credits offered at MCCC

	Credits
<i>(Recommended options, not limited to those listed)</i>	<b>6-7</b>
ACCTG 151 (Accounting Principles)	4
ACCTG 152 (Accounting Principles)	4
AST 102 (Electrical Systems I)	4
BIOL 156 (Introduction to Environmental Science)	4
BIOL 251 (Elements of Botany)	4
BUSAD 151 (Introduction to Business)	4
BUSAD 170 (Small Business and Entrepreneurship)	3
BMGT 160 (Managing in the Digital Enterprise)	3
BMGT 201 (Principles of Management)	3
BSLW 251 (Business Law)	4
CHEM 150 (Fundamental Principles of Chemistry)	4
ESC 151 (Earth Science)	4
ECON 251 (Principles of Macroeconomics)	3
ECON 252 (Principles of Microeconomics)	3
ELEC 125 (Fundamentals of Electricity)	3
GEOG 151 (Elements of Physical Geography)	4
MCOM 201 (Principles of Marketing)	3
MET 151 (Introduction to Meteorology)	4
WELD 100 (Introduction to Welding Processes)	4

**Total Credits Needed To Earn A Certificate  
and an Associate of Applied Science                    60 credits**

# AUTOMOTIVE ENGINEERING TECHNOLOGY

## Applied Science and Engineering Technology Division

The associate of applied science degree with specialization in automotive engineering technology is structured to provide the technical knowledge and mechanical abilities necessary to work in today's growing automotive research and development industry. Automotive engineering technicians assist engineers in design and development work. They help determine the practicality of a proposed product design change and plan and carry out tests on experimental test devices and equipment for performance, durability and efficiency. As part of the testing procedure, they record data, make computations, plot graphs, analyze results, write reports and often make recommendations for improvements to meet performance requirements. The automotive engineering technician makes use of various mechanical and electrical test instruments and gauges, including engine and chassis dynamometers, road simulators, flow benches and computer-controlled data gathering devices. The curriculum is planned to prepare the graduate to perform duties concerned with design, testing and development activities in direct support of the automotive engineer.

### Career Opportunities

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

- Automotive engineering technician
- Dynamometer Technician
- Engineering technician
- Factory technical representative
- Research and development technician
- Research technician
- Sales engineer
- Test Engineer, Automotive

**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 Courses

**Credits  
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 33 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

#### 1<sup>st</sup> Semester

MATH 119* (Elementary Technical Mathematics) . . . . .	2
ELEC 125 (Fundamentals of Electricity and Electronics) . . . . .	3
AUTO 101 (Internal Combustion Engines) . . . . .	4

#### 2<sup>nd</sup> Semester

AUTO 102 (Automotive Electricity and Electronics) . . . . .	4
AUTO 107 (Automotive Chassis Units) . . . . .	4
MATH 124* (Technical Mathematics II) . . . . .	C2

#### Winter or Summer Semester

AUTO 201 (Automotive Digital Electronics) . . . . .	3
MDTC 160** (Mechanical Drafting and CAD I) . . . . .	C4

#### 3<sup>rd</sup> Semester

AUTO 104 (Automotive Ignition Systems) . . . . .	3
AUTO 105 (Automotive Transmissions) . . . . .	3

#### 4<sup>th</sup> Semester

AUTO 103 (Fuel and Emission Control Systems) . . . . .	4
AUTO 114 (Automotive Instrumentation and Testing) . . . . .	4

### Additional Technology Electives

**6-7**

(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 MATH 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.

\*\* MDTC 160 (Mechanical Drafting and CAD I) can be replaced by CIS 130 (Introduction to Computer Information Systems).

## Certificate Program: Automotive Engineering Technology

In addition to the two-year associate degree program, Monroe County Community College offers a certificate program in automotive engineering 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.

	<b>Credits</b>
ELEC 125 (Fundamentals of Electricity) . . . . .	3
AUTO 101 (Internal Combustion Engines) . . . . .	4
AUTO 102 (Automotive Electricity and Electronics) . . . . .	4
AUTO 103 (Fuel and Emission Control Systems) . . . . .	4
AUTO 104 (Automotive Ignition Systems) . . . . .	3
AUTO 105 (Automotive Transmissions) . . . . .	3
AUTO 107 (Automotive Chassis Units) . . . . .	4
AUTO 114 (Automotive Instrumentation and Testing) . . . . .	4
AUTO 201 (Automotive Digital Electronics) . . . . .	3
MATH 119 (Elementary Technical Mathematics) . . . . .	2
<b>Total Certificate Requirements</b>	<b>34 credits</b>
<b>Total Certificate Cost</b>	<b>50 minimum billable contact hours</b>

# AUTOMOTIVE SERVICE TECHNOLOGY

## Applied Science and Engineering Technology Division

The associate of applied science degree with specialization in automotive service technology is structured to provide the technical knowledge and mechanical abilities necessary to work on the vehicles of yesterday, today and the future. Today's vehicles are highly complex feats of engineering. Technicians need a wide array of skills and knowledge to diagnose, repair and maintain these vehicles. Automotive service technicians have the opportunity to work on hydraulic systems (brakes and transmissions), mechanical systems (engines and steering), computer systems (modules and networks) and electrical systems (entertainment and lighting). All of these systems work together to ensure the safety and comfort drivers rely on. The automotive service technician makes use of various mechanical and electrical test instruments and gauges, including scan tools, oscilloscopes, pressure gauges, pneumatic tools and hand tools. The curriculum is planned to prepare the graduate to perform duties concerned with diagnosis, repair and maintenance of motor vehicles. Graduates of this program will be prepared for entry-level employment in the following areas:

- Dealership service technician
- Factory technical representative
- Independent service technician
- Service engineer
- Service writer

Students desiring to earn the automotive service technology program designation must complete the following general education and required core and specialized courses:

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 Courses	Credits
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

\* MDTC 160 (Mechanical Drafting and CAD I) can be replaced by CIS 130 (Introduction to Computer Information Systems).  
See the General Education Requirements on page 33 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 37

<b>1<sup>st</sup> Semester</b>	
AST 101 (Introduction to Automotive Service) . . . . .	3
AST 102 (Electrical Systems I) . . . . .	4
AST 105 (Engine Theory) . . . . .	3
<b>2<sup>nd</sup> Semester</b>	
AST 103 (Electrical Systems II) . . . . .	4
AST 120 (Brake Systems) . . . . .	4
AST 125 (Steering and Suspension) . . . . .	4
<b>Summer Semester</b>	
AST 130 (Heating and Air Conditioning) . . . . .	4
<b>3<sup>rd</sup> Semester</b>	
AST 202 (Engine Performance I) . . . . .	4
Restricted Elective Option**	
<b>4<sup>th</sup> Semester</b>	
AST 203 (Engine Performance II) . . . . .	4
Restricted Elective Option**	
AST 249 (Work Experience) . . . . .	3

Restricted Electives (choose 1)**	Credits
AST 205 (Engine Repair) . . . . .	5
AST 210 (Manual Transmission and Driveline Repair) . . . . .	5
AST 211 (Automatic Transmission Repair) . . . . .	5

<b>Total Degree Requirements</b>	<b>63 credits</b>
<b>Total Degree Cost</b>	<b>87 minimum billable contact hours</b>

\*\* Designates elective course (choose only one option 3<sup>rd</sup> or 4<sup>th</sup> semester).  
AST 210 (Manual Transmission and Driveline Repair) or AST 211 (Automatic Transmission Repair) to be offered alternatively in Fall semester of each year.  
AST 205 (Engine Repair) to be offered in the Winter semester.

## Certificate Program: Automotive Service Technology

In addition to the two-year associate degree program, Monroe County Community College offers a certificate program in automotive service technology. The basic core subjects of automotive repair are covered in these courses. Skill development and job procurement are the primary objectives of this program, and all courses taken in this certificate program are applicable toward the associate of applied science degree.

Required Core Courses	Credits
AST 101 (Introduction to Automotive Service) . . . . .	3
AST 102 (Electrical Systems I) . . . . .	4
AST 120 (Brake Systems) . . . . .	4
AST 103 (Electrical Systems II) . . . . .	4
AST 125 (Steering and Suspension) . . . . .	4
AST 130 (Heating and Air Conditioning) . . . . .	4

<b>Total Certificate Requirements</b>	<b>23 credits</b>
<b>Total Certificate Cost</b>	<b>37 minimum billable contact hours</b>

# BUSINESS MANAGEMENT

## Business Division

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:

- Business analysts
- Customer service representatives
- General business managers
- Human resources managers
- Office managers
- Purchasing and logistics agents
- Retail managers
- Sales managers

### 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 visit the Transfer section of the MCCC website.

## Certificate Program: Entrepreneurship

Required Core Courses	Credits
HUMAN 152 (Exploring Creativity) . . . . .	3
BUSAD 170 (Small Business and Entrepreneurship) . . . . .	3
MCOM 201 (Principles of Marketing) . . . . .	3
BUSAD 180 (Entrepreneurship Capstone) . . . . .	3

<b>Total Certificate Requirements</b>	<b>12 credits</b>
<b>Total Certificate Cost</b>	<b>12 minimum billable contact hours</b>

The associate of applied science in business management may be completed\* via the MCCC-Online Option. To learn more, contact a counselor, academic advisor, program faculty member or the Business Division dean to explore options.

\* Not all courses are offered online every semester.

\* Additional online course options may be available through Michigan Colleges Online ([www.miccollegesonline.org](http://www.miccollegesonline.org)).

\* Additional course fees may apply.

## Associate of Applied Science: Business Management

Required Core Courses	Credits
<b>1<sup>st</sup> Semester</b>	
BUSAD 151 (Introduction to Business) . . . . .	4
ECON 251 (Principles of Macroeconomics) . . . . .	3
<b>2<sup>nd</sup> Semester</b>	
BMGT 201 (Principles of Management) . . . . .	3
BMGT 160 (Managing in the Digital Enterprise) . . . . .	3
ACCTG 151 (Accounting Principles) . . . . .	4
<b>3<sup>rd</sup> Semester</b>	
ACCTG 152 (Accounting Principles) . . . . .	4
MCOM 201 (Principles of Marketing) . . . . .	3
<b>4<sup>th</sup> Semester</b>	
BMGT 202 (Business Communication in a Digital Age) . . . . .	3
ECON 252 (Principles of Microeconomics) . . . . .	3

Required Electives Options	Credits
(must select from this list 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
BUSAD 180 (Entrepreneurship Capstone) . . . . .	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 (Presentation Software) . . . . .	3
HUMAN 152 (Exploring Creativity) . . . . .	3
MATH 162 (Introduction to Statistics) . . . . .	3

Required General Education Courses	Credits
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) . . . . .	C4
C5 Expressions of the Human Experience Competency . . . . .	3
C6 Social Systems Competency . . . . .	3

See the General Education Requirements on page 33 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

General Electives	4-5
(as required to meet degree requirements)	

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

# CERTIFIED NURSE AIDE

## Health Sciences Division

The nurse aide program is designed to prepare an individual to fulfill the role of direct caregiver/nursing aide. The course emphasizes the skills and behaviors that are significant to employers of nurse aides, including cardiopulmonary resuscitation (CPR).

This course includes classroom activities, skills practice time in the laboratory and supervised clinical practice at a long-term care facility. 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 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 approximately \$32,000 per year. Employment opportunities are favorable and exist in long-term care settings, acute care hospitals, in-home healthcare organizations and community settings.

### Technical Standards

The purpose of the technical standards is to inform students choosing to enter into a health occupation program of the basic minimal technical standard requirements that must be met in order to complete all course work objectives and student outcomes. The listed standards encompass what is minimally required to perform necessary tasks. This list is not exhaustive, and can be modified as the college deems necessary at any time. Students enrolled in a health occupation program at MCCC must provide care that is safe and effective. These technical standards apply to any student enrolling in any one of the health occupations programs. The student must be able to demonstrate sufficient cognitive, professional, motor (physical), sensory, and other abilities, with or without accommodation, to meet program technical standards. Technical standard requirements are listed below. Examples of tasks associated with each requirement and standard are available for review by visiting the Health Sciences Division section of the MCCC website. Prospective students are encouraged to review the Technical Standards for Health Occupational Programs document in its entirety prior to enrolling in or applying to any health occupation course or program.

- **Critical Thinking and Cognitive Competencies:**  
Sufficient critical thinking and cognitive abilities in classroom and clinical settings.
- **Professionalism:**  
Interpersonal skills sufficient for professional interaction with a diverse population of individuals, families, and groups.
- **Communication:**  
Communication sufficient for professional interactions.
- **Mobility:**  
Physical abilities sufficient for movement from room to room and in small spaces.
- **Motor Skills:**  
Gross and fine motor abilities which are sufficiently effective and safe for providing allied health care.
- **Sensory:**  
Auditory and visual ability sufficient for observing, monitoring, and assessing health needs.
- **Observation:**  
Ability to sufficiently make observations in a health care environment, consistent with program competencies.
- **Tactile sense:**  
Tactile ability sufficient for physical assessment.

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 Student Success Center. 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:

1. Immunizations and examinations at the student's expense to ensure that the student can meet the technical requirements of the program.
2. Nurse aide students are required to have professional liability and personal health insurance. The professional liability insurance is provided by the college. Personal health insurance must be obtained by the student and maintained throughout the clinical portion of the course in order to comply with agency requirements. Proof of insurance will be required prior to participating in any clinical activity.
3. Students admitted to health science programs must consent to background/security checks including a criminal background check and drug screening. The student is responsible for any cost associated with the background/security checks. Students that require additional drug testing beyond initial screening and/or a medical review may be responsible for associated costs. Certain criminal convictions may render a student ineligible to train at clinical sites which are necessary in order to successfully complete the program. Additionally, certain criminal convictions may render an individual ineligible to take the

licensing/certification exam or to be licensed/certified in the State of Michigan. The college will review the results and determine, on a case-by-case basis, whether to deny admission to any individual based on the results of the criminal background check and drug screening.

4. An active American Heart Association cardiopulmonary resuscitation (CPR) certificate for professional rescuer of infant, child and adult.
5. In addition to the general college rules, CNA students are required to adhere to policies and procedures outlined in the Nurse Aide Student Information Handbook. Students are encouraged to review the handbook prior to enrolling in the course. A copy of the handbook is available in the CNA section of the MCCC website.
6. If a student cannot meet the health/or security requirements to be placed in the clinical setting, they will be dismissed from the course.

<b>Required Course</b>	<b>Credits</b>
CNA 100* (Certified Nurse Aide) . . . . .	6

**Total Course Requirements** **6 credits\*\***  
**Total Costs** **10 billable contact hours**

*\* Prerequisite: RDG 090 (Basic Reading Skills) and ENGL 090 (Basic Writing Skills) or qualifying scores on accepted placement tests.  
 Corequisite: None*

*\*\* Hours required: Class – 48; Lab – 59; Clinical – 48*

# COMPUTER INFORMATION SYSTEMS ACCOUNTING/CIS

## Business Division

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

### 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 visit the Transfer section of the MCCC website.

### 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

Required General Education Courses	Credits
	<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 33 or the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

Required Courses	Credits
	<b>42</b>
<b>1<sup>st</sup> Semester</b>	
ACCTG 151 (Accounting Principles) . . . . .	4
CIS 109 (Spreadsheet Software) . . . . .	3
CIS 130 (Introduction to Computer Information Systems) . . . . .	C4
<b>2<sup>nd</sup> Semester</b>	
ACCTG 152 (Accounting Principles) . . . . .	4
CIS 112 (Database Software) . . . . .	3
<b>3<sup>rd</sup> Semester</b>	
ACCTG 201 (Microcomputer Accounting I) . . . . .	3
ACCTG 251 (Intermediate Accounting I) . . . . .	4
CIS 150 (Computer Science I) . . . . .	4
CIS 205 (Systems Analysis & Design) . . . . .	3
<b>4<sup>th</sup> Semester</b>	
ACCTG 205 (Microcomputer Accounting II) . . . . .	3
ACCTG 252 (Cost Accounting) . . . . .	4
ACCTG 254 (Intermediate Accounting II) . . . . .	4
<b>Additional Required Courses</b>	
	<b>3</b>
ACCTG 220 (Payroll Accounting) . . . . .	3

<b>Total Degree Requirements</b>	<b>61-62 credits</b>
<b>Total Degree Cost</b>	<b>61-62 minimum billable contact hours</b>

# COMPUTER INFORMATION SYSTEMS

## APP DEVELOPMENT

### Business Division

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

#### Transfer Information

For information regarding transfer opportunities for this, or any program, please visit the Transfer section of the MCCC website.

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 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 33 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>29</b>
CIS 112 (Database Software) .....	3
CIS 130 (Introduction to Computer Information Systems) .....	C4
CIS 150 (Computer Science I) .....	4
CIS 153 (Desktop App Development) .....	3
CIS 183 (Mobile App Development) .....	4
CIS 184 (Photoshop Graphics) .....	3
CIS 209 (Network Concepts) .....	3
CIS 212 (Full Stack Development) .....	3
IAS 103 (Information Security Principles) .....	3

**Additional Required CIS or IAS Courses** **3**

**General Elective Courses** **11-12**  
*(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.

<b>Required Courses</b>	<b>Credits</b>
CIS 112 (Database Software) .....	3
CIS 130 (Introduction to Computer Information Systems) .....	3
CIS 150 (Computer Science I) .....	4
CIS 153 (Desktop App Development) .....	3
CIS 183 (Mobile App Development) .....	4
CIS 184 (Photoshop Graphics) .....	3
CIS 209 (Network Concepts) .....	3
CIS 212 (Full Stack Development) .....	3
IAS 103 (Information Security Principles) .....	3

**Total Certificate Requirements** **29 credits**  
**Total Certificate Cost** **29 minimum billable contact hours**

# COMPUTER INFORMATION SYSTEMS COMPUTER SCIENCE

## Business Division

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

### 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 visit the Transfer section of the MCCC website.

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 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 33 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>29</b>
CIS 130 (Introduction to Computer Information Systems) . . . . .	C4
CIS 150 (Computer Science I) . . . . .	4
CIS 153 (Desktop App Development) . . . . .	3
CIS 167 (Discrete Structures) . . . . .	4
CIS 183 (Mobile App Development) . . . . .	4
CIS 212 (Full Stack Development) . . . . .	3
CIS 250 (Computer Science II) . . . . .	4
CIS 267 (Beginning Game Programming) . . . . .	3
CIS 268 (Assembly Language and Computer Architecture) . . . . .	4

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

**General Electives Courses** **6**  
*(as required to complete 60 hours)*

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

# COMPUTER INFORMATION SYSTEMS CYBERSECURITY AND INFORMATION ASSURANCE

## Business Division

The associate of applied science degree in computer information systems with a program designation of cybersecurity and information assurance 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:

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

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 [https://www.emich.edu/ccr/documents/curreguidenew/monroe/monroe\\_informationassurance.pdf?v=2018-05-08T16:36:24Z](https://www.emich.edu/ccr/documents/curreguidenew/monroe/monroe_informationassurance.pdf?v=2018-05-08T16:36:24Z).

For information regarding transfer opportunities for this, or any program, please visit the Transfer section of the MCCC website.

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 Courses	Credits
<b>19-20</b>	
C1 Natural Science Competency . . . . .	4
C2 Mathematics Competency* . . . . .	3-4
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

\*MATH 126 (Mathematics for Business) is recommended for students whose goal is to complete the AAS degree and seek employment. MATH 151 (Intermediate Algebra) or higher is recommended for students interested in transferring.

See the General Education Requirements on page 33 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

Required CIS Core Courses	Credits
<b>9</b>	
CIS 130 (Introduction to Computer Information Systems) . . . . .	C4
CIS 208 (PC Operating Systems) . . . . .	3
CIS 209 (Network Concepts) . . . . .	3
IAS 103 (Information Security Principles) . . . . .	3

Cybersecurity Concentration	Credits
<b>19</b>	
CIS 150 (Computer Science I) . . . . .	4
CIS 228 (Linux Administration) . . . . .	3
CIS 230 (Windows Server) . . . . .	3
IAS 202 (Risk Vulnerability Analysis) . . . . .	3
IAS 210 (Advanced Networking Practices) . . . . .	3
IAS 213 (Privacy and Technology) . . . . .	3

Additional General Electives	Credits
<b>12-13</b>	
(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: Cybersecurity and Information Assurance

Required Courses	Credits
CIS 130 (Introduction to Computer Information Systems) . . . . .	3
CIS 208 (PC Operating Systems) . . . . .	3
CIS 209 (Network Concepts) . . . . .	3
CIS 230 (Windows Server) . . . . .	3
IAS 103 (Information Security Principles) . . . . .	3
IAS 202 (Risk Vulnerability Analysis) . . . . .	3
IAS 210 (Advanced Networking Practices) . . . . .	3
IAS 213 (Privacy and Technology) . . . . .	3

<b>Total Certificate Requirements</b>	<b>24 credits</b>
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# COMPUTER INFORMATION SYSTEMS OFFICE PROFESSIONAL

## Business Division

The associate of applied science degree with specialization as a computer information systems office 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, the hospitality industry, educational administrative offices, and administrative departments of state or local governments.

### Career Opportunities

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

- Administrative coordinators
- Administrative specialists
- Executive administrative assistants
- Office administrators
- Customer support specialists
- Office managers

Basic keyboarding abilities and proper “touch typing” skills are required to be successful in these programs.

Required General Education Courses	Credits
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

\*MATH 126 (Mathematics for Business) is recommended for students whose goal is to complete the AAS degree and seek employment. MATH 151 (Intermediate Algebra) or higher is recommended for students interested in transferring.

Required CIS Core Courses	Credits
ACCTG 151 (Accounting Principles) . . . . .	4
BMGT 202 (Business Communication in a Digital Age) . . . . .	3
BUSAD 151 (Introduction to Business) . . . . .	4
CIS 109 (Spreadsheet Software) . . . . .	3
CIS 112 (Database Software) . . . . .	3
CIS 123 (Presentation Software) . . . . .	3
CIS 130 (Introduction to Computer Information Systems) . . . . .	C4
CIS 184 (Photoshop Graphics) . . . . .	3
CIS 188 (InDesign Desktop Publishing) . . . . .	3
IAS 105 (Computing and Social Responsibility) . . . . .	3
WPR 102 (Word Processing I) . . . . .	3
WPR 103 (Advanced Word Processing) . . . . .	3

**Additional General Electives**  
(as required to complete 60 credits)

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

## Certificate Program: Office Specialist

In addition to the associate degree with the Computer Information Systems Office Professional designation, Monroe County Community College offers a certificate program in computer information systems office specialist. The college recognizes that many employers place value on a certificate which authenticates specialized preparation. Courses taken under the certificate programs are applicable to the associate degree. Those who complete this certificate program will typically be prepared for entry-level employment as administrative coordinators, receptionists, data entry specialists, administrative specialists, executive administrative assistants, office administrators, customer support specialists and office managers.

The CIS office specialist certificate will help prepare a student to sit for MOS (Microsoft Office Specialist) certification tests. Upon successful completion of MOS certifications, specialist positions may be available in IT business application, office support, office services, IT field technician services and customer service. This certificate program focuses on knowledge and skills that are essential for today’s computer technicians.

Basic keyboarding abilities and proper “touch typing” skills are required to be successful in these programs.

Required Courses	Credits
CIS 109 (Spreadsheet Software) . . . . .	3
CIS 112 (Database Software) . . . . .	3
CIS 123 (Presentation Software) . . . . .	3
CIS 130 (Introduction to Computer Information Systems) . . . . .	3
CIS 184 (Photoshop Graphics) . . . . .	3
CIS 188 (InDesign Desktop Publishing) . . . . .	3
ENGL 102 (Business Writing) . . . . .	
or ENGL 151 (English Composition I) . . . . .	3
IAS 105 (Computing and Social Responsibility) . . . . .	3
WPR 102 (Word Processing I) . . . . .	3
WPR 103 (Advanced Word Processing) . . . . .	3

<b>Total Certificate Requirements</b>	<b>30 credits</b>
<b>Total Certificate Cost</b>	<b>30 minimum billable contact hours</b>

## Certificate Program: Office Software Specialist (Microsoft Office Certification Prep)

MCCC also offers an office software specialist certificate program that consists of five courses and 15 credit hours.

Required Courses	Credits
CIS 109 (Spreadsheet Software) . . . . .	3
CIS 112 (Database Software) . . . . .	3
CIS 123 (Presentation Software) . . . . .	3
WPR 102 (Word Processing I) . . . . .	3
WPR 103 (Advanced Word Processing) . . . . .	3

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

# COMPUTER INFORMATION SYSTEMS

## PC SUPPORT TECHNICIAN

### Business Division

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

### Career Opportunities

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

- Computer support specialists
- Computer user support specialists
- Hardware support specialists
- Network support specialists
- Software 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 visit the Transfer section of the MCCC website.

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 Courses	Credits
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

\* MATH 126 (Mathematics for Business) is recommended for students whose goal is to complete the AAS degree and seek employment. MATH 151 (Intermediate Algebra) or higher is recommended for students interested in transferring.

See the General Education Requirements on page 33 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

Required CIS Core Courses	Credits
CIS 130 (Introduction to Computer Information Systems)	C4
CIS 208 (PC Operating Systems)	3
CIS 209 (Network Concepts)	3
CIS 220 (Hardware Maintenance)	4
IAS 103 (Information Security Principles)	3

PC Support Technician Concentration	18-19
CIS 109 (Spreadsheet Software)	3
CIS 135** (Scripting Language Programming)	3
or CIS 150 (Computer Science I)	3-4
CIS 140 (Help Desk Concepts)	3
CIS 205 (Systems Analysis & Design)	3
ELEC 125 (Fundamentals of Electricity)	3
IAS 105 (Computing and Social Responsibility)	3

\*\* CIS 135 (Scripting Language Programming) is recommended for students whose goal is to complete the AAS degree and seek employment. CIS 150 (Computer Science I) or higher is recommended for students interested in transferring.

General Electives Courses	8-10
<i>(as required to complete 60 hours)</i>	

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

### Certificate Program: PC Support Technician

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

Required Courses	Credits
CIS 130 (Introduction to Computer Information Systems)	3
CIS 135 (Scripting Language Programming)	3
or CIS 150 (Computer Science I)	3-4
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
IAS 105 (Computing and Social Responsibility)	3

<b>Total Certificate Requirements</b>	<b>25-26 credits</b>
<b>Total Certificate Cost</b>	<b>25-26 minimum billable contact hours</b>

# COMPUTER INFORMATION SYSTEMS SYSTEM ADMINISTRATION SPECIALIST

## Business Division

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

## Career Opportunities

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

- Computer system administrators
- Network administrators
- Network operating system specialists
- 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 visit the Transfer section of the MCCC website.

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 Courses	Credits
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

\* MATH 126 (Mathematics for Business) is recommended for students whose goal is to complete the AAS degree and seek employment. MATH 151 (Intermediate Algebra) or higher is recommended for students interested in transferring.

See the General Education Requirements on page 33 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
CIS 130 (Introduction to Computer Information Systems) .....	C4
CIS 208 (PC Operating Systems) .....	3
CIS 209 (Network Concepts) .....	3
CIS 220 (Hardware Maintenance) .....	4
IAS 103 (Information Security Principles) .....	3

System Administration Concentration	Credits
CIS 135 (Scripting Language Programming) .....	3-4
or CIS 150** (Computer Science I) .....	3-4
CIS 140 (Help Desk Concepts) .....	3
CIS 205 (Systems Analysis & Design) .....	3
CIS 228 (Linux Administration) .....	3
CIS 230 (Windows Server) .....	3
CIS 234 (Advanced Windows Server) .....	4

General Electives Courses	7-9
<i>(as required to complete 60 hours)</i>	

<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.

Required Courses	Credits
CIS 130 (Introduction to Computer Information Systems) .....	3
CIS 135 (Scripting Language Programming) .....	3
or CIS 150** (Computer Science I) .....	3-4
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

\*\* CIS 135 (Scripting Language Programming) is recommended for students whose goal is to complete the AAS degree and seek employment. CIS 150 (Computer Science I) or higher is recommended for students interested in transferring.

<b>Total Certificate Requirements</b>	<b>25-26 credits</b>
<b>Total Certificate Cost</b>	<b>25 minimum billable contact hours</b>

# CONSTRUCTION MANAGEMENT TECHNOLOGY

## Applied Science and Engineering Technology Division

The associate of applied science degree with specialization in construction management technology is designed to provide individuals with a sound background for rewarding careers in the construction industry. The program is structured to provide training in both the technical and business components of this industry. Technical courses examine the materials, processes and systems used in construction. The business courses teach basic business practices and computer skills.

### 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:

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

### 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. 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 visit the Transfer section of the MCCC website.

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 33 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

45

##### 1<sup>st</sup> Semester

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

##### 2<sup>nd</sup> Semester

CONM 102 (Construction Practices) . . . . .	3
CONM 103 (Auto CAD and Residence Drafting) . . . . .	4
CONM 110 (Construction Blueprint Reading) . . . . .	3
MATH 124* (Technical Mathematics II) . . . . .	C2

##### Summer Semester

CONM 107 (Surveying) . . . . .	3
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##### 3<sup>rd</sup> Semester

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

##### 4<sup>th</sup> Semester

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 MATH 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 (AutoCAD and 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

<b>Total Certificate Requirements</b>	<b>30 credits</b>
<b>Total Certificate Cost</b>	<b>41 minimum billable contact hours</b>

### 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

<b>Total Certificate Requirements</b>	<b>22 credits</b>
<b>Total Certificate Cost</b>	<b>26 minimum billable contact hours</b>

# CRIMINAL JUSTICE/LAW ENFORCEMENT

## Humanities/Social Sciences Division

### Criminal Justice

This associate of applied science program prepares students for employment in criminal justice positions that require an associate degree or 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 any MCOLES approved academy. Please contact the instructor of criminal justice at 734.384.4297 or [danielwood@monroeccc.edu](mailto:danielwood@monroeccc.edu).

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 Courses	Credits
C1 Natural Science Competency	4
C2 Mathematics Competency	3-4
C3 ENGL 151 (English Composition I)	3
C4 CIS 130 (Introduction to Computer Information Systems)	3
C5 Human Experience Competency	3
C6 SOC 151 (Principles of Sociology)	3

See the General Education Requirements on page 33 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
CRJ 151 (Introduction to Criminal Justice)	3
SPCH 151 (Communication Fundamentals)	3
ENGL 155 (Technical Writing)	3
or ENGL 152 (English Composition II)	3
PSYCH 151 (General Psychology)	3
CRJ 170 (Introduction to Corrections)	3
CRJ 160 (Issues in Criminal Justice Ethics)	3
or CRJ 156 (Fundamentals of Criminal Investigation)	3
CRJ 251 (Criminal Law)	3
CRJ 252 (Juvenile Delinquency)	3
CRJ 256 (Police Operations)	3

Criminal Justice Option	15 Credits
SOC 251 (Modern Social Problems)	3
PSYCH 152 (Psychology of Personality & Adjustment)	3
PSYCH 253 (Social Problems)	3
SPCH 155 (Interpersonal Communication)	3
Additional Restricted Elective (course not previously taken)	3
CRJ 160 (Issues in Criminal Justice Ethics)	
CRJ 156 (Fundamentals of Criminal Investigation)	
CRJ 255 (Police Organization and Administration)	

<b>Total Degree Requirements</b>	<b>61-62 credits</b>
<b>Total Degree Cost</b>	<b>61 minimum billable contact hours</b>

Law Enforcement Option	17 Credits
Police Academy	17
MCCC accepts police academy transferable credits from any MCOLES licensure.	

<b>Total Degree Requirements</b>	<b>63-64 credits</b>
<b>Total Degree Cost</b>	<b>63 minimum billable contact hours</b>

### Certificate Program: Criminal Justice

In addition to the two-year associate degree program, Monroe County Community College offers a certificate program in criminal justice. We recognize that many employers place value on a certificate which authenticates specialized education preparation. The program concentrates upon basic core courses with objectives. All courses taken in the certificate program are applicable towards the associate of applied science degree in criminal justice or law enforcement.

	Credits
CRJ 151 (Introduction to Criminal Justice)	3
CRJ 170 (Introduction to Corrections)	3
CRJ 252 (Juvenile Delinquency)	3
ENGL 151 (English Composition I)	C3
SOC 151 (Principles of Sociology)	C6
SOC 251 (Modern Social Problems)	3

<b>Total Certificate Requirements</b>	<b>18 credits</b>
<b>Total Certificate Cost</b>	<b>18 minimum billable contact hours</b>

# EARLY CHILDHOOD EDUCATION



## Science/Mathematics Division

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 8. The mission of the early childhood education program at Monroe County Community College is to prepare students for employment in the early childhood education field and for articulation to advanced degree programs in early childhood education. This is accomplished through the provision of classroom learning and practical application in field experiences. These experiences will be provided in multiple settings across varied age ranges and diversity of children and families.

### Career Opportunities

The program prepares individuals for staff placement in:

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

## Associate Degree Program:

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 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 33 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\*

<b>Fall Semester (First Year)</b>	
ECE 100 (Foundations of Early Childhood Education) . . . . .	3
ECE 102 (Child Growth and Development) . . . . .	3
ECE 104 (Nutrition, Health and Safety for Early Childhood Education) . . . . .	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 Early Childhood Education) . . . . .	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

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

### Additional General Electives

(If needed to complete required total credit hours)

<b>Suggested Elective Courses</b>	
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>60 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.

Required Courses*	Credits
ECE 100 (Foundations of Early Childhood Education) . . . . .	3
ECE 102 (Child Growth and Development) . . . . .	3
ECE 104 (Nutrition, Health and Safety for Early Childhood Education) . . . . .	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 Early Childhood Education) . . . . .	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

\* Students must achieve a C or higher in all ECE courses to complete the certificate program.

<b>One of the following courses</b>	<b>3</b>
EDUC 158 (Art for Elementary Teachers)	
EDUC 165 (Music for Classroom Teachers)	
ENGL 256 (Children's Literature)	

<b>Total Certificate Requirements</b>	<b>32 credits</b>
<b>Total Certificate Cost</b>	<b>32 minimum billable contact hours</b>

## CDA Credential

The Child Development Associate (CDA) is a national credential earned by individuals working with young children birth to five years in child care settings. The CDA credential is based on a core set of competency standards, which guide early care professionals as they work to becoming qualified teachers of young children. The candidate must document 120 clock-hours of formal training through course work, 480 clock-hours of current experience working with young children, and complete documentation as required by the Council for Professional Recognition. MCCC courses provide the training required for the CDA and may be applied toward the associate degree or certificate programs. Please note that MCCC does not award the CDA credential. See the Council for Professional Recognition website for more information ([www.cdacouncil.org](http://www.cdacouncil.org)).

	Credits
<b>Infant/Toddler CDA Credential coursework:</b>	
ECE 102 (Child Growth and Development) . . . . .	3
ECE 104 (Nutrition, Health and Safety for Early Childhood Education) . . . . .	3
ECE 108 (The Care and Learning of Infants and Toddlers) . . . . .	4
<b>Preschool CDA Credential coursework:</b>	
ECE 102 (Child Growth and Development) . . . . .	3
ECE 104 (Nutrition, Health and Safety for Early Childhood Education) . . . . .	3
ECE 200 (The Care and Learning of Preschool Children) . . . . .	4

# ELECTRICAL ENGINEERING TECHNOLOGY

## Applied Science and Engineering Technology Division

The associate of applied science degree with specialization in electrical engineering technology is designed to provide the theory and application of principles, procedures and components that technicians encounter in modern industrial environments. Graduates typically find employment as industrial electricians, engineering aides, laboratory technicians and field service representatives. 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. Many graduates transfer to nearby universities that offer a bachelor of engineering technology degree 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 electricity/electronics. Throughout, the program maintains a commitment of "hands-on" laboratory applications to support and reinforce theoretical discussions of circuits. To this end, the Electrical-Electronics Troubleshooting course includes the construction of a finished electronic power supply that students may keep at their option.

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

- Automated systems technician
- Computer maintenance technician
- Electrical designer
- Electromechanical technician
- Electronic systems test technician
- Electronics technician
- Engineering aide
- Field service technician
- Industrial electrician
- Industrial sales technician

### Transfer Information

For information regarding transfer opportunities for this, or any program, please visit the Transfer section of the MCCC website.

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 151 (General Physics)	4
C2	MATH 151 (Intermediate Algebra) or higher	4
C3	ENGL 151 (English Composition I)	3
C4	MDC 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 33 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

### Credits

66

#### Required Core Courses

##### Fall Semester

ELEC 125 (Fundamentals of Electricity)	3
MDC 160 (Mechanical Drafting and CAD I)	4 (C4)
MECH 131 (Introduction to Automated Manufacturing)	3
<sup>1</sup> MATH 151 (Intermediate Algebra) or higher	4 (C2)

##### Winter Semester

ELEC 132 (Electronics I)	4
ELEC 135 (Digital Electronics)	4
ELEC 145 (Data Acquisition and Instrumentation)	4
PHY 151 (General Physics I)	4 (C1)

##### Summer Semester

ENGL 151 (English Composition I)	3 (C3)
<sup>2</sup> Expressions of the Human Experience or <sup>3</sup> Social Systems Competency	3 (C5 or C6)
(See <sup>4</sup> Note below)	

##### Fall Semester

ELEC 129 (AC/DC Motors and Controls)	4
ELEC 130 (Programmable Logic Controllers-PLC's)	3
ELEC 133 (Circuit Analysis)	4
ELEC 137 (Microprocessors)	4

##### Winter Semester

ELEC 141 (Industrial Automation and Process Control)	3
ELEC 200 (Electronic and Electrical Troubleshooting)	4
ELEC 211 (Medium Voltage Power Distribution)	3
ELEC 214 (National Electric Code – NEC)	2
<sup>2</sup> Expressions of the Human Experience or <sup>3</sup> Social Systems Competency	3 (C5 or C6)

### Total Degree Requirements

66 credits

### Total Degree Cost

88 minimum billable  
contact hours

<sup>1</sup>Students planning on transferring to an engineering technology program at a four-year institution should refer to the receiving institution's requirements for math.

<sup>2</sup>HUMAN 151 (Introduction to Humanities) (recommended) or any (C5) GE Human Experience Competency (Note: See General Education Requirements on Page 30 or the college website for a list of courses that satisfy the GE Learning Competencies).

<sup>3</sup>ANTHR 152 (Introduction to Cultural Anthropology) (recommended) or any (C6) GE Social Systems Competency (Note: See General Education Requirements on Page 30 or the college website for a list of courses that satisfy the GE Learning Competencies).

<sup>4</sup>SPCH 151 (Communication Fundamentals), 3 credit hours, although not required, is highly recommended.

# FINE ARTS

## Humanities/Social Sciences Division

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

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>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 33 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>42</b>	
<b>1<sup>st</sup> Semester</b>	
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
ENGL 151 (English Composition I).....	C3
<b>2<sup>nd</sup> Semester</b>	
ART 181 (Drawing II) .....	3
ENGL 152 (English Composition II) .....	3
HUMAN 152 (Exploring Creativity) .....	3
Social Science Elective .....	3
<b>3<sup>rd</sup> Semester</b>	
ART 160 (2-D Design) .....	3
ART 165 (Illustration Techniques).....	3
ART 270 (Ceramics I) .....	3
ART 190 (Painting I) or ART 250 (Watercolor Painting I) .....	3
<b>4<sup>th</sup> Semester</b>	
ART 170 (Life Drawing) .....	3
ART 191 (Painting II) or ART 251 (Watercolor Painting II) .....	3
ART 271 (Ceramics 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 Electives**  
(as required to complete 60 hours)

<b>Total Degree Requirements</b>	<b>61-62 credits</b>
<b>Total Degree Cost</b>	<b>82 minimum billable contact hours</b>

# GAME DESIGN AND DEVELOPMENT

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## Business Division

This associate of applied science degree will provide students with the foundational skills for game design and development.

## Career Opportunities

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

- Level designer
- Game programmer
- Asset developer
- Independent game developer

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

	<b>Credits</b>
<b>Required Core Courses</b>	<b>38</b>
IAS 103 (Information Security Principles) . . . . .	3
CIS 130 (Introduction to Computer Information Systems) . . . . .	C4
CIS 150 (Computer Science I) . . . . .	4
CIS 178 (Design Concepts) . . . . .	4
CIS 183 (Mobile App Development) . . . . .	4
CIS 184 (Photoshop Graphics) . . . . .	3
CIS 189 (3D Animation) . . . . .	3
CIS 250 (Computer Science II) . . . . .	4
CIS 267 (Beginning Game Programming) . . . . .	3
CIS 277 (User Interface Design) . . . . .	3
CIS 279 (Designing for Digital Environments) . . . . .	3
CIS 289 (Game Design and Development Capstone) . . . . .	4

	<b>Credits</b>
<b>General Electives</b>	<b>2</b>

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

# GENERAL TECHNOLOGY

## Applied Science and Engineering Technology Division

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 visit the Transfer section of the MCCC website.

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 33 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 Technical and Specialty Courses

**32**

Basic core in a defined program area . . . . .	12
Additional Technical and Specialty Courses . . . . .	20

### 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 MATH 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 “STACKABLE” CERTIFICATES

## Business Division

Monroe County Community College’s “stackable” certificates in graphic design enable students to obtain a broad introduction into the concepts and techniques used in the field. These certificates can be “stacked” and applied toward additional certificates and/or an associate of applied science degree in graphic design. MCCC’s associate of applied science degree has two concentrations: digital media and illustration. 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.

## 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 visit the Transfer section of the MCCC website.

### Computer Graphics: Basic Certificate

**Credits**

**13**

CIS 130 (Introduction to Computer Information Systems)	3
CIS 178 (Design Concepts)	4
CIS 182 (Illustrator Graphics)	3
CIS 184 (Photoshop Graphics)	3

**Credits**

### Digital Media: Basic Certificate

**15**

CIS 130 (Introduction to Computer Information Systems)	3
CIS 186 (Multimedia Development)	3
CIS 187 (Digital Video Editing)	3
CIS 188 (InDesign Desktop Publishing)	3
CIS 189 (3D Animation)	3

**Credits**

### Graphic Design: Digital Media Certificate

**31**

#### Required Courses

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)	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**

### Illustration: Basic Certificate

**Credits**

**15**

ART 151 (Art Fundamentals)	3
ART 160 (Two Dimensional Design)	3
ART 165 (Illustration Techniques)	3
ART 170 (Life Drawing)	3
ART 180 (Drawing I)	3

**Credits**

### Graphic Design: Illustration Certificate

#### Required Courses

**28**

ART 151 (Art Fundamentals)	3
Select any two of the following courses:	
ART 160 (Two Dimensional Design)	
or ART 165 (Illustration 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**

### Interaction Design: Basic Certificate

**Credits**

**15**

CIS 130 (Introduction to Computer Information Systems)	3
CIS 178 (Design Concepts)	3
CIS 182 (Illustrator Graphics)	3
or CIS 184 (Photoshop Graphics)	3
CIS 277 (User Interface Design)	3
CIS 279 (Designing for Digital Environments)	3

**Credits**

### Graphic Design: Interaction Design Certificate

#### Required Courses

**31 or 32**

CIS 130 (Introduction to Computer Information Systems)	3
Select one of the two following courses:	
CIS 135 (Scripting Language Programming)	3
or CIS 150 (Computer Science I)	4
CIS 178 (Design Concepts)	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
CIS 277 (User Interface Design)	3
CIS 279 (Designing for Digital Environments)	3

**Total Certificate Requirements**

**31-32 credits**

**Total Certificate Cost**

**32 minimum billable contact hours**

# GRAPHIC DESIGN

## Business Division

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 two concentrations: digital media and illustration. 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.

## 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 visit the Transfer section of the MCCC website.

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 Courses	Credits
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 33 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
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	Credits
CIS 186 (Multimedia Development)	3
CIS 187 (Digital Video Editing)	3
CIS 188 (InDesign Desktop Publishing)	3
CIS 189 (3D Animation)	3
CIS 277 (User Interface Design)	3
CIS 279 (Designing for Digital Environments)	3
CIS 284 (Advanced Photoshop Graphics)	3
General Electives	4

OR

Illustration Concentration	Credits
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

Total Degree Requirements

60-61 credits

Total Degree Cost

69 minimum billable contact hours

# MANUFACTURING TECHNOLOGY

## CNC MACHNING & CAD/CAM (formerly Product and Process Technology)

### Applied Science and Engineering Technology Division

The associate of applied science degree with specialization in product and process technology is designed to prepare students for careers in high-performance manufacturing of consumer goods.

This degree will provide students with a foundation in manufacturing design, precision machining and tooling, and complex computer-aided design and computer-aided manufacturing (CAD/CAM). Students will learn tooling process and equipment requirements, design, analysis and process planning and also receive instruction in manual and computer-numerical-control (CNC) mills, machining centers, lathes, grinders, robotic integration and support processes, procedures and practices. This program is focused on beginner, intermediate and advanced levels of the product and process. Students will learn "soft" skills in problem solving, teamwork and communication. Students can graduate with real world skills to be productive in CNC and CAD CAM.

NOTE: MCCC is a FANUC Certified Education Training Center.

#### 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/CAM technician
- CNC programmer/operator
- CNC set-up technician
- Engineering technician
- Industrial engineer production team leader
- Machine technician
- Machinist
- Manufacturing technician
- Process planner lab technician
- 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

**Credits**  
**21**

#### Required General Education Courses

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

**Credits**  
**47-49**

#### Required Core Courses

##### 1<sup>st</sup> Semester

MECH 102 (Manufacturing Processes) . . . . .	4
MECH 103 (Machining Basics and CNC) . . . . .	4
MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
MATH 119* (Elementary Technical Mathematics) . . . . .	C2

##### 2<sup>nd</sup> Semester

QSTC 150 (Introduction to Metrology) . . . . .	3
MATL 101 (Industrial Materials) . . . . .	3
MECH 104 (CNC II) . . . . .	3
MECH 201 (CAD/CAM Milling I) . . . . .	3
MATH 124* (Technical Mathematics II) . . . . .	C2

##### 3<sup>rd</sup> Semester

MECH 105 (CNC III) . . . . .	3
MECH 221 (CAD/CAM Lathe) . . . . .	3
MDTC 226 (Geometric Dimensioning and Tolerancing) . . . . .	3
Restricted Electives . . . . .	3-4

##### 4<sup>th</sup> Semester

MECH 131 (Introduction to Automated Manufacturing) . . . . .	3
METC 220 (Statics & Strength of Materials) . . . . .	4
MECH 231 (CAD/CAM Milling II) . . . . .	3
Restricted Electives . . . . .	3-4

#### Restricted Electives List (select two)

QSTC 210 (Advanced 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

#### Total Degree Requirements

**68-70 credits**

#### Total Degree Cost

**84 minimum billable contact hours**

\* Program requires at least 6 credit hours of MATH. MATH 119 (Elementary Technical Mathematics) and MATH 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 Programs: Manufacturing 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. Certificates give students the absolute competitive edge in the product and process environment.

### 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 Milling I) . . . . .	3
MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
<b>Total Certificate Requirements</b>	<b>17 credits</b>
<b>Total Certificate Cost</b>	<b>24 minimum billable contact hours</b>

\* FANUC Education Training Certificate awarded upon successful completion of MECH 104 (CNC II) and MECH 105 (CNC III).

### Certificate: CAD/CAM Technician

	Credits
MECH 103 (Machining Basics and CNC) . . . . .	4
MECH 201 (CAD/CAM Milling I) . . . . .	3
MECH 221 (CAD/CAM Lathe) . . . . .	3
MECH 231 (CAD/CAM Milling II) . . . . .	3
MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
<b>Total Certificate Requirements</b>	<b>17 credits</b>
<b>Total Certificate Cost</b>	<b>24 minimum billable contact hours</b>

## Certificate Program: Metrology Technology

Students wishing to have an additional certificate in the Metrology or Measurement area with emphasis on Coordinate Measuring Machining and various articulated measuring arms use should consider the following certificate, where are a number of courses taken in the Manufacturing Program (formerly Product and Process Technology) will apply to the certificate below.

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

	Credits
MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
MDTC 226 (Geometric Dimensioning and Tolerancing) . . . . .	3
MECH 103 (Machining Basics and CNC) . . . . .	4
MATH 119 (Technical Mathematics I) . . . . .	2
MATH 124* (Technical Mathematics II) . . . . .	4
QSTC 150 (Introduction to Metrology) . . . . .	3
QSTC 210 (Advanced Metrology) . . . . .	3
<b>Total Certificate Requirements</b>	<b>23 credits</b>
<b>Total Certificate Cost</b>	<b>29 minimum billable contact hours</b>

\* Students should be able to test into MATH 124 (Technical Mathematics II) or take MATH 119 (Elementary Technical Mathematics) if the standard is not met.

# MECHANICAL DESIGN TECHNOLOGY

## Applied Science and Engineering Technology Division

The associate of applied science degree with specialization in mechanical design technology is designed to prepare students for careers that follow the design process of a manufactured product from inspiration to final production. Automobiles, robotics, aerospace products, machinery, computer and electronic products – the list of 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 DraftSight, AutoCAD, SOLIDWORKS and CATIA. 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 4 percent in the 10-year period leading up to 2026. Employment growth will arise from an increase in consumer and business demand for new or upgraded products. Typical mechanical design titles include:

- CAD operator
- Design engineer
- Field technician
- Industrial designer
- Product designer
- Mechanical designer
- 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

Required General Education Courses	Credits
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 33 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 40-41

<b>1<sup>st</sup> Semester</b>	
MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
MECH 102 (Manufacturing Processes) . . . . .	4
MECH 103 (Machining Basics and CNC) . . . . .	4
<b>2<sup>nd</sup> Semester</b>	
MDTC 152 (Descriptive Geometry) . . . . .	4
MDTC 161 (Mechanical Drafting and CAD II) . . . . .	4
MDTC 228 (Introduction to SOLIDWORKS-CSWA) . . . . .	3
<b>3<sup>rd</sup> Semester</b>	
MDTC 226 (Geometric Dimensioning and Tolerancing) . . . . .	3
MDTC 236 (Rapid Prototyping) . . . . .	4
Restricted Elective . . . . .	3
<b>4<sup>th</sup> Semester</b>	
MDTC 242 (Mechanical Design Capstone Project) . . . . .	4
METC 170 (Introduction to Parametric CAD/CATIA) or METC 172 (Introduction to Parametric CAD/UG NX) . . . . .	3-4
METC 220 (Statics & Strength of Materials) . . . . .	4

### Restricted Electives (select one)

MATL 101 (Industrial Materials) . . . . .	3
MDTC 232 (Advanced SOLIDWORKS-CSWP) . . . . .	3
MECH 201 (CAD/CAM I) . . . . .	3
QSTC 150 (Introduction to Metrology) . . . . .	3

### Total Degree Requirements 61-62 credits Total Degree Cost 83 minimum billable contact hours

\* MATH 119 (Elementary Technical Mathematics) and MATH 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: Mechanical Design Technology

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

	Credits
MDTC 152 (Descriptive Geometry) . . . . .	4
MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
MDTC 161 (Mechanical Drafting and CAD II) . . . . .	4
MDTC 228 (Introduction to SOLIDWORKS-CSWA) . . . . .	3
MECH 102 (Manufacturing Processes) . . . . .	4
MECH 103 (Machining Basics and CNC) . . . . .	4

### Total Degree Requirements 23 credits Total Degree Cost 34 minimum billable contact hours

# MECHANICAL ENGINEERING TECHNOLOGY

## Applied Science and Engineering Technology Division

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 the 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:

- Lab technician
- Mechanical design specialist
- Mechanical engineering technician
- Product designer
- Research and development technician
- Technical sales representative
- Test technician

### 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 visit the Transfer section of the MCCC website.

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 151 (General Physics I)	4
C2	MATH 164 (Precalculus)	4
	or qualifying scores on accepted placement test	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 33 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 General Education Courses

45-47

##### 1<sup>st</sup> Semester

MDTC 160 (Mechanical Drafting and CAD I)	C4
MECH 102 (Manufacturing Processes)	4
MATH 164* (Precalculus)	C2
PHY 151 (General Physics I)	C1

##### 2<sup>nd</sup> 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

##### Summer Semester

Expressions of the Human Experience Competency	C5
Social Systems Competency	C6

##### 3<sup>rd</sup> Semester

METC 160 (Math Applications in Engineering Technology)	2
METC 234 (Thermodynamics and Fluid Sciences)	4
MECH 111 (Introduction to Fluid Power)	3
CHEM 151** (General College Chemistry I)	
or MECH 131 (Introduction to Automation)	3-4
Restricted Tech Elective	3

##### 4<sup>th</sup> Semester

MATL 101 (Industrial Materials)	3
METC 220 (Statics & Strength of Materials)	4
PHY 152** (General Physics II)	
or MECH 131 (Introduction to Automation)	3-4
Restricted Tech Elective	3

\*Or take MATH 157 (College Algebra) and MATH 159 (Trigonometry and Analytical Geometry).

\*\*Chemistry Option: Take CHEM 151 (General College Chemistry I) in 3<sup>rd</sup> Semester and MECH 131 (Introduction to Automation) in 4<sup>th</sup> Semester.  
Physics Option: Take MECH 131 (Introduction to Automation) in 3<sup>rd</sup> Semester and PHY 152 (General Physics II) in 4<sup>th</sup> 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)

#### Total Degree Requirements

Total Degree Cost

66-68 credits

89 minimum billable

contact hours

# METROLOGY AND QUALITY TECHNOLOGY

## Applied Science and Engineering Technology Division

The associate of applied science degree with specialization in metrology and quality technology (precision measurement and quality) is designed to meet the precision measurement and quality needs of industry by preparing graduates through both theoretical and hands-on laboratory work to successfully enter the work force. Metrology and quality are 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 and quality technology program at MCCC emphasizes dimensional metrology and quality standards 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:

- Calibration technician
- CMM (coordinate measuring machine) operator
- Inspection
- Lab technician
- Layout inspector
- Metrologist
- Metrology technician
- Quality assurance
- Quality auditor
- Quality control
- Quality manager
- Quality 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

Required General Education Courses	Credits
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 33 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

**Credits**  
**39**

### Required Core Courses

<b>1<sup>st</sup> Semester</b>	
MDTC 160 (Mechanical Drafting and CAD I) . . . . .	C4
MATL 101 (Industrial Materials) . . . . .	3
MECH 102 (Manufacturing Processes) . . . . .	4
MATH 119* (Elementary Technical Mathematics) . . . . .	2
<b>2<sup>nd</sup> Semester</b>	
MDTC 228** (Introduction to SOLIDWORKS-CSWA) . . . . .	3
MATH 124* (Technical Mathematics II) . . . . .	C2
ELEC 125 (Fundamentals of Electricity) . . . . .	3
MDTC 109 (Mechanical Blueprint Reading) . . . . .	2
<b>3<sup>rd</sup> Semester</b>	
MECH 103 (Machining Basics and CNC) . . . . .	4
QSTC 150 (Introduction to Metrology) . . . . .	3
QSTC 111 (Quality Management) . . . . .	3
MDTC 226 (Geometric Dimensioning and Tolerancing) . . . . .	3
<b>4<sup>th</sup> Semester</b>	
QSTC 230 (Documentation and Audit Preparation) . . . . .	3
QSTC 210 (Advanced Metrology) or QSTC 115 (Statistical Process Control) . . . . .	3
QSTC 220 (Calibration and Gage R & R) . . . . .	3

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

**Total Degree Cost** **72-74 minimum billable contact hours**

\* MATH 119 (Elementary Technical Mathematics) and MATH 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.

\*\* Will substitute for METC 170 (Introduction to Parametric Modelling-CAD/CATIA) or METC 172 (Computer Aided Design UG/NX)

### Certificate Program: Metrology Technology

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

	Credits
MDTC 160 (Mechanical Drafting and CAD I) . . . . .	4
MDTC 226 (Geometric Dimensioning and Tolerancing) . . . . .	3
MECH 103 (Machining Basics and CNC) . . . . .	4
MATH 119 (Technical Mathematics I) . . . . .	2
MATH 124* (Technical Mathematics II) . . . . .	4
QSTC 150 (Introduction to Metrology) . . . . .	3
QSTC 210 (Advanced Metrology) . . . . .	3

**Total Certificate Requirements** **23 credits**

**Total Certificate Cost** **29 minimum billable contact hours**

\*Students should be able to test into MATH 124 (Technical Mathematics II) or take MATH 119 (Elementary Technical Mathematics) if the standard is not met.

## Certificate Program: Quality Technology

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

### Credits

QSTC 111 (Quality Management) . . . . .	3
QSTC 115 (Statistical Process Control) . . . . .	3
QSTC 150 (Introduction to Metrology) . . . . .	3
QSTC 230 (Documentation and Audit Preparation) . . . . .	3
MDTC 109 (Mechanical Blueprint Reading) . . . . .	2
ENGL 151 (English Composition I) . . . . .	3
MATH 119 (Elementary Technical Mathematics) . . . . .	2
MATH 124 (Technical Mathematics II) . . . . .	4

<b>Total Certificate Requirements</b>	<b>23 credits</b>
<b>Total Certificate Cost</b>	<b>24 minimum billable contact hours</b>

# NON-DESTRUCTIVE TESTING

## Applied Science and Engineering Technology Division

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), ultra sonic 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 Nondestructive Testing (ASNT): Recommended Practice SNT-TC-1A. The certificate offerings are broken into a basic and advanced certificate, enabling students to pursue their desired level of expertise in the non-destructive testing field. The current offerings are directly relevant to both welding and nuclear technology associate of applied science degree majors.

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 one the world's largest technical societies for non-destructive testing professionals.

### Career Opportunities

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

- NDT technician
- Non-destructive testing evaluator
- Nuclear engineering technician
- Quality control technician
- Welding inspector

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

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.

	<b>Credits</b>
<b>Required Courses</b>	<b>14</b>
MATL 101 (Industrial Materials) . . . . .	3
NUET 102 (Introduction to Non-Destructive Testing) . . . . .	3
NUET 103 (Liquid Penetrant & Magnetic Particle Testing) . . . . .	2
NUET 104 (Visual Testing) . . . . .	2
WELD 100 (Introduction to Welding) . . . . .	4
<b>Total Certificate Requirements</b>	<b>14 credits</b>
<b>Total Certificate Cost</b>	<b>19 minimum billable contact hours</b>

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

	<b>Credits</b>
<b>Required Courses</b>	<b>11</b>
ELEC 125 (Fundamentals of Electricity) . . . . .	3
NUET 105 (Radiography – Level I) . . . . .	2
NUET 106 (Radiography – Level II) . . . . .	2
NUET 107 (Ultrasonic – Level I) . . . . .	2
NUET 108 (Ultrasonic – Level II) . . . . .	2
<b>Total Certificate Requirements</b>	<b>11 credits</b>
<b>Total Certificate Cost</b>	<b>16 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.*

# NUCLEAR ENGINEERING TECHNOLOGY

## Applied Science and Engineering Technology Division

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

In addition to completion of this program, graduates will eventually need to pass appropriate background checks to be employable in the nuclear industry. Please check with the Admissions Office for details.

It is strongly recommended that students follow the prescribed course sequence, as some courses are only offered once in an academic year.

### 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 NUCP Certificate, which is recognized industry wide.

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

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

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

- Non-licensed operator
- Radiation protection technician
- 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

	Credits
<b>Required General Education Courses</b>	<b>20-21</b>
C1 PHY 151 (General Physics I) . . . . .	4
C2 MATH 164 (Precalculus) or competency (MATH 151 Intermediate Algebra or qualifying score on accepted placement must be met prior to entry in the program) . . . . .	4
C3 Writing Competency . . . . .	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 33 or the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

**Credits**  
**48**

### Required Core Courses

<b>1<sup>st</sup> 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
Computer Literacy Competency . . . . .	C4
<b>2<sup>nd</sup> Semester</b>	
ENGL 151 (English Composition I) . . . . .	C3
NUET 120 (Radiation Protection) . . . . .	3
NUET 220 (Power Plant Components) . . . . .	3
ELEC 125 (Fundamentals of Electricity) . . . . .	3
MATL 121 (Nuclear Plant Materials) . . . . .	3
<b>Summer Semester</b>	
NUET 205 (Nuclear Plant Experience) . . . . .	2
Expressions of the Human Experience Competency . . . . .	C5
<b>3<sup>rd</sup> Semester</b>	
CHEM 151 (Chemistry I) . . . . .	4
METC 160 (Math Applications in Engineering Technology) . . . . .	2
ELEC 133 (Circuit Analysis) . . . . .	4
METC 234 (Thermodynamics and Fluid Sciences) . . . . .	4
NUET 130 (Plant Systems I) . . . . .	3
<b>4<sup>th</sup> Semester</b>	
ELEC 141 (Industrial Automation and Process Control) . . . . .	3
NUET 230 (Plant Systems II) . . . . .	3
NUET 240 (Reactor Theory, Safety and Design) . . . . .	3
Social Systems Competency . . . . .	C6
ELEC 211 (Medium Voltage Power Distribution System) . . . . .	3

<b>Total Degree Requirements</b>	<b>68-69 credits</b>
<b>Total Degree Cost</b>	<b>85-87 minimum billable contact hours</b>

\* MATH 157 (College Algebra) and MATH 159 (Trigonometry and Analytical Geometry) may substitute for MATH 164 (Precalculus).

# NURSING, PRACTICAL

## Health Sciences Division

A practical nursing certificate prepares students to function as beginning licensed practical nurses and members of the health team under the supervision of a 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 38 credit hours of study is required. The 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 practical nurse. Students may also be eligible for licensure in other states; students are encouraged to contact a state's board of nursing for eligibility requirements.

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, but not limited to, home health and hospice settings, and in charge nurse and management positions in extended care facilities and nursing homes.

The average salary for licensed practical nurses is \$47,000 (Bureau of Labor Statistics, 2018). Practical nursing is an excellent entry-level career choice, and graduates may qualify to complete advanced degrees in nursing with more education.

### Continuing Education Information

Upon program completion, students may automatically progress to the PN to RN program option offered by MCCC in the year immediately following program completion. For further information about the MCCC PN to RN option, please visit the PN to RN section of the MCCC website. For information regarding transfer opportunities for this, or any program, please visit the Transfer section of the MCCC website.

### Additional Program Information

Admission to the program involves four steps:

1. Admission to the college.
2. Completion of preapplication requirements; 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 must be submitted by the first Monday in October each year. Students must apply every year.
4. Returning students in good standing with the program will be considered for reenrollment/readmission first. Additional candidates will be accepted according to the criteria below until a class is fully enrolled; up to 24 students per class.

Applications submitted after the deadline will only be considered if seats are available. Students who will complete required pre-application 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 the most recent academic institution attended.
4. Satisfactory completion of MATH 092 (formerly MATH 150) or qualifying score on accepted placement test.
5. Completion of the following course work with a "C-" or better:
  - a. ENGL 151 (English Composition I)
  - b. PSYCH 151 (General Psychology)
  - c. BIOL 257 (Anatomy & Physiology I).

*NOTE: Anatomy & Physiology credits cannot be more than 10 years old.*

### Other Considerations for Application

Basic personal computer proficiency: Incoming students are expected to demonstrate a minimum proficiency with the use of a personal computer and basic software programs. These minimum proficiencies include:

- The ability to use the Internet to find and retrieve information including: locating an Internet site given a URL; navigating between information sources; doing basic searches using a major Internet search service, and submitting information via on-line forms.
- The ability to use electronic mail as a form of communication including: sending an email when given an email address; responding to an email; sending email to a group of individuals, and sending and receiving attachments as part of an email.
- The ability to use a word processing program to create and edit documents including: creating a new document; editing an existing document; changing the format of text; and changing margins, page orientation, and other elements of page layout.
- The ability to use an operating system including copying or moving a file to or from removable media; finding files or folders on a local hard drive, and creating a sub-directory (folder).

Students who do not possess these basic proficiency skills prior to entering the program will be unable to meet the course and program student learning outcomes, resulting in course failure and/or program dismissal. Students without these skills or who are uncertain of their level of proficiency are encouraged to take a computer course, such as CIS 130 (Introduction to Computer Information Systems), prior to submitting an application.

HLTSC 110 (Medical Terminology) is encouraged 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 258 (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 (English Composition I), PSYCH 151 (General Psychology), BIOL 257 (Anatomy & Physiology I)  
\*Completion of BIOL 258 (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. Immunizations and examinations at the student's expense to ensure that the student meets the technical requirements of the program.
2. Nursing students are required to have professional liability and personal health insurance. The professional liability insurance is provided by the college. Personal health insurance must be obtained by the student and maintained throughout the program in order to comply with clinical agency requirements. Proof of insurance will be required prior to participating in the first clinical activity.
3. Students admitted to health science programs must consent to background/security checks including a criminal background check and drug screening. The student is responsible for any cost associated with the background/security/drug screening checks. Certain criminal convictions may render a student ineligible to train at clinical sites which are necessary in order to successfully complete the program. Additionally, certain criminal convictions may render an individual ineligible to take the licensing/certification exam or to be licensed/certified in the State of Michigan. The college will review the results and determine, on a case-by-case basis, whether to deny admission to any individual based on the results of the criminal background check and drug screening.
4. An active American Heart Association cardiopulmonary resuscitation (CPR) certificate for professional rescuer of infant, child and adult.
5. Practical nursing 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 must be able to meet the health sciences technical standards available in the Health Sciences Division section of the MCCC website.  
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 fundamentally alter the requirements or nature of the program or lower its academic standards. Requests for accommodations should be directed to a disability services counselor in the Student Success Center. To make an appointment, please call 734.384.4167.

6. Students must complete the practical nursing program within two years of initial entry into the program. Failure to meet the time framework necessitates program dismissal and reapplication to the nursing program.
7. All nursing students utilize Internet services and resources to supplement instruction. Students must have reliable internet access. Students enrolled in the nursing program will be required to take assessments (ie: exams, quizzes, etc) electronically using an online assessment program called ExamSoft Exemplify. Students enrolled in these courses will be required to provide their own computer (with a webcam and microphone) that will support the assessment software. The software can be used on most modern Microsoft Windows-based computers and Mac OS X devices. Information related to minimum system requirements can be located by visiting the following links:  
**Windows:** <https://examsoft.force.com/emcommunity/s/article/Exemplify-Minimum-System-Requirements-for-Windows>  
**Mac OS X:** <https://examsoft.force.com/emcommunity/s/article/Exemplify-Minimum-System-Requirements-for-Mac-OS-X>

- Students are encouraged to check with the Health Science Division for a complete list of minimum system requirements.
8. 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, the program 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.
  9. A student must receive a "C" or better grade in all practical nursing courses. A "C-" or better is required in all non-nursing program courses including HLTSC 120 (Pharmacology) and BIOL 258 (Anatomy & Physiology II). Failure to meet this requirement may result in the student being dismissed from the practical nursing program. Nursing and required non-nursing courses must be completed in the order outlined in the program's plan of study (see course sequence for requirements). Anatomy and Physiology courses must have been completed within the last 10 years of application to the program.
  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 conjunction with requirements set forth by the Michigan Licensing and Regulatory Affairs agency, information related to the student complaint process, career opportunities by state,

- and licensing requirements by state can be accessed by visiting the following websites: a) Student Complaint Process: see the Consumer Information section of the MCCC website; b) Career opportunities by state: <https://bls.gov/>; and c) Licensure requirements by state: <https://www.ncsbn.org/14730.htm>.
12. 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 available in the Nursing, Practical section of the MCCC website. Students are encouraged to review the handbook prior to application.

### Technical Standards

The purpose of the technical standards is to inform students choosing to enter into a health occupation program of the basic minimal technical standard requirements that must be met in order to complete all course work objectives and student outcomes. The listed standards encompass what is minimally required to perform necessary tasks. This list is not exhaustive, and can be modified as the college deems necessary at any time. Students enrolled in a health occupation program at MCCC must provide care that is safe and effective. These technical standards apply to any student enrolling in any one of the health occupations programs. The student must be able to demonstrate sufficient cognitive, professional, motor (physical), sensory, and other abilities, with or without accommodation, to meet program technical standards. Technical standard requirements are listed below. Examples of tasks associated with each requirement and standard are available for review by visiting the Health Sciences Division section of the MCCC website. Prospective students are encouraged to review the Technical Standards for Health Occupational Programs document in its entirety prior to enrolling in or applying to any health occupation course or program.

- **Critical Thinking and Cognitive Competencies:**  
Sufficient critical thinking and cognitive abilities in classroom and clinical settings.
- **Professionalism:**  
Interpersonal skills sufficient for professional interaction with a diverse population of individuals, families, and groups.
- **Communication:**  
Communication sufficient for professional interactions.
- **Mobility:**  
Physical abilities sufficient for movement from room to room and in small spaces.
- **Motor Skills:**  
Gross and fine motor abilities which are sufficiently effective and safe for providing allied health care.
- **Sensory:**  
Auditory and visual ability sufficient for observing, monitoring, and assessing health needs.
- **Observation:**  
Ability to sufficiently make observations in a health care environment, consistent with program competencies.
- **Tactile sense:**  
Tactile ability sufficient for physical assessment.

See item No. 5 under "General Information" for information regarding accommodations.

	<b>Credits</b>
<b>Required Courses</b>	<b>38</b>
<b>Winter Semester</b>	
PNUR 121 (Fundamentals of Practical Nursing) . . . . .	9
HLTSC 120 (Pharmacology) . . . . .	3
BIOL 258 (Anatomy and Physiology II) . . . . .	4
<b>Summer Semester</b>	
PNUR 124 (Practical Nursing Care of Adults I) . . . . .	6
PNUR 123 (Mental Health Concepts for Practical Nursing) . . . . .	2
PNUR 130 (Maternal and Child Care for the Practical Nurse) . . . . .	4
<b>Fall Semester</b>	
PNUR 127 (Practical Nursing Care of Adults II) . . . . .	5
PNUR 128 (Issues in Practical Nursing) . . . . .	2
PNUR 129 (Management Concepts for the Practical Nurse) . . . . .	3
<b>Total Certificate Requirements</b>	<b>38 credits</b>
<b>Total Certificate Cost</b>	<b>65 minimum billable contact hours</b>

\* Plan of study subject to change

# NURSING, REGISTERED

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## Health Sciences Division

The associate of applied science degree with specialization in nursing prepares graduates to function as beginning registered nurse clinicians and members of the health care team in the care of acutely and chronically ill individuals. 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 \$71,700 annually for practicing nurses, according to the Bureau of Labor Statistics (2018), and nursing 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. Students may also be eligible for licensure in other states; students are encouraged to contact a state's board of nursing for eligibility requirements.

## 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 visit the Transfer section of the MCCC website.

The MCCC Health Sciences Division has also partnered with Eastern Michigan University to offer students a concurrent enrollment opportunity that will allow accepted nursing students to work towards a bachelor of science in nursing (BSN) degree from EMU while enrolled in the associate of applied science (AAS) in nursing program at MCCC. Students interested in participating in this program can get more information about enrollment and program requirements by contacting the Health Sciences Division Office, 734.384.4102, or the Admissions Office, 734.384.4104.

A student who desires to transfer into the MCCC registered nursing program from another nursing program must meet all criteria as listed in the Nursing, Registered section of the college's website.

## Additional Program Information

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

## 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 per class.

Minimum admission criteria and nursing program selection criteria for each application deadline are available for review by visiting the Nursing, Registered section of the MCCC website. Students can also receive application information by contacting the Health Sciences Division Office at 734.384.4102 or by contacting the MCCC Admissions 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. Immunizations and examinations at the student's expense to ensure that the student can meet the technical standards of the program.
3. Nursing students are required to have professional liability and personal health insurance. The professional liability insurance is provided by the college. Personal health insurance must be obtained by the student and maintained throughout the program in order to comply with clinical agency requirements. Proof of insurance will be required prior to participating in the first clinical activity.
4. An active American Heart Association cardiopulmonary resuscitation (CPR) certificate for professional rescuer of infant, child and adult.
5. Students admitted to health science programs must consent to background/security checks including a criminal background check and drug screening. The student is responsible for any cost associated with the background/security/drug screening checks. Certain criminal convictions may render a student ineligible to train at clinical sites which are necessary in order to successfully complete the program. Additionally, certain criminal convictions may render an individual ineligible to take the licensing/certification exam or to be licensed/certified in the State of Michigan. The college will review the results and determine, on a case-by-case basis, whether to deny admission to any individual based on the results of the criminal background check and drug screening.
6. 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 must be able to meet the health sciences technical standards available in the Nursing, Registered section of the MCCC website.

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 fundamentally alter the requirements or nature of the program or lower its academic standards. Requests for accommodations should be directed to a disability services counselor in the Student Success Center. To make an appointment, please call 734.384.4167.

7. Incoming students must complete the program within three years of initially starting nursing classes. Failure to meet the three year program completion timeframe will result in program dismissal.
  8. All nursing students utilize Internet services and resources to supplement instruction. Students must have reliable internet access. Beginning January 2020, students enrolled in the nursing program will be required to take assessments (ie: exams, quizzes, etc) electronically using an online assessment program called ExamSoft Exemplify. Students enrolled in these courses will be required to provide their own computer (with webcam and microphone) that will support the assessment software. The software can be used on most modern Microsoft Windows-based computers and Mac OS X devices. Information related to minimum system requirements can be located by visiting the following links:  
**Windows:** <https://examsoft.force.com/emcommunity/s/article/Exemplify-Minimum-System-Requirements-for-Windows>  
**Mac OS X:** <https://examsoft.force.com/emcommunity/s/article/Exemplify-Minimum-System-Requirements-for-Mac-OS-X>
- Students are encouraged to check with the Health Sciences Division for a complete list of minimum system requirements.
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, the program 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. The student must receive a "C" or better grade in all nursing courses and a "C-" or better grade in all non-nursing courses required in the program plan of study. Failure to meet this requirement may result in the inability to progress to the next semester of the program. Nursing and required non-nursing courses must be completed in the order outlined in the program's plan of study (see course sequence for requirements). Anatomy and Physiology courses must have been completed within the last ten years at the time of application to the program. Anatomy and Physiology courses must have been completed within the last ten years at the time of application to the program.
  11. Students are 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.
  12. In conjunction with requirements set forth by the Michigan Licensing and Regulatory Affairs agency, information related to the student complaint process, career opportunities by state,

and licensing requirements by state can be accessed by visiting the following websites: a) Student Complaint Process: found in the Consumer Information Section of the MCCC website; b) Career opportunities by state: <http://bls.gov/>; and c) Licensure requirements by state: <https://www.ncsbn.org/14730.htm>.

13. 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. Students are encouraged to review the handbook prior to application. A copy of the Student Information Handbook is available in the Nursing, Registered section of the MCCC website.

### Technical Standards

The purpose of the technical standards is to inform students choosing to enter into a health occupation program of the basic minimal technical standard requirements that must be met in order to complete all course work objectives and student outcomes. The listed standards encompass what is minimally required to perform necessary tasks. This list is not exhaustive, and can be modified as the college deems necessary at any time. Students enrolled in a health occupation program at MCCC must provide care that is safe and effective. These technical standards apply to any student enrolling in any one of the health occupations programs. The student must be able to demonstrate sufficient cognitive, professional, motor (physical), sensory, and other abilities, with or without accommodation, to meet program technical standards. Technical standard requirements are listed below. Examples of tasks associated with each requirement and standard are available for review by visiting the Health Sciences Division section of the MCCC website. Prospective students are encouraged to review the Technical Standards for Health Occupational Programs document in its entirety prior to enrolling in or applying to any health occupation course or program.

- **Critical Thinking and Cognitive Competencies:**  
Sufficient critical thinking and cognitive abilities in classroom and clinical settings.
- **Professionalism:**  
Interpersonal skills sufficient for professional interaction with a diverse population of individuals, families, and groups.
- **Communication:**  
Communication sufficient for professional interactions.
- **Mobility:**  
Physical abilities sufficient for movement from room to room and in small spaces.
- **Motor Skills:**  
Gross and fine motor abilities which are sufficiently effective and safe for providing allied health care.
- **Sensory:**  
Auditory and visual ability sufficient for observing, monitoring, and assessing health needs.
- **Observation:**  
Ability to sufficiently make observations in a health care environment, consistent with program competencies.
- **Tactile sense:**  
Tactile ability sufficient for physical assessment.

See item No. 6 under "General Information" for information regarding accommodations.

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 I) . . . . .	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 in the college catalog or on the college website ([www.monroeccc.edu](http://www.monroeccc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

### Required Courses and Sequence

#### 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 I) . . . . .	C1
<sup>1</sup> BIOL 257 (Anatomy & Physiology I) . . . . .	4

#### 1<sup>st</sup> Nursing Semester

NURS 103 (Fundamental Nursing Care) . . . . .	9
<sup>1</sup> BIOL 258 (Anatomy & Physiology II) . . . . .	4
<sup>1</sup> ENGL 152 (English Composition II) . . . . .	3

#### 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

#### 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

#### 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.

### 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. Completion of the degree is necessary to be eligible for licensure as a registered nurse in most states. Students may choose 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: 3<sup>rd</sup> Nursing semester)
- (C4) Computer Literacy Competency<sup>1</sup> (Suggested: 2<sup>nd</sup> Nursing semester)
- (C5) Human Experience Competency (Suggested: Non-Nursing semester)

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

<b>Total Degree Requirements</b>	<b>73 maximum</b>
<b>Total Degree Costs</b>	<b>106.5 billable contact hours maximum</b>

While general electives are not required in the program, the following courses can be taken as desired and may be helpful to the student:

### Suggested Additional Courses:

BIOL 259 (Introduction to Pathophysiology) . . . . .	4
BIOL 260 (General Microbiology) . . . . .	4
CHEM 150 (Fundamental Principles of Chemistry) . . . . .	4
CHEM 160 (Fundamentals of Health-Science Chemistry) . . . . .	4
HLTSC 110 (Medical Terminology) . . . . .	2
HLTSC 115 (Introduction to Health-Care Professions) . . . . .	3
HLTSC 151 (Principles of Nutrition & Diet Therapy) . . . . .	3
MATH 162 (Introduction to Statistics) . . . . .	3
PHIL 254 (Introduction to Medical Ethics) . . . . .	3
PSYCH 254 (Lifespan Psychology) . . . . .	3
SOC 151 (Principles of Sociology) . . . . .	3
SPCH 151 (Communication Fundamentals) . . . . .	3

# PHLEBOTOMY TECHNICIAN

## Health Sciences Division

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 average annual salary for a phlebotomist according to the Bureau of Labor Statistics (2018) is \$34,400.

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. HLTSC 158 (Phlebotomy Basics) is a six-credit hour course that includes the theory of phlebotomy as well as laboratory skills experience in the classroom. HLTSC 159 (Phlebotomy II) is a four-credit hour course and includes theory, a computer component, 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 158 (Phlebotomy Basics) with a grade of "C" or better.
  2. HLTSC 158 (Phlebotomy Basics) and HLTSC 159 (Phlebotomy II) must be taken in consecutive semesters. Deviations from this sequence may only be made with appropriate approval of the instructor and division dean offering the course.
  3. Immunizations and examinations at the student's expense to ensure that the student can meet the technical standards of the program.
  4. An active American Heart Association cardiopulmonary resuscitation (CPR) certificate for professional rescuer of infant, child and adult.
  5. Students admitted to health science programs must consent to background/security checks including a criminal background check and drug screening. The student is responsible for any cost associated with the background/security checks. Students that require additional drug testing beyond initial screening and/or medical review may be responsible for associated costs. Certain criminal convictions may render a student ineligible to train at clinical sites which are necessary in order to successfully complete the program. Additionally, certain criminal convictions may render an individual ineligible to take the licensing/certification exam or to be licensed/certified in the State of Michigan. The college will review the results and determine, on a case-by-case basis, whether to deny admission to any individual based on the results of the criminal background check and drug screening. Students that require additional drug testing beyond initial testing and/or a medical review may be responsible for associated costs.
6. Phlebotomy students are required to have professional liability and personal health insurance. The professional liability insurance is provided by the college. Personal health insurance must be obtained by the student and maintained throughout both courses in the program, HLTSC 158 (Phlebotomy Basics) and HLTSC 159 (Phlebotomy II). Proof of insurance will be required prior to participating in any lab or clinical activity.
  7. Students who wish to review or enhance phlebotomy skills may elect to take HLTSC 158 (Phlebotomy Basics) and not HLTSC 159 (Phlebotomy II), but a certificate will not be awarded.
  8. Students must complete the necessary prerequisites before the beginning of a clinical rotation. Each student must pass both the lab and theory portion of HLTSC 158 (Phlebotomy Basics) with a "C" average (78 percent) or better to be eligible for a phlebotomy externship, HLTSC 159 (Phlebotomy II).
  9. The student must complete both HLTSC 158 (Phlebotomy Basics) and HLTSC 159 (Phlebotomy II) with a "C" average or better in order to be awarded the phlebotomy technician certificate.
  10. 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 158 (Phlebotomy Basics). Students must be available to work 120 hours in consecutive days as part of the clinical externship which is part of HLTSC 159 (Phlebotomy II). Students must 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.

### Technical Standards

The purpose of the technical standards is to inform students choosing to enter into a health occupation program of the basic minimal technical standard requirements that must be met in order to complete all course work objectives and student outcomes. The listed standards encompass what is minimally required to perform necessary tasks. This list is not exhaustive, and can be modified as the college deems necessary at any time. Students enrolled in a health occupation program at MCCC must provide care that is safe and effective. These technical standards apply to any student enrolling in any one of the health occupations programs. The student must be able to demonstrate sufficient cognitive, professional, motor (physical), sensory, and other abilities, with or without accommodation, to meet program technical standards. Technical standard requirements are listed below. Examples of tasks associated with each requirement and standard are available for review by visiting the Health Sciences Division section of the MCCC website. Prospective students are encouraged to review the Technical Standards for Health Occupational Programs document in its entirety prior to enrolling in or applying to any health occupation course or program.

- **Critical Thinking and Cognitive Competencies:**  
Sufficient critical thinking and cognitive abilities in classroom and clinical settings.
- **Professionalism:**  
Interpersonal skills sufficient for professional interaction with a diverse population of individuals, families, and groups.

- **Communication:**  
Communication sufficient for professional interactions.
- **Mobility:**  
Physical abilities sufficient for movement from room to room and in small spaces.
- **Motor Skills:**  
Gross and fine motor abilities which are sufficiently effective and safe for providing allied health care.
- **Sensory:**  
Auditory and visual ability sufficient for observing, monitoring, and assessing health needs.
- **Observation:**  
Ability to sufficiently make observations in a health care environment, consistent with program competencies.
- **Tactile sense:**  
Tactile ability sufficient for physical assessment.

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 fundamentally alter the requirements or nature of the program, or lower its academic standards. Requests for accommodations should be directed to a Disability Services counselor in the Student Success Center. To make an appointment, please call 734.384.4167.

<b>Required Courses</b>	<b>Credits</b>
HLTSC 158 (Phlebotomy Basics) .....	6
HLTSC 159 (Phlebotomy II) .....	4

<b>Total Certificate Requirements</b>	<b>10 credits</b>
<b>Total Certificate Cost</b>	<b>17 minimum billable contact hours</b>

# PN TO RN PROGRAM OPTION

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## Health Sciences Division

This program option provides an opportunity for students that hold an active, unencumbered license as a practical or vocational nurse to pursue an associate of applied science in nursing degree. Students accepted into the option will complete coursework that prepares them to enter the traditional registered nursing program. Once completed, students transition into the traditional program for the final third and fourth semesters of nursing study. Graduates earn an associate of applied science degree with specialization in nursing and are prepared to function as beginning registered nurses and members of the health care team. Registered nurses are qualified to work in a variety of healthcare settings, including acute care hospitals, outpatient clinics, extended care facilities 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 \$71,700 annually for practicing nurses according to the Bureau of Labor Statistics (2018) and nursing 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. Students may also be eligible for licensure in other states; students are encouraged to contact a state's board of nursing for eligibility requirements.

## 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 the Transfer section of the college's website.

## Additional Program Information:

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

## PN to RN Program Option Admission Criteria

Students accepted into the PN to RN program option are chosen according to selective admission criteria. Option applicants must meet established minimum criteria to be considered for admission. Application deadlines will be posted on the program option website. Only applicants who meet established minimum criteria by the deadline will be considered for admission. The potential applicant needs to be aware that meeting minimum standards does not guarantee admission. Seats are limited and determined according to the number of MCCC PN graduates that automatically progress into the option and the number of returning students requesting readmission. Additional candidates will be accepted according to the selection criteria until a cohort is fully enrolled.

Minimum admission criteria and PN to RN program option selection criteria for each application deadline are available for review by visiting the PN to RN section of the MCCC website. Students can also receive application information by contacting the Health Sciences Division Office at 734.384.4102 or by contacting the MCCC Admissions Office at 734.384.4104.

## General Information

1. Recent MCCC practical nursing graduates will have the option to automatically progress into the PN to RN option upon completion of the PN program. Remaining seats (up to 24) will be offered to past PN graduates and community members meeting minimum eligibility requirements. Applicants will be numerically ranked according to a selective admission criteria to determine who will be offered the remaining seats.
2. All accepted students will complete transition coursework during the summer semester. Upon completion, students will be separated into two cohorts for completion of the program. Up to 12 students may enroll in core coursework during the fall semester and will complete the PN to RN option at the end of the following winter semester. The remaining 12 students may enroll in core coursework during the winter semester and complete at the end of the following fall semester.
3. Immunizations and examinations at the student's expense to ensure that the student can meet the technical standards of the program.
4. Nursing students are required to have professional liability and personal health insurance. The professional liability insurance is provided by the college. Personal health insurance must be obtained by the student and maintained throughout the program in order to comply with clinical agency requirements. Proof of insurance will be required prior to participating in the first clinical activity.
5. An active American Heart Association cardiopulmonary resuscitation (CPR) certificate for professional rescuer of infant, child and adult.
6. Students admitted to health science programs must consent to background/security checks including a criminal background check and drug screening. The student is responsible for any cost associated with the background/security/drug screening checks. Certain criminal convictions may render a student ineligible to train at clinical sites which are necessary in order to successfully complete the program. Additionally, certain criminal convictions may render an individual ineligible to take the licensing/certification exam or to be licensed/certified in the State of Michigan. The college will review the results and determine, on a case-by-case basis, whether to deny admission to any individual based on the results of the criminal background check and drug screening.
7. 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 must be able to meet the health sciences technical standards available in the Nursing, Registered section of the MCCC website.  
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 fundamentally alter the requirements or nature of the program or lower its academic standards. Requests for accommodations should be directed to a disability services counselor in the Student Success Center. To make an appointment, please call 734.384.4167.

8. Students who successfully complete at least one nursing class must complete the nursing portion of the program within four semesters of the start of the first PN to RN (PNRN) course. Failure to meet the time framework necessitates program dismissal and re-application.
9. All nursing students utilize Internet services and resources to supplement instruction. Students must have reliable internet access. Beginning January 2020, students enrolled in the nursing program will be required to take assessments (ie: exams, quizzes, etc) electronically using an online assessment program called ExamSoft Exemplify. Students enrolled in these courses will be required to provide their own computer (including webcam and microphone) that will support the assessment software. The software can be used on most modern Microsoft Windows-based computers and Mac OS X devices. Information related to minimum system requirements can be located by visiting the following links:

**Windows:** <https://examsoft.force.com/emcommunity/s/article/Exemplify-Minimum-System-Requirements-for-Windows>

**Mac OS X:** <https://examsoft.force.com/emcommunity/s/article/Exemplify-Minimum-System-Requirements-for-Mac-OS-X>

Students are encouraged to check with the Health Sciences Division for a complete list of minimum system requirements.

10. 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, the program 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.
11. The student must receive a "C" or better grade in all nursing courses and a "C-" or better grade in all non-nursing courses required in the program plan of study. Failure to meet this requirement may result in the inability to progress to the next semester of the program.
12. Students are 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.
13. In conjunction with requirements set forth by the Michigan Licensing and Regulatory Affairs agency, information related to the student complaint process, career opportunities by state, and licensing requirements by state can be accessed by visiting the following websites: a) Student Complaint Process: found in the Consumer Information section of the MCCC website; b)

Career opportunities by state: <http://bls.gov/>; and c) Licensure requirements by state: <https://www.ncsbn.org/14730.htm>.

14. 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. Students are encouraged to review the handbook prior to application. A copy of the Student Information Handbook is available in the Nursing, Registered section of the MCCC website.

### Technical Standards

The purpose of the technical standards is to inform students choosing to enter into a health occupation program of the basic minimal technical standard requirements that must be met in order to complete all course work objectives and student outcomes. The listed standards encompass what is minimally required to perform necessary tasks. This list is not exhaustive, and can be modified as the college deems necessary at any time. Students enrolled in a health occupation program at MCCC must provide care that is safe and effective. These technical standards apply to any student enrolling in any one of the health occupations programs. The student must be able to demonstrate sufficient cognitive, professional, motor (physical), sensory, and other abilities, with or without accommodation, to meet program technical standards. Technical standard requirements are listed below. Examples of tasks associated with each requirement and standard are available for review by visiting the Health Sciences Division section of the MCCC website. Prospective students are encouraged to review the Technical Standards for Health Occupational Programs document in its entirety prior to enrolling in or applying to any health occupation course or program.

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Sufficient critical thinking and cognitive abilities in classroom and clinical settings.
- **Professionalism:**  
Interpersonal skills sufficient for professional interaction with a diverse population of individuals, families, and groups.
- **Communication:**  
Communication sufficient for professional interactions.
- **Mobility:**  
Physical abilities sufficient for movement from room to room and in small spaces.
- **Motor Skills:**  
Gross and fine motor abilities which are sufficiently effective and safe for providing allied health care.
- **Sensory:**  
Auditory and visual ability sufficient for observing, monitoring, and assessing health needs.
- **Observation:**  
Ability to sufficiently make observations in a health care environment, consistent with program competencies.
- **Tactile sense:**  
Tactile ability sufficient for physical assessment.

*See item No. 7 under "General Information" for information regarding accommodations.*

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 BIOL 151 (Biological Sciences I) . . . . .	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 in the college catalog 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** **Credits**

**Pre-Admission Course Requirements**

ENGL 151 (English Composition I) . . . . .	C3
PSYCH 151 (General Psychology) . . . . .	C6
BIOL 151* (Biological Sciences I) . . . . .	C1
BIOL 257 (Anatomy & Physiology I) . . . . .	4
BIOL 258 (Anatomy & Physiology II) . . . . .	4
One of the following**:	
ENGL 152 (English Composition II) . . . . .	3
HLTSC 120 (Pharmacology) . . . . .	3

**Summer Semester**

PNRN 100 (LPN Transition to RN Practice) . . . . .	3
ENGL 152 (English Composition II)	
or HLTSC 120 (Pharmacology) . . . . .	3
PNRN 110 (Mental Health Nursing Care for the LPN) . . . . .	3.5

**Fall PN to RN Cohort**

**Fall Semester**

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

**Winter Semester**

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

**OR**

**Winter PN to RN Cohort**

**Fall Semester**

No required courses; Gen Ed or non-nursing courses if applicable

**Winter Semester**

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

**Summer Semester**

No required courses; Gen Ed or non-nursing courses if applicable

**Fall Semester**

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

\* Prerequisite to BIOL 257 (Anatomy & Physiology I); not a program required course.

\*\* Students must complete either ENGL 152 (English Composition II) or HLTSC 120 (Pharmacology) or equivalent prior to application. The remaining course is required during the summer semester, unless previously completed.

**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 choose 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: Fall semester)
- (C4) Computer Literacy Competency<sup>1</sup> (Suggested: Summer semester)
- (C5) Human Experience Competency (Suggested: Pre-Admission)

<sup>1</sup>Can be satisfied with qualifying score on accepted placement test (Math Competency) or through a competency test (Computer Literacy Competency)

<b>Total Degree Requirements</b>	<b>62 maximum</b>
<b>Total Degree Costs</b>	<b>87 billable contact hours maximum</b>

# RENEWABLE ENERGY

## Applied Science and Engineering Technology Division

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:

- Associate sales technician
- Energy systems technician (wind and solar)
- Renewable energy technician
- Solar photovoltaic technician
- Solar service technician
- Site survey technician (solar)

Required Courses	Credits
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>

### Certificate Program: Wind Energy

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

#### Career Opportunities

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

- Energy Systems Technician (Wind & Solar)
- Senior buyer
- Senior property agent
- Senior risk management analyst
- Site prospector
- Site supervisor
- Wind data analyst
- Wind energy forecasting and resource assessment
- Wind field technician
- Wind plant administrator
- Wind plant monitoring technician

Required Courses	Credits
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 158 (Introduction to Wind Energy) . . . . .	3
ELEC 214 (National Electric Code) . . . . .	2
MATH 119 (Elementary Technical Mathematics) . . . . .	2

<b>Total Certificate Requirements</b>	<b>23 credits</b>
<b>Total Certificate Cost</b>	<b>30 minimum billable contact hours</b>

# RESPIRATORY THERAPY

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## Health Sciences Division

Respiratory therapy, or respiratory care, is an allied health profession specializing in cardiopulmonary diseases. A respiratory therapist can be instrumental in assisting in the diagnosis, treatment and prevention of a wide spectrum of disorders affecting the heart and lungs.

A registered respiratory therapist (RRT) requires a minimum of a two-year degree 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. According to the Bureau of Labor Statistics (2018), the average annual salary for a respiratory therapist is approximately \$60,300.

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 visit the Transfer section of the MCCC website.

## 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, [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 by the application deadline, which is the second Monday in June of the year the student wishes to enter the respiratory therapy program. Applicants enrolled in any pre-requisite classes that finish after the application 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).

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 or an eligible middle college student. 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. 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.
3. Completion of BIOL 257 (Anatomy and Physiology I) or MCCC equivalent. Anatomy and Physiology must be repeated if it has not been taken within 10 years of the application deadline. Exceptions are at the discretion of the program director. 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.
4. Completion of MATH 151 (Intermediate Algebra) or higher level course, with a "C" or better or an acceptable qualifying score on an accepted college placement test; completed within 10 years. Students with an interest in pursuing a bachelor degree following completion of the MCCC respiratory therapy program are encouraged to meet with an academic advisor or meet with the program director to determine which math course will be required at the higher level to avoid additional coursework.
5. The student must receive a "C" or better grade in all respiratory therapy courses and a "C-" or better grade in all non-respiratory therapy courses required in the program plan of study. Respiratory and required support courses must be completed in the order outlined in the program's plan of study (see course sequence for requirements.) Failure to meet the requirement may result in the inability to progress to the next semester of the program.
6. Immunizations and examinations at the student's expense to ensure that the student can meet the technical standards of the program.
7. An active American Heart Association cardiopulmonary resuscitation (CPR) certificate for professional rescuer of infant, child and adult.
8. Students admitted to health science programs must consent to background/security checks including a criminal background check and drug screening. The student is responsible for any cost associated with the background/security checks/drug screening. Certain criminal convictions may render a student ineligible to train at clinical sites which are necessary in order to successfully complete the program. Additionally, certain criminal convictions may render an individual ineligible to take the licensing/certification exam or to be licensed/certified in the State of Michigan. The college will review the results and determine, on a case-by-case basis, whether to deny admission to any individual based on the results of the criminal background check and drug screening.
9. Respiratory therapy students are required to have professional liability and personal health insurance. The professional liability insurance is provided by the college. Personal health insurance must be obtained by the student and maintained throughout the program in order to comply with clinical agency requirements. Proof of insurance will be required prior to participating in the first clinical activity.
10. Respiratory care involves the provision of direct care for individuals and families and is characterized by the application of verified knowledge in the skillful performance of respiratory therapist functions. Therefore, in order to be considered for admission or to continue in the program, all applicants must be able to meet the health sciences technical standards available in the Health Sciences Division section of the MCCC website. 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 fundamentally alter the requirements or nature of the program, or lower its academic standards. Requests for accommodations should be directed to a disability services counselor in the Student Success Center. To make an appointment, please call 734.384.4167.

11. All respiratory therapy students utilize Internet services and resources to supplement instruction. Students must have reliable internet access. Beginning January 2020, students enrolled in the respiratory therapy program will be required to take assessments (i.e., exams, quizzes, etc.) electronically using an online assessment program called ExamSoft Exemplify. Students enrolled in these courses will be required to provide their own computer (including webcam and microphone) that will support the assessment software. The software can be used on most modern Microsoft Windows-based computers and Mac OS X devices. Information related to minimum system requirements can be located by visiting the following links:  
**Windows:** <https://examsoft.force.com/emcommunity/s/article/Exemplify-Minimum-System-Requirements-for-Windows>  
**Mac OS X:** <https://examsoft.force.com/emcommunity/s/article/Exemplify-Minimum-System-Requirements-for-Mac-OS-X>

Students are encouraged to check with the Health Sciences Division for a complete list of minimum system requirements.

12. Selection of qualified respiratory therapy applicants is done through a numerical process. Meeting the minimum requirements for admission does not ensure admission to the program. Applicants to the program tend to be well qualified and up to 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.
13. In conjunction with requirements set forth by the Michigan Licensing and Regulatory Affairs agency, information related to the student complaint process, career opportunities by state, and licensing requirements by state can be accessed by visiting the following websites: a) Student Complaint Process: found in the Consumer Information section of the MCCC website; b) Career opportunities by state: <https://bls.gov/>; and c) Licensure requirements by state: <https://www.nbrc.org/resources/#state-licensing>.
14. In addition to the general college rules, respiratory therapy students are required to adhere to policies and procedures outlined in the Respiratory Therapy Student Information Handbook. Students are encouraged to review the handbook prior to application. A copy of the Student Information Handbook is available in the Health Sciences Division section of the MCCC website.

See item No. 10 under "General Information" for information regarding accommodations.

### Technical Standards

The purpose of the technical standards is to inform students choosing to enter into a health occupation program of the basic minimal technical standard requirements that must be met in order to complete all course work objectives and student outcomes. The listed standards encompass what is minimally required to perform necessary tasks. This list is not exhaustive, and can be modified as the college deems necessary at any time. Students enrolled in a health occupation

program at MCCC must provide care that is safe and effective. These technical standards apply to any student enrolling in any one of the health occupations programs. The student must be able to demonstrate sufficient cognitive, professional, motor (physical), sensory and other abilities, with or without accommodation, to meet program technical standards. Technical standard requirements are listed below. Examples of tasks associated with each requirement and standard are available for review by visiting the Health Sciences Division section of the MCCC website. Prospective students are encouraged to review the Technical Standards for Health Occupational Programs document in its entirety prior to enrolling in or applying to any health occupation course or program.

- **Critical Thinking and Cognitive Competencies:**  
Sufficient critical thinking and cognitive abilities in classroom and clinical settings.
- **Professionalism:**  
Interpersonal skills sufficient for professional interaction with a diverse population of individuals, families, and groups.
- **Communication:**  
Communication sufficient for professional interactions.
- **Mobility:**  
Physical abilities sufficient for movement from room to room and in small spaces.
- **Motor Skills:**  
Gross and fine motor abilities which are sufficiently effective and safe for providing allied health care.
- **Sensory:**  
Auditory and visual ability sufficient for observing, monitoring, and assessing health needs.
- **Observation:**  
Ability to sufficiently make observations in a health care environment, consistent with program competencies.
- **Tactile sense:**  
Tactile ability sufficient for physical assessment.

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 BIOL 151 (Biological Sciences I) . . . . .	4
C2 MATH 151 (Intermediate Algebra) 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 in the college catalog or on the college website ([www.monroecc.edu](http://www.monroecc.edu)) for a list of courses that satisfy the General Education Learning Competencies.

<b>Pre-Admission</b>	<b>Credits</b>
MATH 151 (Intermediate Algebra or higher) . . . . .	C2
BIOL 151 (Biological Sciences I) . . . . .	C1
BIOL 257 (Anatomy & Physiology I) . . . . .	4
<b>Fall Semester (1<sup>st</sup>)</b>	
RTH 100 (Respiratory Care Techniques I) . . . . .	6.5
RTH 102A (Pharmacology for Respiratory Therapists I) . . . . .	2
RTH 104 (Cardiopulmonary Assessment) . . . . .	3
BIOL 258** (Anatomy & Physiology II) . . . . .	4
<b>Winter Semester (2<sup>nd</sup>)</b>	
RTH 102B (Pharmacology for Respiratory Therapists II) . . . . .	1
RTH 110 (Respiratory Care Techniques II) . . . . .	5
RTH 111 (Respiratory Care Clinical Practice I) . . . . .	4.5
RTH 116 (Cardiopulmonary Pathophysiology) . . . . .	4
<b>Summer Semester (3<sup>rd</sup>)</b>	
RTH 120 (Respiratory Care Techniques III) . . . . .	4
RTH 121 (Respiratory Care Clinical Practice II) . . . . .	2
<sup>1</sup> Computer Literacy Competency* (suggested semester) . . . . .	C4
Writing Competency* (suggested semester) . . . . .	C3
<b>Fall Semester (4<sup>th</sup>)</b>	
RTH 211 (Respiratory Care Clinical Practice III) . . . . .	4.5
RTH 212 (Advanced Cardiopulmonary Physiology) . . . . .	4
RTH 214 (Adult Critical Care) . . . . .	3
RTH 216 (Neonatal/Pediatric Critical Care) . . . . .	2
<b>Winter Semester (5<sup>th</sup>)</b>	
RTH 221 (Respiratory Care Clinical Practice IV) . . . . .	4
RTH 222 (Seminar) . . . . .	2
RTH 226 (Respiratory Care Techniques IV) . . . . .	2
Human Experience Competency*(suggested semester) . . . . .	C5
Social Systems Competency* (suggested semester) . . . . .	C6

\* General Education requirement. Suggested as a pre-admission course; however, not required to be completed prior to application.  
 \*\* Required non-respiratory course: must be completed in the order presented above or prior to the semester indicated.  
<sup>1</sup>Can be satisfied through a competency test (Computer Literacy Competency)

**Total Degree Requirements            71.5-84.5 credits**  
**Total Degree Cost                    119-128 minimum billable**  
**contact hours**

# TEACHER PARAPROFESSIONAL (Elementary Education)

## Science/Mathematics Division

The elementary education associate of applied science degree program prepares students to provide high-quality education to children in grades K-12. This degree program prepares students for a career in education or transfer into an elementary education program at a 4 year college or university. The first two years of instruction in a bachelor's degree program in elementary education are met. Please work in coordination with your advisor and planned transfer institution to ensure transferability.

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 **19-22**

C1	Natural Science Competency	4
C2	MATH 151 (Intermediate Algebra) or higher	3-6*
C3	ENGL 151 (English Composition I)	3
C4	Computer Literacy Competency	3
C5	ENGL 256 (Children's Literature)	3
C6	POLSC 151 (Introduction to Political Science)	3

\*Students intending to transfer to a four year elementary education program are advised to take MATH 156 (Math for Elementary Teachers I) and MATH 166 (Math for Elementary Teachers II).

See the General Education Requirements on page 33 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 **38-41**

ECE 102	(Child Growth and Development)	3
ECE 110	(Diverse Populations in Early Childhood Education)	3
EDUC 151	(Exploring Teaching)	3
EDUC 158	(Art for Elementary Teachers)	3
EDUC 165	(Music for Elementary Teachers)	3
ENGL 152	(English Composition II)	3
GEOG 152	(World Regional Geography)	3
HIST 154	(History of the US 1607-1877)	3
HPE 151	(First Aid and Safety)	2
SPCH 151	(Communication Fundamentals)	3
9-12 credits in comprehensive major/minor area		9-12

**Total Degree Requirements 60 credits**

**Total Degree Cost 62 minimum billable contact hours**

# WELDING TECHNOLOGY

## Applied Science and Engineering Technology Division

The associate of applied science degree with specialization in welding technology parallels the high technological demands in the joining and fabrication areas of manufacturing industries. 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), as well as multiple thermal cutting process applications. 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 interested in weld inspection. Students can take individual NDT courses or pursue the entire certificate for additional credentials. The MCCC welding technology program articulates with Ferris State University's four-year degree program.

Certificate programs are also available for students interested in rapid skills development with an accelerated pathway into the welding industry. MCCC offers both beginning and advanced welding certificates as well as offers AWS SENSE QC-10 and QC-11 welding process certifications. MCCC also has been a certified MDOT testing facility for the past five years.

### Career Opportunities

Students are prepared for many welding-related careers and trades, 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:

- Engineering technician
- Pipefitter
- Production welder
- Weld inspector
- Welder/fabricator
- Welding metallurgy technician
- Welding sales/service 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

Required General Education Courses	Credits
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
	<b>21</b>

See the General Education Requirements on page 33 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
<b>1<sup>st</sup> Semester</b>	
MATL 101 (Industrial Materials) . . . . .	3
WELD 100 (Introduction to Welding Processes) . . . . .	4
MATH 119* (Elementary Technical Mathematics) . . . . .	2
<b>2<sup>nd</sup> Semester</b>	
WELD 110 (Welding Symbols and Blueprint Reading) . . . . .	2
WELD 114 (GMAW and GTAW Applications) . . . . .	6
MATH 124* (Technical Mathematics II) . . . . .	4
<b>3<sup>rd</sup> Semester</b>	
METC 220 (Statics & Strength of Materials) . . . . .	4
WELD 102 (Advanced SMAW) . . . . .	6
WELD 103 (Weldment Evaluation and Testing) . . . . .	3
<b>4<sup>th</sup> Semester</b>	
WELD 105 (Welding Metallurgy) . . . . .	3
WELD 106 (Basic Pipe Welding) . . . . .	6
<b>Summer</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 MATH 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.



# COURSE DESCRIPTIONS

## ACCOUNTING (ACCTG)

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

Prerequisite: RDG 090 and ENGL 090 or qualifying scores on accepted placement tests.

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.

F, W, S

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

Prerequisite: ACCTG 151

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.

F, W, S

### 201 Microcomputer Accounting I 3 Credit Hours 3 Billable Contact Hours

Prerequisite: ACCTG 151 and CIS 109

This course is an introduction to computerized accounting software using QuickBooks. Students will review and apply basic accounting principles, record transactions and generate computer documents for various types of business organizations.

F

### 205 Microcomputer Accounting II 3 Credit Hours 3 Billable Contact Hours

Prerequisite: ACCTG 151 and CIS 109

This course is an introduction to computerized accounting software using Sage 50. Students will review and apply basic accounting principles, record transactions and generate computer documents for various types of business organizations.

W

### 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.

F, W

### 251 Intermediate Accounting I 4 Credit Hours 4 Billable Contact Hours

Prerequisite: ACCTG 152

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 APB and FASB pronouncements and related topics.

F

### 252 Cost Accounting 4 Credit Hours 4 Billable Contact Hours

Prerequisite: ACCTG 152

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 non-manufacturing costs.

W

### 254 Intermediate Accounting II 4 Credit Hours 4 Billable Contact Hours

Prerequisite: ACCTG 251

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 APB and FASB pronouncements and related topics.

W

### 255 Introduction to Taxation 3 Credit Hours 3 Billable Contact Hours

Prerequisite: ACCTG 151

This is an introductory course in individual taxation and provides a comprehensive understanding of the United States Tax code as it relates to individuals. The course is designed to develop proficiency in the preparation of individual federal income tax returns in both a manual and computerized environment. Partnership and Corporate Taxation are briefly covered.

F

### 256 Taxation & IRS Certification VITA 3 Credit Hours 4 Billable Contact Hours

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

This course provides a comprehensive understanding of the U.S. tax code as it relates to individuals and prepares students for the IRS Tax Preparation Exam and Certification. Upon successful completion of IRS certification, students will participate in the Volunteer Income Tax Assistance Program that provides free income tax preparation services for qualified individuals in Monroe County, Michigan.

W

## ANTHROPOLOGY (ANTHR)

### 152 Introduction to Cultural Anthropology 3 Credit Hours 3 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

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.

F, W, S

**155 Introduction to Archaeology** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: RDG 090 and ENGL 090 or qualifying score on  
 accepted placement tests

F

Archaeology is a global social scientific discipline investigating human ancestry. This course provides a thorough introduction to archaeology's rationale, history, methods, and theory. Comparative case studies from archaeological investigations of ancient cultures illustrate major points. Lectures, demonstrations, slide shows, hands-on experiences and application exercises will be used to facilitate the learning experience. This course is a satisfier course for the Global Studies Degree Designation.

**165 Eastern North American Archaeology** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: RDG 090 and ENGL 090 or qualifying score on  
 accepted placement tests

W, S

This course is designed to provide a thorough introduction to the diversity of cultures found in eastern North America from the initial Native American occupation to the early Euro American settlement using the unique perspective that archaeology provides. Students are exposed to cultures whose belief systems, methods of enculturation and socialization, and styles of living that are vastly different from their own. The course emphasizes the effect of culture, culture change, and cultural ethnogenesis on societies across time and space. Finally, it seeks to provide an understanding of the need for careful analysis and interpretation of finds and an appreciation of the fragile nature of our cultural heritage.

**175 Archaeological Field Methods** **3 Credit Hours**  
**4 Billable Contact Hours**  
 Prerequisite: RDG 090 and ENGL 090 or qualifying score on  
 accepted placement tests

S

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 field work 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 ENGL 090 or qualifying score on  
 accepted placement 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: ENGL 090 and RDG 090 or qualifying score on  
 accepted placement tests

F, W, S

The student will be exposed to the fundamental principles governing art in its various forms. PowerPoints, 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 class is a satisfier course for the Global Studies Degree Designation.

**160 Two-Dimensional Design** **3 Credit Hours**  
**6 Billable Contact Hours**  
 Prerequisite: RDG 090 and ENGL 090 or qualifying score on  
 accepted placement tests

F, S

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 score on  
 accepted placement tests

F

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

W

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 score on  
 accepted placement 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**  
**3 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 score on accepted placement 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**  
**3 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 ENGL 090 or qualifying score on accepted placement 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**  
**3 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**  
**3 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 score on accepted placement 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**  
**3 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**  
**3 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**  
**3 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**  
**3 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 score on accepted placement tests

F, W

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 score on accepted placement tests

F, W

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 score on accepted placement tests

F, W

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 6 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying score on accepted placement tests  
F, W, S

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 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 score on accepted placement 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 accepted placement 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 or AUTO 102 and AUTO 101 or AST 105  
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 score on accepted placement 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: AST 102 or ELEC 125  
Corequisite: AST 101 or instructor consent  
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 score on accepted placement tests  
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, S

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.

## AUTOMOTIVE SERVICE TECHNOLOGY (AST)

### 101 Introduction to Automotive Service 3 Credit Hours 4 Billable Contact Hours

Prerequisite: RDG 090 and MATH 090 or qualifying score on accepted placement tests  
F, W

This course focuses on orientating the student to the Monroe County Community College automotive service technology environment. Students will receive comprehensive instruction on laboratory procedures, policies, shop safety and proper tool usage. They will also be introduced to all eight of the major automotive systems, the industry as a whole, as well as the procedures to attaining both state and national certifications.

**102 Electrical Systems I 4 Credit Hours**

**5 Billable Contact Hours**

Prerequisite: RDG 090 and MATH 090 or qualifying scores on accepted placement tests.

Corequisite: AST 101

F

This course focuses on introducing the student to automotive electrical/electronic systems which includes basic theories, electrical/electronic components, wiring and circuit diagrams, circuit protection, switches, relays, solenoids and automotive battery fundamentals. This course also focuses on the use of test equipment such as digital multimeters, test lights, jumper wires and logic probes used to diagnose basic electrical/electronic faults.

**103 Electrical Systems II 4 Credit Hours**

**5 Billable Contact Hours**

Prerequisite: AST 101, AST 102

W

This course is a continuation from Electrical Systems I. Topics include, but are not limited to, the fundamentals, diagnostics, and service of the following areas: advanced battery design, starting systems, starter motors, charging systems, and lighting circuits, instrumentation and warning lamps, accessories, passive restraints, and alternative power sources as well as, the proper tools and equipment used to perform diagnostics and service procedures.

**105 Engine Theory 3 Credit Hours**

**4 Billable Contact Hours**

Prerequisite: RDG 090 and MATH 090 or qualifying scores on accepted placement tests

Corequisite: AST 101

W

This course focuses on the theory, construction, inspection, and diagnosis of the internal combustion engine. Topics covered include fundamental operating principles, diagnosis, inspection, and adjustment of gasoline engines and their internal components.

**120 Brake Systems 4 Credit Hours**

**6 Billable Contact Hours**

Corequisite: AST 101

F

This course focuses on the design and operation of automotive brake systems. Topics include diagnosis and repair, to manufacturer specifications, of traditional and Anti-Lock Brake Systems (ABS) as well as Traction Control Systems (TCS). Lab demonstrations and on-car repair provide a working knowledge of hydraulic systems, disc/drum machining, rebuilding, and power assist, as well as scan tool usage to repair ABS/TCS systems.

**125 Steering and Suspension 4 Credit Hours**

**7 Billable Contact Hours**

Corequisite: AST 101

W

This course focuses on steering mechanisms and suspension components for Macpherson strut, parallelogram and additional industry standard designs. Proper methods of inspection, diagnosis, repair and alignment of both front and rear steering and suspension components will be covered.

**130 Heating and Air Conditioning 4 Credit Hours**

**7 Billable Contact Hours**

Corequisite: AST 101

S

This course focuses on automotive heating and air conditioning system theories, troubleshooting, and servicing. Proper refrigerant recovery, recycling, storage, and use of recharging equipment will also be covered. Students will be made aware of recent environmental concerns relevant to coolant and refrigeration. In addition, basic shop safety and safe use of recycling equipment will be discussed.

**202 Engine Performance I 4 Credit Hours**

**7 Billable Contact Hours**

Prerequisite: AST 101, AUTO 101 or AST 105 and AST 102 or ELEC 125

F

This course focuses on automotive engine performance pertaining to the On Board Diagnostic system, the sensors that report information to the engine controller and the fuel system will be the focus of this course. Students will have an opportunity to utilize the various tools and procedures in order to understand the operation, diagnose malfunctions, and repair faults in these systems.

**203 Engine Performance II 4 Credit Hours**

**7 Billable Contact Hours**

Prerequisite: AST 202

W

This course is a continuation of Automotive Engine Performance I. It will reinforce the diagnostics and operational procedures introduced in the previous course, while expanding the student's understanding of the On Board Diagnostic System. Automotive emission and ignition system operation, design and diagnosis will be covered.

**205 Engine Repair 5 Credit Hours**

**8 Billable Contact Hours**

Prerequisite: AST 101, AST 105

W

This course will focus on the repair procedures utilized in repairing and rebuilding internal combustion engines. Disassembly, assembly, part inspection, use of manuals and repair/replacement procedures will be applied to both upper and lower engine components.

**210 Manual Transmission Driveline Repair 5 Credit Hours**

**8 Billable Contact Hours**

Prerequisite: AST 101, AST 105

F

This course focuses on the operation and service procedures of manual drive trains and axles including drivelines, constant velocity (CV) joints, manual transmissions and transaxles, differentials and clutches.

**211 Automatic Transmission Repair 5 Credit Hours**

**8 Billable Contact Hours**

Prerequisite: AST 103, AST 105

S

This course focuses on the operation, testing, diagnosis and repair of automatic transmissions and transaxles. Hydraulic theory, torque multiplication factor, and planetary gear set operation will be covered in detail. Proper disassembly and reassembly procedures will be emphasized.

**249 Cooperative Work Experience 3 Credit Hours**

**6 Billable Contact Hours**

Prerequisite: Department Coordinator or Division Dean Approval

W

This course focuses on introducing the student to real world on-the-job learning experiences, whether paid or volunteer. The student will spend a minimum of 90 hours working off site at an actual repair facility. This course is intended to supplement the hours in courses on campus for the purpose of demonstrating competency and refining employability skills.

## 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 accepted placement tests

F, W, S

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.

### 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 score on accepted placement 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 socioeconomic, political, and environmental problems. Course requires laboratory work. This course is open to both science- and non-science majors.

### 161 Life in the Ocean 4 Credit Hours 4 Billable Contact Hours

Prerequisite: MATH 090, ENGL 090 and RDG 090 or qualifying scores on accepted placement tests.

F, W

This course covers the living organisms in coastal areas and the open ocean and their relationship to the marine environment. Topics covered in this class includes the marine fishes; marine reptiles, birds and mammals; marine animals without a backbone; marine seaweeds and plants; physical ocean and ocean floor; marine ecosystems such as coral reefs and estuaries, and the impact of humans on the marine environment.

### 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.

### 257 Anatomy & Physiology I 4 Credit Hours 6 Billable Contact Hours

Prerequisite: BIOL 151

Corequisite: BIOL 151 with admission into the associate degree in nursing (ADN) program (nursing students only)

F, W, S

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.

### 258 Anatomy & Physiology II 4 Credit Hours 6 Billable Contact Hours

Prerequisite: BIOL 257

F, W, S

A continuation of BIOL 257, 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.

### 259 Introduction to Pathophysiology 4 Credit Hours 4 Billable Contact Hours

Prerequisite: BIOL 258 and BIOL 260

S

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

F, W, S

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 relevant to allied health majors.

### 264 Fundamentals of Genetics 4 Credit Hours 6 Billable Contact Hours

Prerequisite: BIOL 151

W

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.

**266 Ecology** **4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: Math 092 and BIOL 151 or BIOL 156

F

This course will study the structure, function and regulation of populations, communities and ecosystems, emphasizing human activities and their ecological consequences. Students will be introduced to the types of questions asked by ecologists, the principal concepts and theories that guide ecological inquiry, and the methods that are used to answer ecological questions. Both terrestrial and aquatic systems will be considered. This course is a continuation of the previously learned ecological concepts in BIOL 151 and BIOL 156. The laboratory component part of the course will include field trips.

## **BUSINESS ADMINISTRATION (BUSAD)**

**151 Introduction to Business** **4 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F, W, S

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 score on accepted placement tests

F

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.

**180 Entrepreneurship Capstone** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: HUMAN 152, BUSAD 170, and MCOM 201

The Entrepreneurship Capstone course provides a structure for students to consolidate and showcase the learning, experiences, resources, and skills from the other courses in the Entrepreneurship Program sequence. The Capstone course provides a framework to move from idea formation, development of a business plan, portfolio construction, sponsorship resources identification and market development, presentation preparation, to proposal delivery or 'pitch' to a panel of judges.

## **BUSINESS LAW (BSLW)**

**251 Business Law** **4 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F, W

This course addresses various legal principles: law of contracts, agency, negotiable instruments and banking. Some of the more important cases under these topics will be discussed and explored.

## **BUSINESS MANAGEMENT (BMGT)**

**160 Managing in the Digital Enterprise** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

F, W

This course provides students with the skills and knowledge to work in and understand the challenges managers face in an increasingly digital world. The course includes an introduction to managing activities in the digital enterprise, including how the work of managers has changed as more employees and customers migrate to online. The hands-on portion of the course will include suite software, e-commerce, digital communications, including mobile devices, the Internet, email, and other networked resources used to turn data into commercial information. Keyboarding skills will be beneficial.

**201 Principles of Management** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

F, W

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.

**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.

W

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

W

This course covers the process of globalization and its implication for business firms and their managers. Course content includes the social, political, and economic environments of the multinational firm with emphasis on management strategies across cultural and national boundaries.

**251 Human Resource Management** **4 Credit Hours**  
**4 Billable Contact Hours**  
Prerequisite: BUSAD 151 or BMGT 201

W

The focus of this course is on business organization and management as they apply to the human resource functions of recruitment, selection, placement, orientation, and training. Attention is given to job analysis and evaluation, moral measurement, and maintenance, union-management relationships, and employee's economic and physical security.

### **CERTIFIED NURSE AIDE (CNA)**

**100 Certified Nurse Aide** **6 Credit Hours**  
**10 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F, W, S

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 092 or MATH 124 or higher or qualifying score on accepted placement tests

F, W

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 accepted placement tests and CHEM 150 or one year of high school chemistry

F, W

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, S

A continuation of Chemistry 151 which includes obtaining and applying quantitative information in laboratory to the fundamental interrelationships among molecular bonding, solution chemistry, solids, chemical kinetics, chemical equilibria, acids bases buffers, chemical thermodynamics, and electrochemistry. Course requires laboratory work.

**155 Chemistry and Society** **4 Credit Hours**  
**5 Billable Contact Hours**  
Prerequisite: MATH 092 or equivalent and ENGL 151.

F, W, S

This course focuses on the relationship between chemistry and the world around us, evaluating how chemistry impacts our society, the environment, and the economy. Chemical principles are introduced to the extent necessary for understanding contemporary topics such as: water, air, energy, common household chemicals, material science, polymers, biochemistry, nutrition, pharmaceuticals, genetics, forensics, and measurement science. The course provides education in the scientific method and is appropriate for non-science majors. Course requires laboratory work.

**160 Fundamentals of Health-Science Chemistry** **4 Credit Hours**  
**6 Billable Contact Hours**  
Prerequisite: CHEM 150 or CHEM 151

F, W, S

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 alkanes, alkyl halides, alkenes, alkynes, alcohols, ethers and carboxylic acids. Laboratory develops basic organic chemistry techniques and skills 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 ketones, aldehydes, carboxylic acids and derivatives, polyenes, aromatics, amines, carbohydrates and amino acids. Laboratory develops basic organic chemistry techniques and skills 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 score on accepted placement tests

F, W, S

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 score on accepted placement tests

F, W

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.

### 181 Digital Media 3 Credit Hours 3 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

W

This course is designed to introduce students to the wide variety of digital story-telling and news presentation tools. As consumers turn from traditional news sources to digital platforms, journalists and other media specialists 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 traditional journalism conventions, such as accuracy, fairness and comprehensive news gathering and reporting, while using digital media tools. The course was previously called New Media Journalism, JOURN 181.

## COMPUTER INFORMATION SYSTEMS (CIS)

### 105 Office Keyboarding Skills 2 Credit Hours 2 Billable Contact Hours

F, W, S

This course presents proven techniques for increasing keyboarding speed and accuracy using the alphabetic and 10-key numeric keypads. The student will complete lessons following a routine of drills focusing on one letter/number and completing timings that enforce letter/number keyboarding skills. This is an online course using a Website specifically created for teaching numeric and keyboarding skills using the touch operation.

### 109 Spreadsheet Software 3 Credit Hours 3 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 or qualifying scores on accepted placement 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 score on accepted placement 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.

### 123 Presentation Software 3 Credit Hours 3 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

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 score on accepted placement tests

F, W, S

This course provides students with the 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.

### 135 Scripting Language Programming 3 Credit Hours 3 Billable Contact Hours

Prerequisite: MATH 124 or higher or qualifying score on accepted placement test.

F, W, S

This course provides an introduction to the design and development of a computer program using a scripting programming language. Students will work with an integrated development environment to create a program to solve a specific problem. This course will provide an overview to the wide variety of programs that can be created when using a scripting programming language.

### 140 Help Desk Concepts 3 Credit Hours 3 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F

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: MATH 092 or higher or qualifying score on accepted placement tests.

F

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.

### 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.

**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

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.

**178 Design Concepts** **4 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

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.

**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.

**183 Mobile App Development** **4 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: CIS 150

This course covers the design, implementation and development of mobile applications for different phone environments. Students will have the chance to work with different integrated development environments and other tools to create fully functioning mobile applications. This course will also look at cross-platform development tools to produce applications to run across multiple phone environments.

**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.

**186 Multimedia Development** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: CIS 130

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

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

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

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

This course emphasizes the study of operating systems for personal/client computers. Topics include: Command line vs. graphical user interfaces operating systems installation, operating system management and day-to-day operating systems functionality. Operating systems discussed in this course will include a commercially accepted client and an open source client. This course will enhance students' understanding of PC operations.

**209 Network Concepts 3 Credit Hours****3 Billable Contact Hours**

Prerequisite: CIS 130

W

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.

**212 Full Stack Development 3 Credit Hours****3 Billable Contact Hours**

Prerequisite: CIS 150

F

This course will cover the design, implementation and development of full stack applications. Students will have the chance to create full stack applications focusing on database creation, graphical user interface, user experience and user interaction. This course will look at all of the different technologies used to create full stack applications, for both front-end development and back-end development.

**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

S

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

F

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

W

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

W

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

W

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

W

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.

**277 User Interface Design 3 Credit Hours****3 Billable Contact Hours**

Prerequisite: CIS 182 or CIS 184

W

This course will introduce students to designing user interfaces for human-computer interactions. Emphasis will be placed on universal design principles, interface design process and the various formats for deployment.

**279 Designing for Digital Environments** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: CIS 178 and CIS 182 or CIS 184

F

This course will prepare students for the broad range of design challenges related to designing for digital environments. The course will explore current digital technologies, interaction methods and presentation methods. Designs may include: alternative reality, environmental designs, digital marketing, projections, and others requiring a digital platform to communicate.

**284 Advanced Photoshop Graphics** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: CIS 184 and one of the following: CIS 172, CIS 178 or CIS 180

W

This course covers advanced tools, features, and techniques of the image editing software Photoshop.

**289 Game Design and Development** **4 Credit Hours**  
**Capstone** **4 Billable Contact Hours**

Prerequisite: CIS 267

W

This course will guide students through the full production cycle of game design and development. Students will work through brainstorming, developing a narrative, designing and creating unique assets, programming, play testing, and presenting a final production-quality game.

## **CONSTRUCTION MANAGEMENT TECHNOLOGY (CONM)**

**100 Introduction to Design and Construction** **3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying score on accepted placement 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 score on accepted placement tests

F

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. Beginning sketching techniques are developed.

**102 Construction Practices** **3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying score on accepted placement tests

W

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 Auto CAD and Residence Drafting** **4 Credit Hours**  
**6 Billable Contact Hours**

Corequisite: CONM 110, unless previously taken;  
 MDTC 160 is highly recommended.

W

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, and sections and details utilizing AutoCAD. AutoCAD standards are implemented to complete a final project of a full set of construction drawings for a complete building, as well as 3-D rendering and data take-off with the use of BIM (Building Information Modeling).

**105 Mechanical Building Systems & Equipment** **4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: CONM 110 or MDTC 101 or MDTC 151 or MDTC 160

W

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

S

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 score on accepted placement tests

W

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

F, S

This course is designed to be an introduction to the use of computer aided design application software (AutoCAD) as it applies to the construction industry. The content covers skills needed to master two-dimensional drawing commands used most often in the development of architectural drawings.

**160 Green Building and LEED Rating System** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

F

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, planet 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 score on accepted placement tests

W

This course studies the processes required to develop a functional site plan, including basic designs of pavements, parking lots layout, storm drainage, public utilities, landscaping consideration and zoning requirements.

**202 Construction Safety** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: RDG 090 or qualifying score on accepted placement tests

F

This course is designed to provide students with an opportunity for an in-depth study of construction safety and the importance of employee safety and health in the construction industry. The code of federal regulations (29 CFR 1926) and MIOSHA construction standards are examined. Emphasis will be placed on the interpretation and application of government regulations.

**240 Construction Planning & Scheduling with Primavera** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: CONM 101 and CONM 110

W

This is a comprehensive course which introduces proper project planning, scope and schedule development. Topics include: activity durations and the methods of determining them, PERT, precedence, linear scheduling, resource allocation development of a work breakdown structure, resource loading, cost loading and resource leveling. The students will identify required activities, resources and costs required to monitor a project throughout the construction process. Students will be required to complete both manual and computerized scheduling assignments. Students will use "Primavera" scheduling software to complete assigned projects.

**242 Construction Documents and Law** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: CONM 240

F

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

W

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

F

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)

**151 Introduction to Criminal Justice** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F, W, S

The course looks at the entire criminal justice system. It includes foundation concepts like justice, law and victimization along with an explanation of crime statistics with their use and source. It then progresses through the main divisions of the system; law enforcement, the courts and corrections. It shows the structure, problems and role of policing in modern society. Then it breaks down the court system and its overall function. Finally, it discusses the corrections system not only as a punitive measure but the other roles in the system.

**156 Fundamentals of Criminal Investigation** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

W

This course looks at the criminal investigation from a practical approach. Students will understand a crime scene and what is "evidence". The students will be exposed to the concepts of physical and testimonial evidence and how they can be brought into court. The basic principles of forensics will be applied to the evidence. The rules of evidence will be discussed to assure a working knowledge of how the crime scene transforms into a court case.

**160 Issues in Criminal Justice Ethics** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F, S

This course looks to develop the ethical decision-making skills that are essential in the field of criminal justice. The course uses current, real-world examples offering comprehensive coverage of ethics across all three arms of the criminal justice system: the police, the courts and corrections. It combines coverage of the philosophical principles and theories that are the foundation of ethical decision-making with the latest challenges and issues that are unique in criminal justice.

**170 Introduction to Corrections** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying scores on accepted placement tests

F

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.

**251 Criminal Law** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F

This course is designed to provide a foundation for criminal law in the United States. Topics include an overview of the system and statutory construction. It discusses the basic components of crimes like mens rea and actus reas. The student uses critical thinking to apply definitions and elements of a crime, determining applicability while considering possible defenses. All basic types of crimes — property, person and public order, will be discussed along with the standard punishments.

**252 Juvenile Delinquency** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on accepted placement tests

F, W, S

This course examines juvenile delinquency and the juvenile justice system in the United States. Students will be exposed to the theories that help understand the development of delinquency within the context of individuals, families and communities. This course will address some of the issues that face the juvenile justice system. Such issues include adolescent brain development, poverty, child maltreatment, substance abuse, mental health, incarceration, peer relationships, evidence-based interventions and the role of ideology in juvenile justice policy. The student will see both the legal and procedural differences between the adult and juvenile justice systems and understand the reasoning for the changes.

**253 Fundamentals of Criminology** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying scores on accepted placement tests

F

This course looks at the theoretical causes of crime and the implications the science has on policy. It covers both classic and contemporary research in criminology with an interdisciplinary perspective of crime and criminality by exploring the latest theories, concepts and research from sociology, psychology, genetics, evolutionary biology and the neurosciences.

**255 Police Organization and Administration** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement test

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 score on accepted placement tests

W

This course is an introduction to modern-day policing in the United States. The course focuses on the day-to-day operations of a police organization with an emphasis on patrol, reports, communications, arrests, officer survival skills, community relationships and jail operations. The course explores both the positive and negative aspects of policing including their role in society and how discretion and ethics play a major role in everyday operations. Complex issues including corruption and use of force will be explored, providing students with a well-rounded and realistic view of police work.

## **CULINARY ARTS AND FOODSERVICE EDUCATION (CAFE)**

**100 Food Sanitation** **1 Credit Hours**  
**1 Billable Contact Hours**

S

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.

**101 Intro to Culinary Arts and Food Service Basic Skills** **3 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite: CAFE 100 or proof of current ServSafe Certification and RDG 090 and MATH 090 or qualifying scores on accepted placement test

F

This course is designed to teach students the fundamentals of food preparation and basic skills used in the foodservice industry. This includes safety skills, modern kitchen tools and equipment, product understanding and identification, cutlery skills, weights and measures, basic recipe understanding, fundamentals of basic cooking principles, laws and rules of professional foodservice, teamwork and understanding commercial kitchen operations.

**102 Food Prep/Cook I, Soups, Stocks Sauces** **3 Credit Hours**  
**5 Billable Contact Hours**  
Prerequisite or concurrent registration in CAFE 101

F

In modern foodservice, a thorough understanding of soups, stocks and sauce production is vital for the successful cook. Through daily lecture and production, students will learn the proper preparation of stocks, reductions, glazes and convenience bases. Roux and other thickening agents are taught with uses in sauce production. Soup classifications are taught and varieties of global soups and sauces are regularly prepared.

**103 Baking 1** **2 Credit Hours**  
**3 Billable Contact Hours**  
Prerequisite or concurrent registration in CAFE 101

F

Students will study and demonstrate, through lecture, demonstration and daily production in the lab, the basic skills used in modern foodservice operations. This includes principles of mixing and baking procedures for quick breads, yeast doughs and flatbreads; weighing and portioning; recipe conversions, and types of ingredients. Understanding the use of quick breads, yeast doughs and flatbreads are the main objective of this course.

**CYBERSECURITY AND INFORMATION ASSURANCE (IAS)**

**103 Information Security Principles** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: 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 the course will provide an introduction to cryptography, intrusion detection systems, data firewalls, malicious software, information operations and warfare, denial of service attacks, regulations, law and governance.

**105 Computing and Social Responsibility** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

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 and CIS 130

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 130, 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.

**DANCE (DANCE)**

**151 Ballet I** **1 Credit Hour**  
**2 Billable Contact Hours**  
 Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement 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 are 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 accepted placement 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: RDG 090 and ENGL 090 or qualifying score on accepted placement 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 score on accepted placement tests

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 score on accepted placement 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 score on accepted placement 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: RDG 090 and ENGL 090 or qualifying score on accepted placement 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: RDG 090 and ENGL 090 or qualifying score on accepted placement 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: RDG 090 and ENGL 090 or qualifying score on accepted placement 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 (with a minimum grade of C)

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 The Care and Learning of Infants & Toddlers** **4 Credit Hours**  
**4 Billable Contact Hours**  
 Prerequisite: ECE 100 and ECE 102 and ECE 104 (with a minimum grade of C)

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 (with a minimum grade of C)

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 The Care and Learning of Preschool Children** 4 Credit Hours  
4 Billable Contact Hours  
Prerequisite: ECE 100 and ECE 102 and ECE 104 (with a minimum grade of C)

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 The Care and Learning of School-Age Children** 4 Credit Hours  
4 Billable Contact Hours  
Prerequisite: ECE 100 and ECE 102 and ECE 104 (with a minimum grade of C)

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 (with a minimum grade of C)

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 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 (with a minimum grade of C)  
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: ENGL 090 and RDG 090 and MATH 090 or qualifying score on accepted placement tests

F, W, S

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 scores on accepted placement tests

F, W, S

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 scores on accepted placement tests

F, W, S

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 score on accepted placement tests

F, W

This course provides an introduction to the field of education for students interested in pursuing a career in the profession. An overview of the foundational and historical context of education in the United States will be explored. Other topics include ethical and legal issues in U.S. education, diverse learners and their individual needs, and creating a community of learners. Michigan standards and requirements for teacher certification will be explored. Students will participate 45 hours in an approved K-12 setting to gain practical insight into the role of a professional teacher. This course fulfills similar pre-student teaching experiences required by universities.

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

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F, W, S

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.

**165 Music for Classroom Teachers 3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying scores on accepted placement tests  
F, W

This course is highly suggested for future elementary teachers but is 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.

**ELECTRONICS AND COMPUTER TECHNOLOGY (ELEC)**

**115 Residential Wiring 1 Credit Hours**  
**2 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying scores on accepted placement tests  
S

Students will learn the proper procedures and skills to handle all aspects of residential house wiring. Circuits covered will start with the Utility meter box all the way through to individual duplex outlets. Breaker panels, add on sub panels, 240 v and 120v circuits, GFCI and AFCI circuits along with CAT5 communication wiring and install techniques will be covered. Proper tool usage and wiring techniques will also be covered.

**125 Fundamentals of Electricity 3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: MATH 090 and RDG 090 or qualifying scores on accepted placement tests and one year high school algebra  
F, W, S

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. Student must have one year of high school algebra.

**129 AC/DC Motors and Controls 4 Credit Hours**  
**6 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 including variable frequency drives, switchgear starting and control circuits and power control with various Thyristor (SCR's and Triac's) devices. It will provide hands-on experience with wiring control circuits, checking the operational characteristics of AC/DC motors and the use/installation of circuit protection devices. Development and application of ladder logic theory, diagrams and circuits will be covered along with basic programmable logic controller (PLC) operation. Basic operation and circuit characteristics of three-phase alternators and transformers will be covered as well as operating principles of DC generators.

**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 higher  
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; 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.

**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 "playerpiano," programmable timing circuits and an autonomous robot.

**141 Industrial Automation & Process Control 3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: ELEC 125  
W

This course covers typical industrial control systems for machine tool processes and materials handling. Included are programmable logic controllers, open-loop and closed-loop 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.

**145 Data Acquisition and Instrumentation 4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: ELEC 125  
Corequisite: 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, and 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. This course also examines the characteristics and limitations of common electronic instruments. Topics covered include safety and lab techniques, op-amp circuits, AC and DC meters, digital multimeters, oscilloscopes, potentiometers and potentiometric bridges, transducers, signal-processing circuits, fiber optics and automatic test equipment.

**156 Introduction to Renewable Energy Systems 3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: RDG 090 and MATH 119 or qualifying score on accepted placement 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 Systems 3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying scores on accepted placement tests

Corequisite: MATH 119 or qualifying score on accepted placement test 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 scores on accepted placement tests

Corequisite: MATH 119 or qualifying score on accepted placement test 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 Troubleshooting 4 Credit Hours**  
**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 Distribution System 3 Credit Hours**  
**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 accepted English placement test must successfully complete ENGL 090, ENGL 151 Accelerated Learning Program (ALP).

**090 Basic Writing Skills, ALP 2 Credit Hours**  
**2 Billable Contact Hours**

Prerequisite: Minimum test competencies in English must be met before registering for this course (This class does not count toward graduation.)

Corequisite: ENGL 151

F, W, S

ENGL 090 is a two-credit hour course designed to assist ENGL 151 students who would have placed into developmental education classes. At the end of this course, each student will be expected to recognize the basic forms of the English sentence and standard punctuation. In addition, the students will be able to identify and write topic sentences, various types of paragraphs and essays. ENGL 090 works in conjunction with ENGL 151 to provide developmental students an opportunity to earn college credit for ENGL 151 while taking two additional hours of instruction designed to help them successfully complete ENGL 151. Successful completion of ENGL 090 in conjunction with successful completion of ENGL 151 will result in students earning ENGL 151 credit.

**102 Business Writing 3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 151 with a grade of C or higher

F, W, S

Students will prepare a resume, business letters and reports, including an oral briefing to prepare for effective communication skills for business careers.

**151 English Composition I 3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

F, W, S

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 with a grade of C or higher

F, W, S

Students will use research strategies to explore topics and write research papers that demonstrate their findings.

**155 Technical Writing** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 151 with a grade of C or higher  
F, W, S

Students will learn to analyze and interpret technical information using the diction and design layout of written technical communication. 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

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 enjoying 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

This is a survey course of major literary works, mainly 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. This course is a satisfier course for the Global Studies Degree Designation.

**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 Literature** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 151  
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

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.

**260 Introduction to Shakespeare** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 151  
W

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. Students will read published works and will compose their own works of creative writing. Each student's work will receive attentive, individual scrutiny by the instructor as well as peers and will be discussed in class and in individual conferences.

**266 Non-Western Literature** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 151  
F

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, China, and Japan. This course is a satisfier course for the Global Studies Degree Designation.

**267 British Literature: Anglo Saxon to 18<sup>th</sup> Century** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 151  
W

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 score on accepted placement 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 accepted placement tests

F, W

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 score on accepted placement tests

F, W

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 score on accepted placement 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.

## **GENDER AND WOMEN'S STUDIES (GWST)**

### **151 Introduction to Gender Studies 3 Credit Hours 3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

Introduction to Gender Studies is an interdisciplinary class that explores gender, sex, and sexuality in light of how they influence and construct perceptions of women and men from varying racial, ethnic, and class backgrounds.

F

## **HEALTH SCIENCES (HLTSC)**

### **110 Medical Terminology 2 Credit Hours 2 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

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 are reviewed with an emphasis on disease conditions and diagnostic tests. This class utilizes a text/workbook, computer assisted instruction, and classroom and/or online instruction.

F, W, S

### **115 Introduction to Health-Care Professions 3 Credit Hours 3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

The purpose of this course is to develop an increased awareness of multiple health care professions. Students will examine the principles of health care, including ethics, patient-centered care, communication, informatics, patient safety and quality improvement in health care. Students will also learn techniques for obtaining a career in health care. Students will complete a Basic Certificate in Quality & Safety through the Institute for Health Care Improvement.

F, W, S

### **120 Pharmacology 3 Credit Hours 3 Billable Contact Hours**

Prerequisite: BIOL 258 or admission to PN program

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.

F, W, S

### **151 Principles of Nutrition & Diet Therapy 3 Credit Hours 3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

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.

F, W, S

### **158 Phlebotomy Basics 6 Credit Hours 8 Billable Contact Hours**

Prerequisite: ENGL 090, RDG 090 and MATH 090 or qualifying scores on accepted placement tests

F, W

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 and physiology as it pertains to phlebotomy, specimen collection, phlebotomy techniques, laboratory tests, processing and transporting laboratory specimens, laboratory mathematics, computer skills, medical terminology, communication skills, and personal wellness. The student must be 18 years old.

### **159 Phlebotomy II 4 Credit Hours 9 Billable Contact Hours**

Prerequisite: HLTSC 158 with a "C" or better

W, S

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, in the theory portion of this course instruction includes: quality assurance and quality control methods; legal, ethical, and professional conduct; procedures in collecting non-blood specimens, and procedures for arterial punctures. There is a computer component on Brightspace 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 score on accepted placement tests

F, W, S

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 3 Credit Hours 3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

F, W, S

This is a course designed to provide college students with the core concepts and practices related to all the common areas of personal health and wellness as well as examining their own health attitudes, beliefs and practices. Personal, local, state and national health problems are examined 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; marriage and family relationships. The critical thinking skills 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: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F, W, S

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 score on accepted placement tests

F, W, S

The purpose of this course 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 be explored. Developmental, cultural, societal and economic factors concerning mental health status will also be discussed.

**165 Karate** **1 Credit Hour**

**2 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

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 score on accepted placement tests

F, S

Course content for physical fitness activities will include: selection 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 score on accepted placement tests

F, S

Course content for physical fitness activities will include: selection 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 score on accepted placement tests

F, W

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 score on accepted placement tests

F, W

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 Kickboxing** **1 Credit Hour**

**2 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

F, W

The purpose of the course is to help the participating student understand the art 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 score on accepted placement tests

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. Student's 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 score on accepted placement tests  
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 score on accepted placement tests  
F, W

Course content for physical education activities will include: selection 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 Hour**  
Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests  
F, W

Course content for physical education activities will include: selection 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 score on accepted placement tests  
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 score on accepted placement tests  
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  
F, W

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 skills 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.

165	Karate	F, W
170	Exercise Walking	F, S
171	Jogging	F, S
173	Aerobics	F, W
174	Tae Kwon Do	F, W
175	Kickboxing	F, W
177	Weight Training	F, W
178	Weight Lifting	F, W
181	Volleyball	F, W
184	Basketball	F, W
185	Snowboarding	W
193	Snow Skiing	W

**200 Level Continuing Courses** **1 Credit Hour**

Prerequisite: appropriate 100-level beginning course

Course content includes a review of what was offered in the corresponding beginning course, along with more advanced skills. A greater emphasis will be on offensive and defensive strategies, with an in-depth evaluation of the individual skills and abilities for individual and team sport activities. For physical fitness and aerobic activities, more emphasis will be placed on individual goals that will challenge students' upper-level skills and abilities. Written and/or skills tests are a part of each course.

Skills require some physical exertion, gross and fine motor coordination, and sufficient intellectual and emotional functions to implement skills and sufficient visual and auditory acuity to communicate needs in the activity. All students must sign a waiver to do activities, and a doctor's permit may be needed.

265	Intermediate Karate	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 score on accepted placement tests

F, S

This course introduces the cultural and institutional development of western civilizations from their 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 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 score on accepted placement 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 score on accepted placement 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 score on accepted placement tests

F, S

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 score on accepted placement tests

W, S

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 score on accepted placement tests

F, S

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 score on accepted placement tests

W, S

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 score on accepted placement tests

W

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 20<sup>th</sup> Century History and Civilization** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement 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 20<sup>th</sup> 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 of international forms of violence. This course is a satisfier course for the Global Studies Degree Designation.

## HUMANITIES (HUMAN)

**151 Introduction to Humanities** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement 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 score on accepted placement 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: RDG 090 and ENGL 090 or qualifying score on accepted placement test

F, W

This course 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 communicating about these vital media. Upon successful completion of this course, students will be able to analyze visual media and their role in shaping the students' world. This course is a satisfier course for the Global Studies Degree Designation when taught by select faculty. See the Global Studies Degree Designation Completion Form for a list of instructors.

**256 Film & American Society: 1920s to Early 1960s** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement test

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. This course is a satisfier course for the Global Studies Degree Designation when taught by select faculty. See the Global Studies Degree Designation Completion Form for a list of instructors.

**257 Film & American Society: 1960s to Present** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement test

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. This course is a satisfier course for the Global Studies Degree Designation when taught by select faculty. See the Global Studies Degree Designation Completion Form for a list of instructors.

## 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.

## JOURNALISM (JOURN)

### 161 Introduction to Journalism 3 Credit Hours 3 Billable Contact Hours

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement 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*, and its website, [www.mcccagora.com](http://www.mcccagora.com).

### 251 Photojournalism 3 Credit Hours 3 Billable Contact Hours

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement 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)

(Formerly Product and Process Technology)

### 102 Manufacturing Processes 4 Credit Hours 6 Billable Contact Hours

Prerequisite: RDG 090 or qualifying score on accepted placement 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

Prerequisite: RDG 090 or qualifying score on accepted placement tests

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, surface grinder, band saws and basic operation of Computer Numerical Controlled (CNC) machines are emphasized in this course. Other topics covered include basic metallurgy of metal cutting and machine tool theory. Appropriate terminology is used and theory and practice of safe work methods will be emphasized.

### 104 CNC II 3 Credit Hours 4 Billable Contact Hours

Prerequisite: MECH 103

W

This course emphasizes use of computer numerical control (CNC) theory and practice as it applies to advanced machining techniques. Lab projects and online professional certification software will be used to determine form, fit, clearance, speeds and feeds, 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 centers and lathes, are practiced and demonstrated by students through appropriate lab assignments. Appropriate theory and practice of safe work methods will be emphasized. This course will cover half of the FANUC CNC Professional Certification.

### 105 CNC III 3 Credit Hours 4 Billable Contact Hours

Prerequisite: MECH 104

F

This course is the third in sequence of CNC programming and the second in related courses that emphasize more advanced G & M code programming concepts. Students will use the same online professional certification software to complete their FANUC CNC Professional Certification at the end of the semester. Students will also edit programs using laboratory computers, send data to machines, and troubleshoot code and work with machine-specific post processors to modify and write code to run on different types of machines. Other activities will include using different media to transfer data to machine tools, use desktop simulators, determine proper machining sequence, plan tool selection, operate machine controls to set up machines and document the setup using process sheets. Projects will include use of the CNC milling centers and lathes. Appropriate theory and practice of safe work methods will be emphasized.

### 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

S

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 score on accepted placement tests

S

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 score on accepted placement tests

S

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

S

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 accepted placement 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 hard wired controls, PLC controls, robot programming and operation through both teach pendants and microcomputers. Basic troubleshooting of automatic controls will be included, with an introduction to fluid power and ladder logic.

**134 Machine Tool Theory 2 Credit Hours**  
**2 Billable Contact Hours**

Prerequisite: MECH 103

S

This course covers advanced machine tool theory with emphasis on lathes and mills. There will be detailed coverage of machine speeds, feeds, cutter materials, dies, tool geometry, heat treat, threads and thread nomenclature. Students are introduced to the field of computer numerical control (CNC) process. Basic diemaking and use of Machinery Handbook is also covered.

**201 CAD/CAM Milling I 3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: MECH 103 and MDTC 160

F, W

This course is an introduction to Computer-Aided Design and Computer-Aided Manufacturing (CAD/CAM) using the latest Mastercam software. Emphasis is on two- and three-dimensional design, tool path generation, and creation of code, using wireframe part geometry. Models will be created to demonstrate surfacing, generating and verifying G & M code relevant to a particular machine post processor. Students will learn all relevant commands to generate part geometry and generate tool path for industry applications. Appropriate theory and practice of safe work methods will be emphasized.

**216 Industrial Plumbing & Pipefitting II 3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: MECH 116

S

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 (Lathe) 3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: MECH 201

F

CAD/CAM Lathe consists of part-oriented tutorials, and practice exercises that provide students with an excellent foundation in Lathe. The material emphasizes the machinability of parts with suggested fixtures, setup sheet and more. CAD/CAM Lathe is ideal for beginners and current Mastercam users. Step-by-step tutorials introduce 2D geometry creation along with detailed coverage of 2D toolpaths such as Face, Rough, Finish, Drilling, Grooving, Grooving on an angle, Inside Boring, Cutoff, Threading, and Canned Cycles for Rough and Finish. Appropriate terminology is used and theory and practice of safe work methods will be emphasized.

**231 CAD/CAM (Milling II) 3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: MECH 201

W

This course will build on the CAD/CAM Milling I course in the program. The course covers the latest Mastercam toolpath generation with two- and three-dimensional mechanical part geometry. Import functions for wireframe, solids and complex surfacing 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 dynamic high-speed machining (HSM). Appropriate terminology is to be used and theory and practice of safe work methods will be emphasized.

**MARKETING COMMUNICATIONS (MCOM)**

**201 Principles of Marketing 3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

F, W, S

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: MATH 090 or qualifying scores on accepted placement tests

F, W

This course presents an introduction to materials used in industry, including iron, steel and nonferrous metals, from the standpoint of their properties and applications. Major topics will include material classification, determination of mechanical and physical properties, metallurgy and heat treatment. Laboratory experience will be gained in mechanical testing, microscopy, heat treatment and materials identification.

### 121 Nuclear Plant Materials 3 Credit Hours 4 Billable Contact Hours

Prerequisite: MATH 090 or qualifying score on accepted placement 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.

### 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)

Effective Winter 2018, there is a 3-year limit on mathematics placement test scores.

Effective Winter 2018, students must achieve a "C" or higher in prerequisite mathematics courses.

Students who score below specified minimums on the accepted math placement test must successfully complete MATH 090 prior to enrolling in a 100-level or higher math course.

### 090 Basic Mathematics Skills 4 Credit Hours 4 Billable Contact Hours

Prerequisite: This class does not count toward graduation.

F, W, S

Basic Mathematics Skills will provide instruction in mathematical operations and their applications, with early introduction to integers and algebraic concepts including solving linear equations and inequalities. This approach provides for students the necessary tools to succeed in developmental math and prepares them for future math courses. The content of the course includes operations with integers, ratio, proportion, percent, area, volume, and introduction to variables, algebraic concepts, and solutions to linear

equations and inequalities. There is an 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. This 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 requirement. Internet access is mandatory.

### 092 Beginning Algebra 4 Credit Hours 4 Billable Contact Hours

Prerequisite: RDG 090 and ENGL 090 and MATH 090 or qualifying scores on accepted placement tests

F, W, S

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 accepted placement tests

F, W, S

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 092 or MATH 119 or qualifying score on accepted placement tests

F, W, S

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: ENGL 090 and RDG 090 and MATH 090 or qualifying score on accepted placement tests

F, W

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 accepted placement tests  
 F, W, S

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 qualifying score on accepted placement tests  
 F, W, S

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 092 or higher or qualifying score on accepted placement tests  
 F, W

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 092 or qualifying scores on accepted placement tests within the last 3 years  
 F

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: A grade of C or better in MATH 151 or qualifying scores on accepted placement tests  
 F, W, S

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: A grade of C or better in MATH 157  
 F, W, S

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.

**162 Introduction to Statistics** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: RDG 090 and ENGL 090 and MATH 124 or MATH 126 or MATH 151 or MATH 157 or MATH 159 or MATH 164 or MATH 171 or above or qualifying scores on accepted placement tests  
 F, W, S

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 utilized.

**164 Precalculus** **4 Credit Hours**  
**4 Billable Contact Hours**  
 Prerequisite: A grade of C or better in MATH 151 or qualifying scores on accepted placement tests  
 F, W, S

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  
 W

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: A grade of C or better in MATH 159 or MATH 164 or qualifying score on accepted placement tests  
 F, W, S

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: A grade of C or better in MATH 171  
F, W, S

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: A grade of C or better in MATH 171  
W

Matrix operations, echelon form, solutions of systems of linear equations, basics of vector spaces, subspaces, and linear transformations: span, linear independence, bases, dimension, matrix representation of linear transformations; determinants; characteristic polynomials, eigenvalues, eigenvectors, Jordan canonical form, inner-product spaces (including orthogonal polynomials); unitary, self-adjoint, and orthogonal matrices, least squares method, discrete Markov processes; bilinear and quadratic forms; introduction to the spectral theorem.

**271 Calculus III** **4 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: A grade of C or better in MATH 172  
F

Topics include vector algebra and functions; analytic geometry of curves (Frenet-Serret equations), planes, surfaces, and solids; functions of several variables and partial derivatives, optimization problems, Lagrange multipliers; curl, divergence, and gradient; line, surface, and volume integrals; vector fields and integration; flux, Green's theorem, Stokes' theorem, and the divergence theorem.

**273 Introduction to Differential Equations** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: A grade of C or better in MATH 172  
W

Topics include: First-order equations, including solution methods, existence, uniqueness and numerical techniques; second order equations, including constant coefficients, reduction of order, Laplace transform, series, variation of parameters and systems of equations (eigenvectors and eigenvalues, fundamental matrix solutions, equilibrium points, qualitative behavior, phase plane diagrams, applications of 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 accepted placement tests  
F, W

This course covers the basic principles essential for interpretation of blueprints and engineering drawings. Fundamental symbols, signs and techniques, as well as size and shape description are emphasized.

**116 Plant Layout and Material Handling** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: MDTC 101 or MDTC 109 or MDTC 151 or MDTC 160 or MDTC 161  
S

This course is an introduction to the practices and procedures for developing optimum plant layouts for production and material handling. Students will follow the process of analyzing and developing information to produce a plant layout. Print reading skills will be developed with an emphasis on reading industrial equipment drawings for equipment installation and movement of materials including conveyers.

**152 Descriptive Geometry** **4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: MDTC 160 or MDTC 151  
W

This course consists of lectures, discussions, and home and classroom drawings. Major topics and applications will include: fundamental theory of the point, line and plane with application to solids, generation and classification of lines and surfaces, tangent planes, sections, intersections, development and applications to engineering problems.

**160 Mechanical Drafting and CAD I** **4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying score on accepted placement tests  
F, W

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 Design (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  
F, W

This course is designed as a continuation of the Mechanical Drafting and CAD I course. Sketching, detail drawings, assembly drawings and working drawings will be taught using both sketching techniques and computer aided design (CAD) software. 3D concepts and solid modeling will also be included in this course.

**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 121 and MDTC 151 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 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 Y14.5M-2009 standard. 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 accepted placement tests

F, W

The Introduction to SOLIDWORKS - CSWA 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

F, 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.

**236 Rapid Prototyping 4 Credit Hours  
6 Billable Contact Hours**

Prerequisite: MDTC 161 and MDTC 228

F

In this course, students will learn about the evolution of digital fabrication with a full overview of the design industry and related technologies. Each hands-on, project-based learning (PBL) exercise will allow students to design and fabricate 3D objects using computer-aided design (CAD) software and 3D printers. They will experience the design process and become familiar with the advantages and limitations of each 3D printing technology in terms of precision, resolution and material capabilities. Students will analyze real industry cases and apply 3D printing technology appropriately while gaining hands-on experience with leading 3D printing technologies employed in design today.

**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.

**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/or 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 and MATH 090 or qualifying scores on accepted placement tests or high school algebra.

F, W

This course introduces the field of engineering technology. Concepts related to the engineering profession are presented, including economics, ethics, research, problem solving, communication and typical engineering problems. A major component of the 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 typical problems that were solved, 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.

**160 Math Applications in Engineering Tech 2 Credit Hours  
3 Billable Contact Hours**

Prerequisite: MATH 164 or MATH 157 and MATH 159

F

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. Topics range from experimental data reduction to numerous examples from mechanical and electrical systems.

**170 Introduction to Parametric CAD/CATIA 3 Credit Hours  
6 Billable Contact Hours**

Prerequisite: MDTC 160 or equivalent CAD experience

W

This is an introductory course for all new users of CATIA V5. Students will gain an understanding of the CATIA V5 interface and how to use CATIA V5 to create solid models of parts, assemblies and drawings. Parts will be managed in the context of an assembly. This is a hands-on course in which students produce simple parts drawings and assemblies.

**172 Computer Aided Design UG/NX 4 Credit Hours  
6 Billable Contact Hours**

Prerequisite: MDTC 121 or MDTC 160 or equivalent

W, S

In this course, students learn concepts in the use of profiles and parametric features as building blocks for 3D solid models using the Unigraphics/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 Machine Design** **4 Credit Hours**  
**6 Billable Contact Hours**  
Prerequisite: METC 220, METC 170 (or equivalent) and METC 160

W

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 164 or MATH 171 or MATH 172 or METC 160 qualifying scores on accepted placement tests

F, W

This course presents fundamental techniques and processes used to determine the forces on members, the stresses developed in such members and the relation of these stresses to potential failure of the member. The focus is on static planar systems of forces and the resulting stresses. Mathematical tools required for the modeling of components under load, computer based implementation, two dimensional force systems, trusses and basic beam deflection are presented.

**234 Thermodynamics and Fluid Sciences** **4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: MATH 124 or MATH 164 or METC 160 or MATH 157 and MATH 159

W

This course presents the fundamental concepts of thermodynamics, heat transfer, and fluid science. The focus is on industrial applications and their basis in the thermodynamic theory and fluid mechanics. Included are heat capacity, heat transfer, phase changes, thermal cycles, efficiency, power generation, refrigeration, fluid flow, and pumping. 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

F, W

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.

## METEOROLOGY (MET)

**511 Introduction to Meteorology and Climate** **4 Credit Hour**  
**5 Billable Contact Hours**

Prerequisite: RDG 090, ENGL 090 and MATH 090 or qualifying scores on accepted placement tests

W, S

This course provides an introduction to atmospheric processes that create daily weather patterns. Students will study topics such as heat and energy, daily and seasonal temperatures, humidity, cloud development and precipitation types, air pressure and winds, development of pressure systems and fronts, weather forecasting and severe weather. Additionally, special emphasis on local weather patterns, climatology and climate change will be discussed.

## MUSIC (MUSIC)

**150 Agora Chorale** **1 Credit Hour**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement 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.

**154 College-Community Symphony Band** **1 Credit Hour**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement 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.

**1611 Applied Music Instrument** **1 Credit Hour**  
**1 Billable Contact Hour**  
Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement 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. 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. Permission 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 accepted placement 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. 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. Permission 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. 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. Permission 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. 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. Permission is required to register. The purpose of this course is to improve the student's ability to perform musically.

**170 Introduction to Music Theory I** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement 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.

**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. 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. Permission 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. 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. Permission 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. 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. Permission 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. 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. Permission 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 accepted placement tests

F, W

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 score on accepted placement tests

F, W

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

**268 Popular Music in America** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F, W

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**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 and MATH 151 or qualifying scores on accepted placement tests

F

This course presents fundamental principles used throughout the nuclear industry as an essential part of daily operations. Focus areas include an introduction to nuclear power plants, human performance enhancement fundamentals, introduction to the systematic approach to training, on-the job training, task performance evaluation, foreign material exclusion overview of a corporate safety manual, the concept of the safety conscience work environment, conservative decision making and Generation IV reactors.

**102 Introduction to Non-Destructive Testing** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F

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 score on accepted placement tests and NUET 102

W

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 score on accepted placement tests and NUET 102

W

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 I** **2 Credit Hours**

**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement 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 II** **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 I** **2 Credit Hours**

**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement 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 II** **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. It 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

F

This course will introduce students to various types of electrical and mechanical drawings commonly used in nuclear power plants. These drawings will be the fundamental tools used to introduce 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, power production systems such as Main Steam and Feedwater, and the electronic systems provide indications and automated plant protection. Students will be challenged to understand many of the design attributes of these systems and to directly relate those attributes using the various system drawings. Certain significant operating experience issues will be introduced and 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 examples of component electrical controls. This course will also introduce 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 220

S

This course is held in cooperation with DTE's Fermi 2 Nuclear Power Plant Training Center. The course consists of 40 hours of training activities held on-site at Fermi 2. Training is conducted by instructors from the Nuclear Training Center. The emphasis is on hands-on maintenance training in the same facilities used by plant personnel. Training takes place over five consecutive days. It includes a tour of the control room simulator and an instrumentation and control walkdown in the plant.

**220 Power Plant Components**

**3 Credit Hours**

**4 Billable Contact Hours**

Prerequisite: NUET 100

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 II 3 Credit Hours****4 Billable Contact Hours**

Prerequisite: NUET 100 and NUET 130

W

This course is a continuation of Nuclear Plant Systems 1. The course will examine chemistry control systems, electrical power generation systems and emergency and backup systems. Systems specific to pressurized water reactors will be introduced. Operating issues will continue to be examined and related to plant systems and drawings. This course will reinforce the practice of using drawings to support the planning of maintenance activities and methods of tagging energy sources to protect personnel during maintenance.

**240 Reactor Theory, Safety and Design 3 Credit Hours****4 Billable Contact Hours**

Prerequisite: NUET 100 and MATL 121 and PHY 151 and CHEM 151

W

This course presents the fundamental concepts of nuclear reactor theory with a primary focus on light water cooled boiling water reactors. Concepts presented will include neutron interactions, nuclear fission, and chain reactions in thermal light water cooled reactors; thermal diffusion and neutron thermalization; criticality and reactivity calculations, reactivity kinetics and feedback mechanisms; fission product daughter production and radionuclide transmutation; reactor safety principles, including emergency core cooling and engineered safety features; design basis accident and core damage mitigation, and case studies.

**NURSING (NURS)****CNA 100 Certified Nurse Aide 6 Credit Hours****10 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

F, W, S

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.

**100 RN Nursing Student Success Course 1 Credit Hour****1 Billable Contact Hour**Prerequisite: Admission to the RN program  
Corequisite: NURS 103

F, W

This optional course is designed to be taken concurrently with the first nursing course, NURS 103, Fundamental Nursing Care, and 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 257  
Corequisite: BIOL 258, 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 Care I 5 Credit Hours****9.5 Billable Contact Hours**

Prerequisite: NURS 103, BIOL 258, ENGL 152

Corequisite: HLTSC 120 (Must be successfully completed prior to or concurrently) NURS 110 unless course already passed.

F, W

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 3.5 Credit Hours****6 Billable Contact Hours**

Prerequisite: NURS 103, BIOL 258, ENGL 152

Corequisite: HLTSC 120 (must be completed prior to or concurrently). NURS 105 unless course already passed.

F, W

This course incorporates a holistic approach in the management of care for patients with mental 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 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 Credit Hours****7 Billable Contact Hours**

Prerequisite: NURS 105, NURS 110, HLTSC 120

Corequisite: NURS 205, NURS 210 unless course(s) already passed.

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. Advanced 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 weekly utilizing the hospital, simulation lab and the campus laboratory.

**205 Pediatric Nursing Care 3.5 Credit Hours****6 Billable Contact Hours**

Prerequisite: NURS 105, NURS 110, HLTSC 120

Corequisite: NURS 204, NURS 210 unless course(s) 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 advanced clinical reasoning and effective communication while implementing the nursing process to provide safe quality care. During this course, clinical content will be applied weekly utilizing the hospital, the outpatient community setting, and the campus laboratory.

**208 Medical Surgical Nursing Care II 8.5 Credit Hours**  
**14 Billable Contact Hours**

Prerequisite: NURS 204, NURS 205, NURS 210

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 weekly utilizing the hospital, community settings and campus laboratory.

**210 Nursing Leadership and Management 3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: NURS 105, NURS 110, HLTSC 120

Corequisite: NURS 204, NURS 205 unless courses already passed.

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 2.5 Credit Hours**  
**7 Billable Contact Hours**

Prerequisite: NURS 208

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 throughout the course.

**ONLINE COURSE ORIENTATION (ONL)**

**001 Online Course Orientation 0 Credit Hour**  
**0 Billable Contact Hour**

F, W, S

Students who have never completed an online course at MCCC are now required to complete an online orientation course (ONL-001). If you do not successfully complete the online orientation course prior to the first day of the semester, you will be de-registered from your online course(s). If you have any questions or need assistance with you ONL-001 course, contact the e-Learning department at 743.384.4328 or online at [elearning@monroeccc.edu](mailto:elearning@monroeccc.edu).

**PHILOSOPHY (PHIL)**

**151 Introduction to Logic 3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying scores on accepted placement 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 Philosophy 3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement 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. This course is a satisfier course for the Global Studies Degree Designation.

**253 Introduction to the Philosophy of Religion 3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement 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.

**254 Introduction to Medical Ethics 3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 151

F, W

This course presents an introductory inquiry into the study and application of philosophical ethics to the practice of medicine. Different moral theories and modes of moral decision-making will be examined and implemented in order to navigate current issues in health care, though no particular moral view will be stressed over another. Topics to be surveyed will include, but are not limited to, paternalism and patient autonomy, confidentiality, abortion, euthanasia, informed consent, conscientious objection, genetic engineering, and justice in health care. This course will include writing assignments.

**PHYSICAL SCIENCE (PHYSC)**

**151 Physical Science 4 Credit Hours**  
**5 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 and MATH 092 or MATH 150 or qualifying scores on accepted placement tests

W

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 qualifying score on accepted placement 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 scores on accepted placement tests. Recommended: MATH 157 and MATH 159 or MATH 164.  
 F, W

This course is a liberal arts course in the fundamental principles of physics. Units include measurement, kinematics, mechanics, rotational motion, fluids, temperature and heat, 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. Development of 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. This course requires laboratory work.

**252 Engineering Physics II** **5 Credit Hours**  
**7 Billable Contact Hours**  
 Prerequisite: PHY 251. MATH 251 and 273 are highly recommended  
 W

This course is a continuation of PHY 251 and is designed to satisfy the requirements of engineering and physics majors. Topics include temperature and heat, electricity and magnetism, electromagnetic waves, optics, quantum, atomic, and nuclear physics. This course requires laboratory work.

## **POLITICAL SCIENCE (POLSC)**

**151 Introduction to Political Science** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests  
 F, W, 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. This course is a satisfier course for the Global Studies Degree Designation when taught by select faculty. See the Global Studies Degree Designation Completion Form for a list of instructors.

**158 Introduction to Political Theory** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement tests  
 F, W

This course surveys the great western political thinkers and their ideas regarding justice. From Plato's Republic to Rawl's Theory of Justice, this course traces the development of western political thought from Ancient Greece to contemporary America. Students will learn how contemporary ideas regarding justice developed from ancient societies, how these ideas influenced historical change and the diverse cultural background of these ideas (e.g. Ancient Greek, Italian, French, British and American). Students will also learn how to reflect critically on these complex ideas, relating them to contemporary political issues, engaging in a normative critique of contemporary political and social institutions, and expressing these reflections through both oral and written communication. This course is a satisfier course for the Global Studies Degree Designation.

**211 Introduction to Comparative Politics** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: POLSC 151  
 F, S

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, including types of organizations, their structures, functions, and activities. Students will explore and evaluate the everyday activities of local government units as well as special problems in local politics and policy development. Consideration is given to intergovernmental relations between the various local levels of government and the federal government.

**252 International Relations** **3 Credit Hours**  
**3 Billable Contact Hours**  
 Prerequisite: POLSC 151 or HIST 154 or HIST 155  
 W

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.

## PN TO RN PROGRAM OPTION (PNRN)

### 100 LPN Transition to RN Practice 3 Credit Hours 4 Billable Contact Hours

Prerequisite: Acceptance into the PN to RN program. ENGL 151, PSYCH 151, BIOL 257, BIOL 258  
Corequisite: ENGL 152 or HLTSC 120: In order to complete the program according to the plan of study, students will need to have one of these courses completed prior to beginning the first LPN to RN course. The remaining course must be completed during the spring semester concurrent with PNRN 100.

S

This course will advance the Licensed Practical Nurse into the Registered Nurse role. Building upon the foundation of the LPN certification, the course incorporates a holistic approach in the management of care for the adult patient while supporting the student's professional development and transition into the practice of registered nursing. Expanding nursing judgment, integral to the nursing process, will be emphasized as a means of facilitating care of the adult patient. Special focus will be placed on exploring the role of the professional registered nurse in providing safe quality care within a multidisciplinary health care team. During this course, clinical content will be applied utilizing case scenarios, a Community Aging Project, and the campus laboratory.

### 110 Mental Health Nursing Care for the LPN 3.5 Credit Hours 6 Billable Contact Hours

Prerequisite: PNRN 100, ENGL 152, HLTSC 120

S

This course incorporates a holistic approach in the management of care for patients with mental health problems while supporting the student's professional development. The student will use the foundation of the LPN certification. Nursing judgment and effective communication will be advanced utilizing the nursing process in providing safe quality care for patients with mental health needs. Students will focus on legal and ethical considerations including end of life, advanced directives, and informed consent in addition to mental health concepts. Students will investigate the psychosocial roles of patients and the effects of mental illness on these roles while applying their newly acquired knowledge of the RN scope of practice in the classroom, laboratory, and clinical settings. Clinical will be held weekly in the acute psychiatric care setting, select community settings, and campus laboratory.

## 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: ENGL 151, PSYCH 151, BIOL 257, MATH 092 or qualifying score on accepted placement tests, and Admission to Practical Nursing Program  
Corequisite: HLTSC 120, BIOL 258 must be successfully completed prior to or concurrently

W

This course is the foundation from which other nursing courses build and expand. The focus of the course is on meeting the needs of patients experiencing a change in health status and the provision of basic nursing care. Nursing theory and the program's philosophy

are introduced. Students are introduced to the nursing process as a basis for planning and implementing care of the adult patient. Special focus is placed on the diverse needs of the older adult. Instruction is provided in the classroom, nursing skills lab, and clinical settings.

### 123 Mental Health Concepts for Practical Nursing 2 Credit Hours 2 Billable Contact Hours

Prerequisite: PNUR 121, HLTSC 120, BIOL 258  
Corequisite: PNUR 124 and PNUR 130 (Must be successfully completed prior to or concurrently)

S

This 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 patients with various psychiatric and behavioral disorders, and maladaptive behaviors. The course discusses the application of psychological theories and therapeutic approaches in assisting patients to develop healthy coping mechanisms for managing various mental health needs. Treatment modalities and psychotherapeutic medications are discussed. Instruction will be provided in the classroom and the online environment. Students will apply mental health principles and concepts to the general patient population in all settings.

### 124 Practical Nursing Care of Adults I 6 Credit Hours 11 Billable Contact Hours

Prerequisite: PNUR 121, HLTSC 120, BIOL 258  
Corequisite: PNUR 123 (Must be successfully completed prior to or concurrently)

S

The course builds on previously learned concepts and focuses on the use of clinical problem-solving skills and the nursing process. The goal is to assist adults with common medical-surgical problems and select acute and chronic disorders in meeting health care needs. Instruction is provided in the classroom, nursing skills lab, and clinical settings.

### 127 Practical Nursing Care of Adults II 5 Credit Hours 9 Billable Contact Hours

Prerequisite: PNUR 130  
Corequisite: PNUR 128 (Must be successfully completed prior to or concurrently)

F

The course builds on previously learned concepts and focuses on the use of clinical problem-solving skills and the nursing process. The goal is to assist adults with more complex medical-surgical problems and select acute and chronic disorders in meeting health care needs. Instruction is provided in the classroom, nursing skills lab, and clinical settings.

### 128 Issues in Practical Nursing 2 Credit Hours 2 Billable Contact Hours

Prerequisite: PNUR 130  
Corequisite: PNUR 127 (Must be successfully completed prior to or concurrently)

F

This course will focus on issues related to practice of the licensed practical nurse, such as legal and ethical practice issues requiring clinical judgment, 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 capstone course focuses on the leadership role of the licensed practical nurse in managing care of multiple patients in the clinical setting. The major units discussed include the LPN role as manager of patient care and as manager of staff in extended care. Students are assigned a licensed nurse preceptor in the clinical setting with nursing faculty oversight. Students work collaboratively with preceptors to assume increased responsibility for multiple patients and the supervision of certified nursing assistants. The course prepares the student for beginning practice in the LPN leadership role upon program completion. Instruction is provided in the classroom, nursing skills lab, and clinical settings.

**130 Maternal and Child Care for the Practical Nurse** 4 Credit Hours  
6.5 Billable Contact Hours

Prerequisite: PNUR 124

Corequisite: PNUR 123 (must be successfully completed prior to or concurrently)

S

This course will explore the diverse nursing care of the maternal patient with a focus on common childbearing complications and the newborn. Students will also examine common pediatric diseases and conditions. Students will learn to apply growth and development concepts to the care of childbearing patients, pediatric patients, and their families. Health promotion and maintenance for both the child and family will be addressed. Adapting previously learned nursing care to the newborn, child, and family will be emphasized. Instruction is provided in the classroom, nursing skills lab, and clinical setting.

**PSYCHOLOGY (PSYCH)**

**151 General Psychology** 3 Credit Hours  
3 Billable Contact Hours

Prerequisite: ENGL 090, RDG 090, and MATH 090 or higher or qualifying scores on accepted placement tests

F, W, S

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

F, W

This course is an introduction to applying psychology to the individual, an exploration of our experiences in the contexts of life's changes and challenges. Students will be exposed to scientific theories and research in personality and adjustment psychology. We will use personality, stress, psychopathology, and other psychology perspectives in our examination of personal adjustment. The course's scope includes a wide variety of contexts, including: psychological and physical health, personal relationships, education, work/career, and community. The course provides opportunities for scholarship as well as personal reflection and growth.

**251 Child Psychology** 3 Credit Hours  
3 Billable Contact Hours

Prerequisite: PSYCH 151

F, W, S

This course is an exploration of child development from conception through adolescence. Students will be exposed to scientific theories and research related to the relevant domains of child development including physical, cognitive, social, intellectual, perceptual, personality and emotional growth. As we examine how children develop over time, we will simultaneously explore and reflect upon the complexity and uniqueness of each child and each child's experiences as well as commonalities and patterns among children. The course provides opportunities for scholarship as well as personal and professional reflection and growth.

**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, and helping behavior, including experiences, applications, and studies of these in the U.S. and around the world. In this course, students will examine the theories and research in social psychology as both scientists and as members of our own social groups. This course is a satisfier course for the Global Studies Degree Designation.

**254 Life Span Psychology** 3 Credit Hours  
3 Billable Contact Hours

Prerequisite: PSYCH 151

F, W, S

This course is an exploration of human development across the life span from conception until death. Students will be exposed to scientific theories and research of the relevant domains of human development including physical, cognitive, social, intellectual, perceptual, personality and emotional growth. As we examine how humans develop over time, we will simultaneously explore and reflect upon the complexity and uniqueness of each person and each person's experiences as well as commonalities and patterns among people. The course provides opportunities for scholarship as well as personal reflection and growth.

**257 Psychology of Human Sexuality** 3 Credit Hours  
3 Billable Contact Hours

Prerequisite: PSYCH 151

W

This course offers a survey of psychological perspectives on the interdisciplinary field of human sexuality. Concepts examined in this course include sexual response, sex, gender, sexual orientation, sexual behavior, attractions, communication, and sexual health. The foundation for inquiries into these topics is empirical research.

**258 Abnormal Psychology** 3 Credit Hours  
3 Billable Contact Hours

Prerequisite: PSYCH 151

F

This course offers an overview of the psychological study of abnormal behavior and psychopathology. Concepts examined in this course will include the biopsychosocial etiology, prognosis and treatment of the major categories of psychological and behavioral health issues. Empirical research and clinical case studies will serve as the foundation for understanding course content.

## QUALITY SYSTEMS TECHNOLOGY (QSTC)

### 105 Fundamentals of Gauging and Basic SPC 2 Credit Hour 3 Billable Contact Hour

Prerequisite: MATH 090 and RDG 090 or qualifying scores on accepted placement tests

This course is an introduction to basic measurement techniques and a tutorial on use and calibration of basic dimensional measuring and test equipment; for example, inside and outside micrometers, calipers, gage blocks, dial indicators, depth micrometers, height gages, surface plates, snap gages, and some other dimensional measurement devices. This course includes an overview of metrology in general with a description of its impact on society and our lives in general. Also, this course will provide a basic understanding of fundamental measurement theory, and statistical process control (SPC) application and theory; this includes SPC topics such as, run charts, control charts, a focus on continuous improvement, and the design of experiments.

### 115 Statistical Process Control 3 Credit Hours 3 Billable Contact Hours

Prerequisite: MATH 119. MATH 124 or MATH 151 or higher highly recommended

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 design of experiments (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 accepted placement 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: MATH 090 and RDG 090 or qualifying scores on accepted placement tests. MATH 119 highly recommended

This course is an introduction to the fundamentals of dimensional measurement, production gages and gaging techniques. Interpretation of geometric tolerances will also be covered, with respect for their implications for inspection. Measurement techniques will emphasize proper use of and setup of equipment including hand tools, gage blocks, sine bars and sine plates, surface plates and accessories, analog and digital measuring devices, surface profilometers, precision levels, optical comparator, measuring microscope, protractors, pneumatic gages, coordinate measuring machines and articulating arm portable measuring systems. It also provides a basic understanding of various metrology terms and concepts.

### 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 and use of Articulating Arm operation using point cloud software, and laser scanning inspections of parts.

### 220 Calibration and Gage R&R 3 Credit Hours 4 Billable Contact Hours

Prerequisite: MATH 090 and RDG 090 or qualifying scores on accepted placement tests. QSTC 150 or consent of instructor

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 calibration 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, ISO 9001, ISO 9002, ISO 9003, QS9000 (including the TE supplement), TS16949, ISO IEC 17025, NCSL/ISO Z 540.3, 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)

This is a basic reading course emphasizing essential skills for building literal and critical comprehension proficiency. A placement 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 placement 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: Admission into the Respiratory Therapy program. Corequisite: RTH 102A, RTH 104 and BIOL 258

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, basic patient assessment skills, medical gas and aerosol administration, equipment processing, employee/patient safety, pulmonary medications, microbiology concepts and an orientation to clinical sites.

**102A Pharmacology for Respiratory Therapists I** **2 Credit Hours**  
**2 Billable Contact Hours**

Prerequisite: Admission into the Respiratory Therapy Program  
Corequisite: RTH 100, RTH 104 & BIOL 258 (must be successfully completed prior to or concurrently)

F

This course provides an overview of general pharmacology principles and various drug knowledge such as bronchodilators and anti-inflammatory agents. Emphasis will be made on drugs used in management of cardiopulmonary conditions as well as a thorough treatment of drugs administered directly by respiratory therapists.

**102B Pharmacology for Respiratory Therapists II** **1 Credit Hours**  
**1 Billable Contact Hours**

Prerequisite: RTH 100, RTH 104, RTH 102A and BIOL 258  
Corequisite: RTH 110, RTH 111, RTH 116

F

This course provides an overview of general pharmacology principles and various drug categories that surround the care of advanced 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.

**104 Cardiopulmonary Assessment** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: Acceptance into the Respiratory Therapy program.  
Corequisite: RTH 100, RTH 102A, BIOL 258

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 102A, RTH 104, BIOL 258  
Corequisite: RTH 102B, RTH 111, 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: BIOL 258, RTH 100, RTH 102A, RTH 104  
Corequisite: RTH 102B, RTH 110, RTH 116

W

This course provides a hospital experience in which classroom theory and laboratory skills can be exercised on hospital patients. Skills include accurate electronic medical record charting, patient respiratory assessment, oxygen therapy, a wide range of bronchial hygiene therapies, bedside diagnostic therapies, ECGs, arterial blood gases and equipment processing. Weekly discussion seminars on campus will facilitate student learning.

**116 Cardiopulmonary Pathophysiology** **4 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: BIOL 258, RTH 100, RTH 102A, RTH 104  
Corequisite: RTH 102B, RTH 110, 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** **4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: RTH 102B, RTH 110, RTH 111, RTH 116  
Corequisite: RTH 121

S

Mechanical ventilation topics are continued in this classroom and laboratory course. Topics include various ventilation brands of ventilators and their modes, cycling mechanisms, alarms and features. In addition, adjustments needed for adult patients with oxygenation, ventilation and acid-base pulmonary management challenges will be presented.

**121 Respiratory Care Clinical Practice II** **2 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: RTH 102B, RTH 110, RTH 111, RTH 116  
Corequisite: RTH 120

S

This clinical course provides a transition experience from basic respiratory care to intermediate care in the intensive care unit. Skills and techniques learned in RTH 111 will be continued and students will begin entry-level pulmonary management for general patients on mechanical ventilation. This will include airway care, initiation, assessment, management and liberation from mechanical ventilation. Weekly seminars on campus will facilitate student learning.

**211 Respiratory Care Clinical Practice III** **4.5 Credit Hours**  
**14 Billable Contact Hours**

Prerequisite: RTH 120, RTH 121  
Corequisite: RTH 212, RTH 214 and RTH 216

F

This clinical course allows students to expand experiences with the pulmonary management of adult patients on mechanical ventilation. Rotations will be at multi-intensive care unit medical centers in the Detroit, Ann Arbor and Toledo areas. Students will care for critically ill patients under the supervision of clinical instructors and preceptors. Emphasis includes patient assessment, adjustments to settings, and developing a rapid response to changing conditions of a wide variety of diseases and conditions. Weekly seminars on campus will facilitate student learning.

**212 Advanced Cardiopulmonary Anatomy & Physiology** **4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: RTH 120, RTH 121  
Corequisite: RTH 211, RTH 214 and RTH 216

F

This course advances the student's knowledge of cardiopulmonary anatomy and 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** **3 Credit Hours**  
**4 Billable Contact Hours**

Prerequisite: RTH 120, RTH 121  
Corequisite: RTH 211, RTH 212 and RTH 216

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 advanced concepts in ventilation techniques and management of the adult patient in a variety of specialty intensive care units. Laboratory topics will cover important skills involved with Advanced Cardiac Life Support, ventilation modes, arterial lines, chest tubes and other technical skills needed by a registered respiratory therapist.

**216 Neonatal/Pediatric Management 2 Credit Hours  
2 Billable Contact Hours**

Prerequisite: RTH 120, RTH 121  
Corequisite: RTH 211, RTH 212 and RTH 214

F

This classroom and lab course covers topics including fetal growth and development, cardiopulmonary birth defects, patient assessment, clinical management of neonatal and pediatric diseases/conditions, and commonly encountered equipment and ventilators in neonatal and pediatric intensive care units. Laboratory topics will include Neonatal Resuscitation Program concepts, ventilation modes, oscillators, hyperinflation technologies, airway care and other skills associated with this specialty patient population.

**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 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 2 Credit Hours  
3 Billable Contact Hours**

Prerequisite: RTH 211, RTH 212, RTH 216  
Corequisite: RTH 221, RTH 222

W

This course covers a variety of advanced outpatient and inpatient diagnostic and clinical practice guideline topics as a companion course to RTH 221, including pulmonary function, exercise, sleep-disordered breathing testing protocols, asthma and COPD management clinical practice guidelines, organ and tissue donor management protocols, mass casualty emergency preparedness procedures and smoking cessation counseling training.

**SOCIAL WORK (SWK)**

**106 Child Welfare 3 Credit Hours  
3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F, W

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 score on accepted placement tests

F, W

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**

F, W

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**

F, W

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**

F, W

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**

F, W

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: ENGL 090 and RDG 090 or qualifying score on accepted placement tests

F, W, S

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 accepted placement 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.

**160 Social Gerontology** **3 Credit Hours**

**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement tests

F

This course focuses on the aged as a social subculture of the United States. The course addresses the change of social roles and status of the aged in relation to family and social institutions while addressing public policy issues of an aging population. Special attention will be given to world cultures, 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 score on accepted placement 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

F, 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.

**253 Race and Ethnicity** **3 Credit Hours**

**3 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying scores on accepted placement tests

F

This course is an introduction to the sociological study of race and ethnicity. Students will be exposed to the historical and contemporary factors contributing to the social construction of these phenomena. Besides identity and group formation, this course explores how race and ethnicity have consistently played a role in social and institutional discrimination-including in the areas of economics, education, health, incarceration, and politics. Course content has been selected to help students see the impact of race and ethnicity on socioeconomic standing in contemporary American society. Emphasis will also be placed on racial and ethnic relations in Europe and the Global South. This course is a satisfier course for the Global Studies Degree Designation.

**SPANISH (SPAN)**

**151 Elementary Spanish I** **4 Credit Hours**

**4 Billable Contact Hours**

Prerequisite: RDG 090 and ENGL 090 or qualifying score on accepted placement 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 score on accepted placement tests

F, W, S

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 knowledge of learning and using nonverbal communication in interpersonal relations.

**THEATER (THEA)**

**151 Introduction to Theater** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: ENGL 090 and RDG 090 or qualifying score on accepted placement 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. This course is a satisfier course for the Global Studies Degree Designation.

**152 Directing/Production Techniques** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: THEA 151

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.

**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 score on accepted placement 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**

Prerequisite: RDG 090 or qualifying score on accepted placement tests

F, W, SU

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. The student will learn welding vocabulary, welding theory, safe handling practices and set-up of all related welding equipment. Students will weld using each process on carbon steel. Welding/Cutting processes covered (including laboratory applications) include: Oxy-Fuel Cutting (OFC), Plasma Arc Cutting (PAC), Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW), and Gas Metal Arc Welding (GMAW).

**101A Introduction to GMAW** **2 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying score on accepted placement 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 score on accepted placement 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

Advanced Shielded Metal Arc Welding (SMAW) concentrates on safe welding and thermal cutting practices associated with SMAW. Students will follow procedures to deposit sound welding techniques in the horizontal, vertical up and overhead positions using E6010 and E7018 electrodes. The student will also follow procedures to deposit sound welding techniques in the vertical pipe fillet (5F) position using E6010 and E7018 electrodes.

**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: MATH 090, RDG 090 and WELD 100

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 nondestructive 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 metallurgical aspects of the welding of common engineering metals such as plain carbon, alloy and stainless steels, aluminum and cast irons. The selection of filler metals, transfer and recovery of alloying elements and the design of preheating and post heating cycles are also emphasized. Incidences of defects such as cracking and porosity and factors affecting these will also be discussed.

**106 Basic Pipe Welding** **6 Credit Hours**  
**8 Billable Contact Hours**

Prerequisite: WELD 100 and WELD 102

F, W

Basic Pipe Welding includes horizontal (2G), vertical (3G), overhead (4G) plate welding positions as well as horizontal (2G), vertical fixed (5G), and 45° fixed all position (6G) pipe welding on standard pipe diameters and thicknesses. Emphasis is placed on preparation, fit-up, code making organizations, welding standards, destructive testing and non-destructive testing (NDT) for both plate and pipe.

**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.

**109 Basic Welding Fabrication** **4 Credit Hours**  
**6 Billable Contact Hours**

Prerequisite: RDG 090 and MATH 090 or qualifying score on accepted placement test

F, W, S

Basic Welding Fabrication will introduce students to CNC Plasma Cutting, layout theory, tube bending and notching, and basic fabricating techniques. Students will construct projects using blueprints, material lists, cut lists and written procedures. Additional topics to include: AutoCAD, welding safety, welding techniques, machine and equipment use, general lab safety, project design and fabrication and project planning. Other equipment operations will include but are not limited to: HBS, VBS, Shear, Iron Worker, punching and notching, drill press, metal brake, PAC, CNCPAC, GMAW, GTAW, OFC, and various hand and power tools. Students will be able to retain their projects fabricated in class upon completion of class.

**110 Welding Symbols and Blueprint Reading** **2 Credit Hours**  
**2 Billable Contact Hours**

Prerequisite: RDG 090 or qualifying score on accepted placement tests

F, W

WELD 110 is designed to introduce the basic concepts of blueprint reading and welding symbols. The course also covers the basic features of a blueprint such as lines, views, dimensioning, and welding and NDT symbols. The blueprint reading will be supplemented by construction exercises using foam and plastic components.

**114 GMAW and GTAW Applications** **6 Credit Hours**  
**8 Billable Contact Hours**

Prerequisite: WELD 100

F, W

GMAW and GTAW Applications is designed to develop the skill levels of welders and introduce FCAW-G. Transfer modes are explained and applied to class objectives. 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**

Prerequisite: RDG 090 or qualifying score on accepted placement test

F, W, S

This course is designed to meet or exceed the skill and knowledge requirements for the welding and cutting processes established by the American Welding Society for the qualification of QC10 Level I Entry Level Welder certification. AWS reference document EG2.0-2017 mandates requirements of this course. Additional welding exercises are included to assure each participant the greatest possible opportunity to successfully complete all performance qualifications tests for the AWS Level I Certification. WELD 115 is an introduction to various welding processes and procedures with emphasis on developing safe work habits in a lab/shop environment. Topics may include: machine functions, filler metal chemistry, blueprint and welding symbol interpretation, basic fabrication techniques, and code and procedure requirements for a variety of industrial needs. Welding/cutting processes covered with laboratory applications include: OFC, PAC, CAC-A, CNC-PAC, SMAW, GTAW, FCAW and GMAW. Welder performance qualification tests must meet AWS QC10 standards in addition to passing written examinations to receive each process certification.

**215 Advanced Level Welding** **12 Credit Hours**  
**16.67 Billable Contact Hours**

Prerequisite: WELD 115

F, W, S

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

S

Basic Pipefitting 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/** **4 Credit Hours**  
**Certification-Entry Level** **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-** **4 Credit Hours**  
**Advanced Level** **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 accepted placement tests and ADMN 102 or 131 or equivalent keyboarding skills

F, W

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, customizing, printing and merging a variety of documents.

**103 Advanced Word Processing** **3 Credit Hours**  
**3 Billable Contact Hours**

Prerequisite: WPR 102

W

Advanced Word Processing develops proficiency in the advanced word processing functions of a word processing software. Advanced features of the software will be exercised as student determines how to complete rough drafts accurately, efficiently, and professionally. Critical soft skills are introduced, examined, and developed through realistic case scenarios using portfolio projects.

# ADMINISTRATORS

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## **MISSION:**

Monroe County Community College enriches lives in our community by providing opportunity through student-focused, affordable, quality higher education and other learning experiences.

## **VISION:**

Monroe County Community College will be recognized for our student-focused service, academic excellence, affordability, innovation, community responsiveness and student success.



# MONROE COUNTY COMMUNITY COLLEGE

e n r i c h i n g   l i v e s

Monroe County Community College  
is accredited by the  
Higher Learning Commission.

[www.hlcommission.org](http://www.hlcommission.org)  
(800) 621-7440

Monroe County Community College is accredited by the Higher Learning Commission, [www.hlcommission.org](http://www.hlcommission.org), 800.621.7440.

Monroe County Community College is an equal opportunity institution and adheres to a policy that no qualified person shall be discriminated against because of race, color, religion, national origin or ancestry, age, gender, marital status, disability, genetic information, sexual orientation, gender identity/expression, height, weight or veteran's status in any program or activity for which it is responsible. If you have a disability and need special accommodations, please contact the Student Success Center (734.384.4167) at least 10 business days prior to the first class session to begin the accommodation process.

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, 734.384.4245.

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