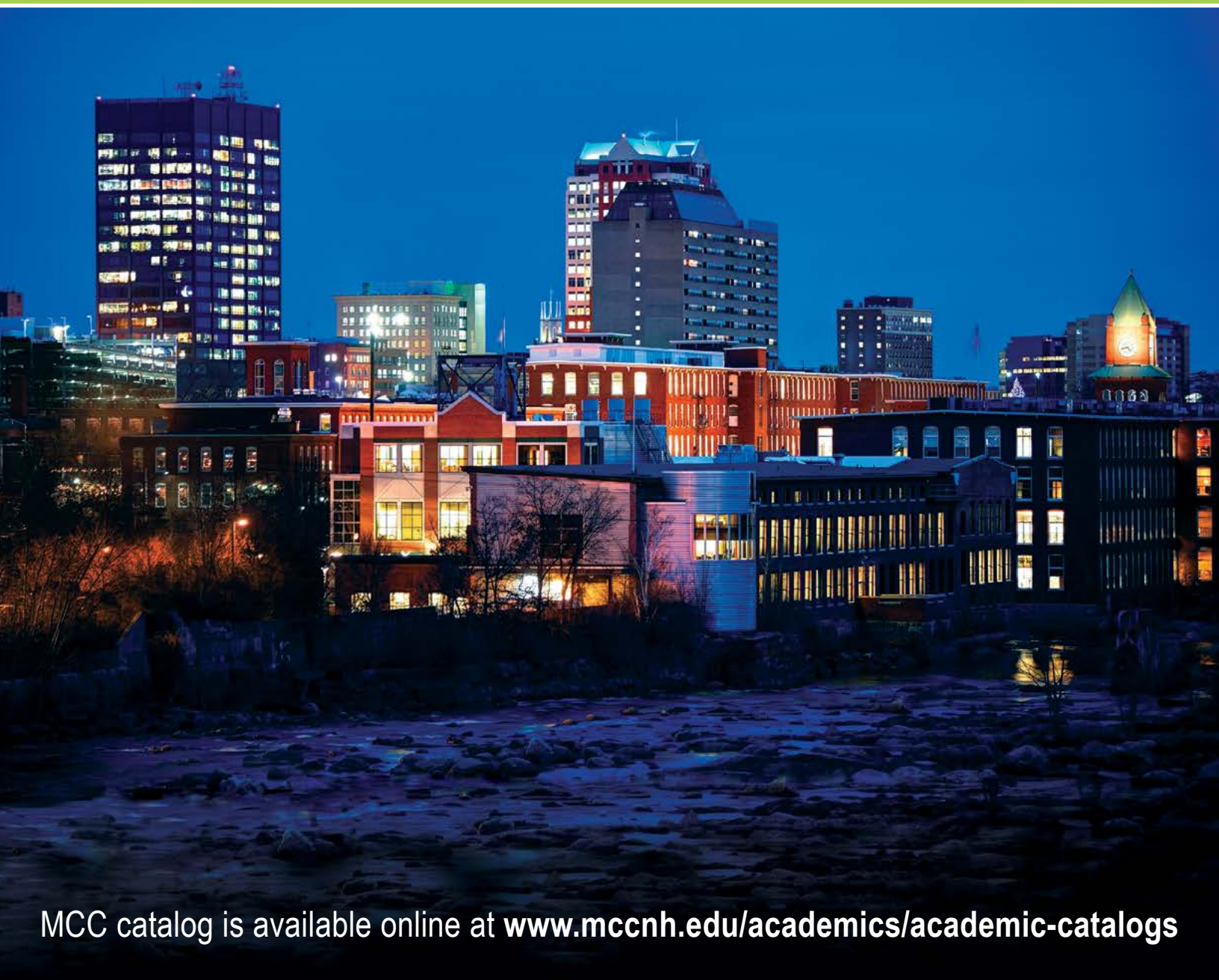
MANCHESTER
COMMUNITY COLLEGE

2016-2017 Academic Catalog



MCC catalog is available online at **www.mccnh.edu/academics/academic-catalogs**

2016-2017

MANCHESTER
COMMUNITY COLLEGE



ACADEMIC CATALOG

Address:

1066 Front Street, Manchester, NH 03102-8518

(603) 206-8000 or 1-800-924-3445 (NH only)

Fax Line: (603) 668-5354

Registrar's Fax Line: (603) 206-8287

TDD/Voice: Relay New Hampshire 1-800-735-2964

Campus Directions:

The campus is located at 1066 Front Street, Rt 3A, which is 200 yards from exit 7, Interstate 293 North (Route 3). Or take Exit 10 from Interstate 93 North or South. At the end of the exit ramp, take a left at the stop lights and continue for approximately two miles. The college driveway is on the right. Be prepared to take a sharp right turn. From Interstate 293 South, take Exit 6, Amoskeag Bridge. Take a right at the end of the exit ramp. Go back over the highway, bear left and follow the signs to get back onto Interstate 293 North. Then get off at the first exit, which is Exit 7.

Disclaimer:

Manchester Community College provides this catalog for your general guidance. The College does not guarantee that the information contained within this catalog or website, including, but not limited to, the contents of any page that resides under the Domain Name System (DNS) registration of www.mccnh.edu is up-to-date, complete and accurate, and individuals assume any risks associated with relying upon information without checking other credible sources, such as a student's academic advisor. In addition, a student's or prospective student's reliance upon information contained on the College's website, or within catalogs or handbooks, when making academic decisions does not constitute, and should not be construed as, a contract with the College. Further, the College reserves the right to make changes to any provision or requirement within these sources, as well as changes to any curriculum or program, whether during a student's enrollment or otherwise.

The MCC catalog is available online at
www.mccnh.edu/academics/academic-catalogs

WELCOME TO MANCHESTER COMMUNITY COLLEGE!



For the second year in a row, the Center for Digital Education ranked MCC on the top-10 list for our use of digital technology. The college may be 70-years-old, but we fully embrace technology and how it supports the learning process – from online course offerings and cloud-based information sharing to classroom tools.

Given that many MCC students balance work and family along with school, we know it's essential that you're connected to information you need in a way that is streamlined and simple. Technology helps support our mission, to be "a dynamic, student-centered, and accessible community college that promotes and fosters the intellectual, cultural, and economic vibrancy of our region."

I hope you will become fully engaged in both our online and on-campus community while you're here. More than 30 student clubs and organizations await your active participation. Information is on our website at www.mccnh.edu/student-life/clubs or you can stop by a club fair at the beginning of the semester.

Please be sure to follow us on facebook, Instagram and twitter.

Thank you for choosing Manchester Community College to pursue your higher education. Whether you're joining us to begin your educational journey toward transfer to a four-year college, working toward a career change or enrolled in a certificate program, welcome! I look forward to meeting you.

Cordially,

Dr. Susan Huard, President
Manchester Community College

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ABOUT MANCHESTER COMMUNITY COLLEGE

MCC Mission Statement
We are a dynamic, student-centered, and accessible community college that promotes and fosters the intellectual, cultural, and economic vibrancy of our region.

Vision Statement
Our vision is to be a college that empowers our students and inspires their success through innovative education.

Core Values Statement
We firmly believe that certain fundamental values characterize who we are and guide us in the accomplishment of our mission and goals. As a college community we value:
Student and Community Success, Lifelong Learning, Community Service, Scholarship, Open, Honest and Respectful Communication and Behavior

Code of Ethics
Our college decisions, policies, actions and procedures are based on the following ethical principles: Responsibility, Mutual Respect, Fairness, Integrity and Honesty.

Diversity Statement
Recognizing the inherent value and dignity of each person, MCC is committed to valuing, promoting and supporting diversity within the college and the community it serves.

Manchester Community College History
Since 1945, Manchester Community College has been the choice for thousands of students seeking a better life for themselves and their families. Originally named the State Trade School at Manchester, the school was founded to provide technical career training to returning World War II soldiers, sailors and airmen. Now, after several names and in its third location, it has evolved to Manchester Community College, the second largest of the seven colleges in the Community College System of New Hampshire.

Located on 57 acres near the banks of the Merrimack River, north of the city center, MCC offers classes and programs in three major connected buildings, including a new Student Center and a separate Automotive Training Center. As part of New Hampshire's largest city, MCC is actively engaged in community outreach and plays an integral role in the increasing ethnic and cultural diversity of the area.

MCC enrolls about 3,500 students per semester from more than 50 countries, preparing them to transfer to four-year colleges to complete their bachelor degrees, or to go directly into the workforce with the skills they need to be successful in their chosen careers. Students choose from more than 50 degree and certificate programs as well as workshops and professional development programs on the campus; dozens of courses are also offered online.

STATEMENTS OF LEGAL COMPLIANCE

Non-Discrimination Policy
Manchester Community College does not discriminate in the administration of its admissions and educational programs, activities, or employment practices on the basis of race, color, religion, national origin, age, sex, disability, veteran status, sexual orientation, or marital status. This statement is a reflection of the mission of the Community College System of New Hampshire and Manchester Community College and refers, but is not limited, to the provisions of the following laws:

1. Title VI and VII of the Civil Rights Act of 1964
2. The Age Discrimination Act of 1967 (ADEA)
3. Title IX of the Education Amendment of 1972
4. Section 504 of the Rehabilitation Act of 1973
5. The Americans with Disabilities Act of 1990 (ADA)
6. Section 402 of the Vietnam Era Veteran's Readjustment Assistance Act of 1974
7. NH Law Against Discrimination (RSA 354-A)

Inquiries regarding discrimination may be directed to the Vice President of Students and Community Development (603) 206-8005, Manchester Community College, at (603) 206-8000; to Sara A. Sawyer, Director of Human Resources for the Community College System of New Hampshire, 26 College Drive, Concord, NH 03301, (603) 271-6300. Inquiries may also be directed to the U.S. Department of Education, Office of Civil Rights, J.W. McCormack Post Office and Courthouse, Room 701, 01-0061, Boston, MA, 02109-4557, (617) 223-9662, FAX: (617) 223-9669, TDD:(617) 223-9695, or Email: OCR_Boston@ed.gov; the NH Commission for Human Rights, 2 Chennell Drive, Concord, NH 03301, (603) 271-2767, FAX: (603) 271-6339; and/or the Equal Employment Opportunity Commission, JFK Federal Building, 475 Government Center, Boston, MA, 02203, (617) 565-3200 or 1-800-669-4000, FAX: (617) 565-3196, TTY: (617) 565-3204 or 1-800-669-6820.

Academic Privacy
Family Education Rights and Privacy Act (FERPA): In compliance with FERPA, it is the policy of the college to protect the educational/academic records of its students, former students and alumni. All personally identifiable information in a student's education record is considered confidential.

Under FERPA guidelines, the college will not generally disclose personally identifiable information from an eligible student's education records to a third party unless the eligible student has provided written consent. In order to give written consent, an "Authorization for Release of Records" form will need to be filled out. A copy of the form can be found in the Registrar's Office. Routine inquiries require the "Authorization for Release of Records" form. For exceptions to this, visit www.mccnh.edu/consumer-information

Directory Information
Directory Information is information which may be released by the college without the consent of the student unless the student notifies the Registrar that such information in part or in whole is not to be released. MCC considers the following to be Directory Information: Student's name, address, telephone number, email, date of birth, major field of study, dates of attendance, enrollment status, degrees, awards, honors, and most recent educational institution attended. If you do not wish disclosure of any or all of the categories of directory information, you must notify the Registrar in writing.

Social Security Number Collection
For compliance purposes, the Community College System of New Hampshire and its Colleges collects names and social security numbers from all students attending the college. For example, the Internal Revenue Code requires the college to produce a 1098-T tax form. The college's use of social security numbers will be limited to legitimate educational purposes. The college will ensure the security of the student's social security number and will not disclose it to anyone outside the college, except as authorized by federal or state laws or applicable policies.

AN MCC EDUCATION

As a comprehensive community college, MCC seeks to provide an education that is coherent and substantive for all students. Within each degree and program of study are requirements that embody our view of an educated person and seek to prepare that student for success in the world. These outcomes also include the development of a system for the evaluation of student learning.

The Core Learning Outcomes capture the MCC view of an educated person and students will have demonstrated competency in the following areas:

- **Problem Solving, Inquiry, and Analysis**
  A comprehensive, systematic process of exploring issues/objects/ideas/artifacts through the collection and analysis of evidence-prior to and resulting from informed conclusions. The ability to gather and process pertinent information in order to develop potential solutions, while comparing and contrasting alternatives to achieve a viable outcome.
- **Communication**
  The ability to express thoughts and ideas in a professional, clear coherent manner. Oral Communication is a prepared, purposeful presentation designed to increase knowledge to foster understanding, or to promote change in the listeners' attitudes, values, beliefs or behaviors. Written communication is the development and expression of ideas in writing while learning to work in many genres and styles. Written communication abilities develop through iterative experiences across the curriculum.
- **Information Literacy**
  The ability to know when there is a need for information, to be able to identify, locate, evaluate and effectively and responsibly use and share that information for the problem at hand.
- **Cultural and Social Understanding**
  A set of cognitive, affective and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural context. Students should become informed, open-minded and responsible people who are attentive to diversity across the spectrum of difference. Students need to seek to understand how their actions affect others.
- **Technical Skills**
  The technical skill standards or those abilities and knowledge necessary for competent performance in carrying out responsibilities associated with college and career success.
- **Initiative and Engagement**
  An understanding and disposition that a student must self-engage and own their learning process. Built across curricular and co-curricular learning opportunities, students behaviors and choices reflect their ability to create simple connections among ideas and experiences, ultimately synthesizing and transferring learning to new complex situations within and beyond the campus.

MCC is committed to an open enrollment process, welcoming students who may be seeking a degree, a certificate, or coursework for skills or personal enrichment. While some programs have specific requirements for admission, many courses and programs are open to anyone who completes the application process and can demonstrate the ability to benefit from the program.

ADMISSION REQUIREMENTS

The following rules will guide admission to the college:

- First priority for admission shall be given to residents of New Hampshire (defined as someone who has lived in NH for at least 12 months).
- Second priority shall be given to students qualifying under the New England Regional Student Program.
- Third priority shall be given to students not qualifying under the New England Regional Student Program or those not domiciled in the state. However, in highly competitive programs with limited enrollment, the Office of Admissions, while working as much as possible within the above parameters, may exercise discretion in admitting those applicants who best fit the needs and expectations of the department, the college and the local community.

I. Application Procedures

All applicants must submit a completed Application for Admission, online or in person, for the program they intend to pursue *(Note: Nursing applicants must submit a separate application for Nursing, even if they have been previously admitted to Liberal Arts or another program)* and pay a $20 non-refundable application fee. It is the applicant's responsibility to ensure that all required documents, including official transcripts, are received by the Office of Admissions on or before the established deadline *(when applicable)*. Incomplete files will not be reviewed for admission.

Documents should be mailed to:
Manchester Community College
Office of Admissions
1066 Front Street, Manchester, NH 03102-8518

First-Time Matriculating Students

(first-time students seeking admission into a certificate or degree program)

Follow the application procedures outlined and:

- Submit official transcripts from all secondary institutions previously attended, including proof of completion of high school or its equivalent. Students interested in pursuing a program of study but unable to provide official documentation of high school completion should contact an admissions counselor to discuss alternatives.
  a. Applicants who have earned a high school equivalency certificate or GED/HISET must submit official documentation including scores.
  b. High school seniors must submit final transcripts indicating successful completion of all requirements for high school graduation prior to starting the first semester. Failure to do so will affect your admission status and financial aid eligibly.
- Meet or exceed all specific program requirements for the selected program of study as outlined in the program description in the curricula section of the catalog.

Home-Schooled Students

MCC encourages applications from students who are home-schooled. While the nature of home schooling is inherently unique to each student, the college requires appropriate documentation to determine admission. Applicants are expected to meet the same general and specific admission requirements *(or their equivalent)* as other applicants and to document the academic work they have accomplished. Home-schooled students should follow the application procedures outlined above and submit one of the following:

- A letter or other documentation from the student's local school district stating that the student has completed a home-school program at the high school level;
- A list of courses taken and grades earned and/or portfolio of work accomplished;
- GED/HISET or other testing, if applicable.
- A certificate of completion of your secondary level studies from the home-school program.

Transfer Students

Follow the application procedures outlined above and:

- Submit official transcripts from the institutions of higher learning previously attended.
- Submit official final high school transcript indicating successful completion of all requirements for high school graduation or its equivalent.

a. Students with a conferred associate's degree or higher may submit either their college or high school transcripts.

- Meet or exceed all specific program requirements for the selected program of study as outlined in the program description in the curricula section of the catalog. For more information on transferring college credits to MCC, see pages 15-17.

Readmitted Students

Matriculated status is maintained by successfully completing one course per academic year. Students unable to maintain this requirement who wish to re-enroll must seek readmission. Students are advised that they will have to abide by any new admission requirements for specific programs. Students should also note that there is no guarantee of readmission, as courses or programs with limited enrollments may not be available. Students seeking readmission must:

- Submit a completed Application for Admission and pay a $20 non-refundable application fee.
- Submit additional documentation as required by the Office of Admissions.
- Meet or exceed all specific program requirements for their program of study as outlined in the program description in the catalog.

Non-Matriculating Students

Non-matriculating students are individuals interested in taking a limited number of courses without pursuing a degree or certificate program.

Non-matriculating students are not eligible for financial aid. Those interested in registering as a non-matriculating student must:

- Meet any prerequisites for the selected coursework.
- Pay and register for classes.

II. Placement Testing

Prior to registering for English and/or Mathematics courses, students must first take placement tests in reading, mathematics and writing skills. This assessment will be used to place the student in the appropriate college or foundation course. Placement tests are also required to register for/ be admitted to certain courses and programs. See the Academic Placement Policy discussion in this catalog for details. Students will not be denied admission based on placement test scores. However, students may be required to successfully complete a developmental skills course prior to beginning coursework in the program of study to which they have been admitted.

III. Tuition Deposits

Students admitted into the Nursing program are required to submit a non-refundable advanced tuition deposit of $100 prior to registration. *(This requirement applies only to Nursing)*. The deposit confirms that the student has accepted the college's offer of enrollment, allows students to register for classes and is applied toward tuition charges. Registrations are processed in the order in which they are received until seats are filled. Your deposit is not a guarantee of enrollment in specific courses.

IV. Orientation

All incoming matriculated students will be charged an orientation fee of $30 to cover costs directly related to the orientation program. Attendance at one of the college's orientation programs is strongly advised for all new students.

V. Class Schedules

Class schedules noting specific times and days are developed annually and are published every semester. Classes are scheduled during the day, evening, weekends and online. Students completing program requirements may be asked to take classes at any of those times.

FINANCIAL AID

What is Financial Aid?

Financial aid is money for direct and indirect college expenses. This money comes in three forms:

1. Grants which DO NOT have to be repaid
2. Loans which DO have to be repaid
3. Part-time jobs from which the student earns an hourly wage also known as Federal Work Study. Students who are awarded financial aid may receive any or all of these forms of aid.

Financial Aid Funds Defined

The college's financial aid program assists students who are unable to meet their expenses entirely from their own family resources. Students must be enrolled in an eligible degree or certificate program in order to be considered for financial assistance and must meet both qualitative and quantitative standards for satisfactory progress. These standards are described in the Financial Aid Handbook. Completion of the Free Application for Federal Student Aid form *(FAFSA)* is required for consideration for Pell Grants, Perkins Loans, Work Study, Supplemental Educational Opportunity Grants and Stafford Loans. The application is available in the college's Financial Aid Office, at local high schools and online at www.FAFSA.gov.

How To Apply For Federal Student Aid

- To apply for an FSA ID, go to fsaid.ed.gov *(needed to sign FAFSA on the web.)*
- Go to www.fafsa.gov to apply online. *(This takes up to 2-weeks to process after submitted to the Department of Education)*.
- To ensure that you have enough time to complete the Financial Aid process before payment/payment arrangement is due *(two weeks prior to class start)*, please start the Financial Aid process 8 weeks before classes commence. If your financial aid process is not complete by the payment/payment arrangement deadline, you will be responsible for all charges and will be reimbursed once your financial aid has been awarded/disbursed to your student account.

Federal School Code

The Title IV code for Manchester Community College is **002582.**

I. Sources of Financial Aid

Pell Grant

The Pell Grant is a federally funded program which assists students with the cost of attending college. A Pell Grant does not have to be paid back. To receive a Pell Grant, the student must be an undergraduate who does not already have a bachelor's degree. Awards are granted on a sliding scale ranging from $299 to $5,815 depending on the family financial position.

Supplemental Educational Opportunity Grant *(SEOG)*

SEOG awards are made available to students who demonstrate exceptional financial need. An SEOG award does not have to be paid back. To receive an SEOG, a student must be an undergraduate who does not already have a bachelor's degree. Awards at MCC range from $100 to $800 per year.

Perkins Loan

Perkins Loans are made available to students who demonstrate financial need and are enrolled in at least nine credits per semester. Perkins Loans are low-interest *(5%)* loans made through the Financial Aid Office at the College. Students may borrow up to $3,000 per year, depending on the availability of federal funds. Repayment begins and interest accrues nine months after the date of graduation.

Federal Work-Study *(FWS)*

The Federal Work Study Program *(FWSP)* gives the student an opportunity to earn money for educational purposes on a part-time basis as well to develop skills that are

important in a workplace environment. Typically, students work in a variety of college offices within a support role under the supervision of a faculty or staff member. Some off-campus positions are also available. Whenever possible, students are placed in roles that complement their program of study. Students are paid at least the current minimum wage. Students who qualify for FWS are required to perform the assigned work in a responsible and professional manner. A confidentiality agreement must be signed for all work-study positions. In most cases, work-study hours are limited to a 12-15 hour work week. Eligible students must demonstrate need and be enrolled in at least six credits per semester.

Federal William D. Ford Direct and Stafford Loans

Stafford Loans are low-interest loans made to the student by the U.S. Department of Education. Freshmen may borrow up to $5,500 per academic year; seniors may borrow up to $6,500 per academic year. Repayment begins six months after the date of graduation. Eligible students must demonstrate need and be enrolled in at least six credits per semester.

Alternative *(Private)* Loans

Some lenders may offer private, non-federal educational loans for students. These loans are credit based and have various criteria in order for a student to be considered eligible. Please inquire about these loans at the Financial Aid Office.

Federal William D. Ford Parent Plus Loans

Federal Loans for Undergraduate Students are meant to provide additional funds for educational expenses. These loans are made to parents of undergraduate, dependent students. Parents of dependent undergraduates may borrow up to a student's cost of attendance less estimated financial assistance. The interest rate for these loans is variable and set annually not to exceed 9%. Interested parents will be required to apply for this loan. This loan is credit based.

II. Student Eligibility

To receive aid from the student aid programs, you must:

- Have financial need, with the exception of some loan programs.
- Have a high school diploma or General Education Development *(GED)* Certificate.
- Be accepted and enrolled as a matriculated student.
- Be working toward a degree or a certificate in a financial-aid-eligible program. Check with the Financial Aid Department to determine if your program is eligible.
- Be a U.S. citizen or eligible non-citizen.
- Have a valid Social Security number.
- Return all required documentation to the Financial Aid Office.
- See Financial Aid Funds Defined to ensure you meet all criteria for loan programs.
- Maintain satisfactory academic progress. *(See policy below)*

III. Financial Aid Satisfactory Academic Progress Policy

The Financial Aid Office is required by federal regulations to periodically review financial aid recipients to ensure that they are making academic progress toward the completion of their program of study. Satisfactory academic progress for financial aid recipients is measured by both qualitative and quantitative standards and is an assessment of a student's cumulative academic record while in attendance at the institution.

The Higher Education Act *(HEA)* and the Department of Post-Secondary Community Technical Education require that students maintain satisfactory progress in the course of study they are pursuing in order to receive financial aid under Title IV of the HEA. Satisfactory progress is based on quality and quantity of performance. For specific information regarding this policy, please refer to the Financial Aid Handbook.

Qualitative Standard

Cumulative Grade Point Average *(CGPA)* Component GPA Component	Must have earned the minimum published CGPA at the published intervals.

Quantitative Standard

Completion Rate Component	Must complete at least 2/3 (66.666%) of the credits attempted
Maximum Timeframe Component	May receive financial aid for up to 150% of the number of credits required for successful program completion.

In general, coursework that is taken while in attendance at MCC and that applies to the student's academic program is considered when reviewing their academic record for satisfactory academic progress. However, there are some exceptions. Please refer to the table below for a breakdown of how each type of course or credit is treated in the review.

	Cumulative GPA Component	Completion Rate Component	Maximum Timeframe Component
Regular courses in program of study	Yes	Yes	Yes
Repeat Courses	Yes	Yes	Yes
Transfer Credits	No	No	Yes
Consortium Credits	No	Yes	Yes
Foundation/ Remedial/ESOL	Yes	Yes	Yes
Incompletes	Yes	Yes	Yes
Audit Courses	No	No	No
Credit by Examination	No	No	Yes

Qualitative Standard

Cumulative GPA *(CGPA)* Component

A student must maintain a minimum cumulative grade point average as noted below to be considered as making satisfactory academic progress.
www.ccsnh.edu/academics/gpa-calculator

Total Credits Earned toward Program	Minimum CGPA Required for the Program	
	Certificate/Professional Certificate	**Associate**
0-13	1.50	1.50
14-27	2.0	1.70
28-40		1.80
41+		2.0

Quantitative Standard

Completion Rate Component

Students must successfully complete at least two-thirds *(66.666%)* of the total credits they attempt throughout their academic careers at the college. All attempted credits resulting in either an academic grade or administrative transcript notation will be included in the quantitative calculation. For example, a student who has enrolled in 36 credits throughout their academic career at the college must pass a minimum of 24 credits in order to be making satisfactory academic progress.

IV. Maximum Timeframe Component

A student may receive Federal Aid for any attempted credits toward their program of study as long as those credits do not exceed 150% of the published length of their program of study. If a student changes curriculum programs or graduates and requests a second degree, a degree audit will be completed and evaluated to determine what portion of the requirements for that curriculum has been satisfied. Students who seek a dual degree may appeal for an extension of the maximum timeframe provision of this policy. Appeals will be evaluated on an individual, case-by-case basis. For example, a student enrolled in an eligible 24-credit certificate program can receive financial aid for up to 36 credits attempted. Likewise, a student enrolled in a program of study that requires 64 credits to earn the degree can receive student federal aid for a maximum of 96 credits attempted.

V. Academic Periods Included in the Review

The qualitative and quantitative standards of the Satisfactory Academic Progress policy will be used to review the academic progress for all periods of the student's enrollment. Even periods in which the student did not receive Student Federal Aid *(FSA)* funds will be included in the review. Additionally, periods for which the student was granted academic amnesty will be included in the review.

VI. Satisfactory Academic Progress Review Process (SAP)

Question	Answer
When is my academic progress reviewed?	At the end of each semester
Are there any probationary periods?	Yes, they're referred to as Warning Periods
Is there an appeal process?	Yes
Can you regain financial aid eligibility once you lose it?	Yes

The qualitative and quantitative components of the SAP policy will be reviewed at the end of each semester within the regular academic year of the student's program of study.

Students who meet SAP standards will be coded as making satisfactory academic progress and will retain eligibility for Student Federal Aid for the following semester.

Students who do not meet SAP standards will be placed on SAP Warning for one semester. Students placed on SAP Warning will retain their eligibility for Student Federal Aid for the following semester.

Students placed on SAP Warning

At the end of the warning period, SAP standards will be reviewed. Students who are still unable to meet the standards for SAP will no longer be eligible to receive FSA at MCC until they are able to meet the standards of SAP.

Repeat Courses

Financial Aid will cover a repeated course when it is repeated to replace an unacceptable grade. For this purpose, an "unacceptable" grade means no credit has been awarded for the course previously. For one time only, it will also cover a repeated course previously passed. For this purpose, "passed" means any grade higher than an "F". Only the most recent grade for a course that has been repeated will count toward a student's CGPA. Therefore, grades from prior attempts will be excluded from the student's cumulative GPA. **However, all attempts including the most current, will be included in the calculation for the completion rate and maximum timeframe components.**

Transfer Credits

Credits that are transferred in from another institution and applied to the most current major will be excluded from the student's CGPA and the completion rate components. However, they will be included in the calculation for the maximum timeframe component.

Consortium Credits

All courses taken at a college other than the student's home institution through an official consortium are included in the calculation for completion rate and maximum timeframe components, but are excluded from the student's CGPA component.

Foundation/Remedial/ESOL Courses

Credits from these courses will be included in the calculations for all three components of the SAP review. Students are only eligible for FSA for up to 24 credit hours of this type of coursework.

Incompletes

All Incompletes must be resolved by the end of the third week of the semester following the receipt of the incomplete grade. If it is not, the grade is either automatically changed to an "F" or is considered to be an "F" for all components of the SAP review. Financial Aid can be withheld until incompletes are resolved.

Audit Courses

Financial Aid does not cover any courses a student audits. Further, audit courses are not included for any of the calculated components.

Credit By Examination

Financial Aid does not cover courses in which a student earns credit through Credit by Examination. Credits by examinations count toward the Maximum Timeframe Component, but are excluded from the student's CGPA component and completion rate components.

Financial Aid Appeal Process

A student who becomes ineligible for federal student aid as a result of not meeting SAP standards may appeal for a review of that determination. Students who believe they have extenuating circumstances affecting their ability to progress satisfactorily should appeal in writing *(letter, email or form)* within 15 days of the notice of ineligibility. Exceptions may be granted to this time limitation by the Financial Aid Office.

Items to include in the appeal:

- Student name and ID number
- Circumstances that prevented student from achieving SAP standards
- An Academic Plan which the student will use to regain satisfactory progress.

The student appeal letter should be addressed to the Financial Aid Appeals Committee and be submitted to the Financial Aid Office. A successful appeal may preserve the student's eligibility for federal student aid in the following semester.

Change Of Program

A student who changes their academic program may request an appeal in that determination if they have changed programs while enrolled at their current college. If this appeal is taken up, then only those courses applicable to the new program will be evaluated for the Completion Rate and CGPA components. However, all courses attempted will be evaluated for the Maximum Timeframe Component. If under these circumstances the student is making SAP, the student will regain eligibility for student aid. If under these circumstances the student is not making SAP, the student will not regain eligibility for student aid at this time.

For further information about the Financial Aid Satisfactory Academic Progress policy, please contact the Financial Aid Office.

TUITION & PAYMENT

I. Tuition & Fees

In-State Students - *(New Hampshire Residents)* **$200/credit***

Resident is defined as someone who has lived in NH for at least one year.

New England Regional Students - *(CT, MA, ME, RI, VT)* **$300/credit***

NERSP Policy: All matriculated New England students *(Maine, Vermont, Massachusetts, Connecticut and Rhode Island)* will be charged NERSP tuition rates for MCC day classes. All other out-of-state students will pay out-of-state rates for day courses. New Hampshire residents will always pay the in-state rate. All students will be charged the same rate for evening, weekend and online courses.

Out-Of-State Students/International Students - $455/credit*

Fees *(Required)*

Application Fee	$20.00
Academic Instruction Fee	$60.00 per lab hour
Comprehensive Fee	$16.00 per credit*
Graduation Fee	$100.00*
Orientation Fee	$40.00*
Placement Test *(Accuplacer)*	$20.00

Other Fees

Challenge Exam Fee	$25.00 per credit
CLEP Exam	$25.00
Fine Arts - Modeling Fees	$20.00
HVAC Materials Fee	$125 per course
ID Replacement	$10.00
Liability Insurance	$20.00
Library Fine	Replacement charge
NSNA Membership *(Optional)*	$25.00 per year
Nursing ATI Comprehensive Live NCLEX Review	$350.00
Nursing ATI Entrance Exam	$86.00
Nursing Clinical Surcharge	$350.00 per semester
Nursing Pinning Fees	$20.00
Nursing Standardized Testing Fee	$181.00 per semester
Nursing Tuition Deposit	$100.00
Parking Fine	$5.00 - $25.00
Payment Plan Service Fee	$25.00 per semester
Plato Praxis Tutorial	$100.00
Plato Prep	$100.00
Proctor Exam *(Non MCC students per exam)*	$50.00
Returned Check Fee	$25.00 or 5% of check's face value plus any bank fees
Welding Materials Fee	$125 per course

Books and Supplies *(Estimated)*

Texts and Writing Materials	$800.00 per semester
Automotive Tools and Supplies	$2,500.00
Building Construction Tools	$500.00
Graphic Design - Color Theory course supplies	$20.00
HVAC Tools	$1,800.00
Nursing Lab Kit	$130.00
Nursing Uniforms and Supplies	$350.00
Phlebotomy Supply Kit	$20.00
Welding Tools and Supplies	$300.00

The tuition rate and all fees are subject to the approval of the Board of Trustees and are subject to change without notice.

II. Payment

Payment of Tuition Deposit

Nursing applicants accepted as students must pay a non-refundable tuition deposit of $100 upon notification of acceptance. *(This deposit applies only to accepted Nursing students)*. The deposit will be applied to the first semester's tuition.

Payment of Tuition and Fees

Billing for tuition and fees is coordinated through the college Bursar's Office. Emails will be sent to students through their official college email notifying them to check their statements through Student Information System *(SIS)*. The statements in SIS can be printed or downloaded in PDF format. Students can choose to pay their bills directly online, by phone or in person. Payment or arrangement for payment must be made two weeks prior to the start of the semester. For classes that begin outside of the regular semester such as Winterim and second 8-weeks, payment must be made three business days prior to the start of the section. For late registration, payment in full must be made upon registration. Cash, Check, Visa, MasterCard and Discover are accepted as payment.

Students awaiting scholarships or financial aid awards to cover tuition must have the appropriate paperwork completed by the semester due date. To be eligible for deferment, a financial aid award must be awarded and accepted by the semester due date.

Interest-free, monthly payment plans are available online each semester through Nelnet Business Solutions. Please access the e-Cashier link on our website or contact the Bursar for details.

If payment or arrangement for payment is not made by the semester due date, students may be administratively withdrawn.

Note: A student may be academically withdrawn later in a semester and will remain responsible for all tuition and fees.

All tuition and fees must be paid prior to the issuance of transcripts, grade reports, professional certificates, certificates and degrees. Students may not register for the next semester unless tuition and fees are paid in full.

Academic Instruction Fee

A fee will be charged for all Laboratory/Clinic/Practicum or other similar experiences. This fee is calculated by subtracting the number of lecture *(theory)* hours from the number of credit hours and multiplying the remainder by $60 for each course. This fee will be added to the normal tuition charge for that course.

EXAMPLE:
BIOL110M A&P I *(This fee will be charged to all students with no exceptions).*

Theory	Lab	Credit
3	3	4

(4 credits - 3 lecture hours = 1 x 60 = $60)

Comprehensive Student Services Fee *(CSS)*

$16 per credit - This per credit fee is charged for every credit regardless of the number of credits taken. Online courses will be assessed a CSS fee.

Collection Clause

The following clause is included on college forms, with areas for student signature, signifying their understanding of their financial obligations.

I agree, that by registering for courses within the Community College System of New Hampshire (CCSNH), I am financially obligated for ALL costs related to the registered course(s). Upon a drop or withdrawal, I agree that I will be responsible for all charges as noted in the student catalog and handbook. I further understand that if I do not make payment in full, my account may be reported to the credit bureau and/or turned over to an outside collection agency. I also agree to pay for the fees of any collection agency, which may be based on a percentage of the debt up to a maximum of 35% and all additional costs and expenses, including any protested check fees, court filing costs and reasonable attorney's fees, which will add significant costs to my account balance.

Credit By Examination

A fee of $25 per credit, plus all direct costs associated with providing a laboratory portion of an exam, will be charged to a student for Credit by Examination.

Library Fines

Students will be assessed a processing fee of $25 and a replacement charge for all non-returned materials.

Nursing Clinical Surcharge

All nursing students taking clinical courses will be charged a nursing clinical surcharge of $350 per semester. This surcharge is designed to assist in covering the increased expenses associated with clinical classes. This fee is in addition to the lab fee.

Explanation: The New Hampshire Board of Nursing adopted a change in the chapter 600:11 of administrative rules. This chapter dictates the number of students that may be supervised by one faculty member in a clinical setting. The new rule changed the student/faculty ratio from 10:1 to 8:1, which has impacted clinical supervision costs. The Board of Nursing governs the instruction offered to nursing students and the Community Colleges must comply with their rules which took effect June 26, 1998.

Orientation Fee

Incoming matriculated students will be charged a non-refundable orientation fee of $40.

Protested Checks

A fee of $35 or 5% of the face value of the check, whichever is greater, plus any bank fees, will be charged for any check protested or returned for non-sufficient funds.

Senior Citizen Tuition

Senior citizens *(65 or older)* pay only half tuition on a space-available basis for credit courses. They are also responsible for the comprehensive student service and the academic instruction fees. Eligibility requires New Hampshire residency. Senior citizens will pay full tuition for non-credit courses and workshops.

Summer Semester *(where applicable)*

Students will be charged the applicable tuition rate on a per credit basis for any program-required coursework over a summer semester.

Veterans

The Registrar verifies veteran registration two weeks after classes begin. Veterans are responsible for payment of tuition and fees pending the receipt of benefits.

TUITION REFUND AND STUDENT FINANCIAL APPEALS POLICY

Credit Courses

All refunds require that the student complete an official withdrawal form.

Students who officially withdraw from the college or an individual course by the end of the fourteenth (14th) calendar day of the semester will receive a 100% refund of tuition, less non-refundable fees. Students in classes that meet in a format shorter than the traditional semester (15-16 weeks) will have seven (7) calendar days from the designated start of the alternative semester to withdraw for a full refund. If the seventh (7th) or fourteenth (14th) calendar day falls on a weekend or holiday, the drop refund date will be the first business day following the weekend or holiday. Exception: students in courses that meet for two weeks or fewer must drop by the end of the first day of the class in order to get a 100% refund.

Non-refundable fees are defined as advance tuition, application fee and orientation fee. All other fees are to be considered refundable. This includes, but is not limited to, comprehensive student services fee.

Non-Credit Courses

Students registered for non-credit workshops and courses must withdraw in writing at least three days prior to the first workshop session in order to receive a full refund of tuition and fees.

Return of Title IV Funds: Mandated by Law

Students who withdraw from school before the 60% point in a semester will have to repay a portion or all of their Federal Pell Grant, Federal SEOG and Federal Perkins Loan funds to the U.S. Department of Education. In terms of Federal Family Education Loans *(Stafford student loans)*, the unearned portion of the loan money will be returned to the student's lender. The exact amount required to be returned will vary, depending on the amount of grant and loan money the student received and at what point in time the student withdraws from the college.

In addition, the student will be liable for the balance owed the college for tuition, fees and if applicable, room and board. The student will receive a revised statement of account for the expenses incurred, which will include the reduction and/or loss of Federal Title IV funds.

Note: Federal Stafford Loans *(FFELP)*. If a student is in the first year of an undergraduate program, is a first-time borrower under the FFEL Program *(Stafford Loan)* and withdraws from the college prior to 30 days into the term, the student becomes **INELIGIBLE** for the Stafford Loan. Students who choose to withdraw from the College must complete a College Withdrawal Form. This form must be signed by the student and various campus offices and then be returned to the Registrar's Office.

Financial Appeal Policy

College policy states that only military activation, administrative error or documented long-term illness are reasons to consider financial adjustments.

Student Financial Appeals Team

The Student Financial Appeals Team is responsible for enforcing college policy regarding financial exceptions and is in place to consider requests for student financial adjustments.

Timeline for Financial Appeal Requests

Requests for appeals must be received no later than the end of the semester immediately following the semester of difficulty. For example:

- If the difficulty was in the fall semester, the appeal must be received no later than the end of the spring semester;
- If the difficulty was in the spring semester, the appeal must be received no later than the end of the summer semester,
- If the difficulty was in the summer semester, the appeal must be received no later than the end of the fall semester.

Financial Appeal Process

Appeals regarding tuition refunds should be directed in writing to the Student Financial Appeals Team c/o the Office of Academic Affairs or via email to: Manchesterappeals@ccsnh.edu and provide the following information.

- A letter explaining the situation with enough detail to support the request.
- Supporting documentation, such as a physician's note, hospital confirmation, military assignment, etc., must be provided in order to be considered for an exception.

Students wishing to be considered for an exception must drop the course(s) for which consideration is requested, using the Add/Drop form available in the Registrar's Office or by dropping via the Student Information System. The Student Financial Appeals Team meets monthly to review requests. Written notification will be mailed to students within two weeks.

ACADEMIC POLICIES

I. Student Academic Classifications

Each student is expected to demonstrate orderly progress in completing his/her educational objective at MCC. To help clarify each student's status at MCC, students are assigned to one of the following categories.

- **Full-time student**: a person who is enrolled in 12 or more semester credit hours.
- **Part-time student**: a person who is enrolled in fewer than 12 semester credit hours.
- **Matriculated student**: a person who has applied for admission to the college and has been accepted into a specific degree, certificate or professional certificate program. A letter of acceptance from the Admissions Office is sent when a student becomes accepted.

All students who complete 12 credit hours will be required to speak with an advisor to discuss their academic goal. A student deciding to matriculate must do so formally through the Admissions Office after completion of no more than 12 credit hours. Courses taken prior to matriculation may not always be applicable toward the degree sought.

A matriculated student may attend either full or part-time but must take at least one course per academic year to maintain matriculated status. A student who has completed more than 12 semester hours prior to matriculation may find that not all of them can be applied toward the degree sought; hence, the importance of matriculating.

A student who fails to maintain matriculated status may be required to reapply for admission and meet any new academic requirements in force at that date. Only matriculated students may:

a. Apply for financial aid or scholarships;
b. Challenge out/test out of courses;
c. Be assigned an academic advisor;
d. Be awarded a degree, certificate, or professional certificate

- **Non-matriculated student**: a student who is taking credit or non-credit courses but is not enrolled in a degree, certificate, or professional certificate program. Students are encouraged to matriculate in order to secure the privileges and protections offered to matriculated students.

II. Degree Requirements
Associate of Arts Degree (AA)

Programs leading to this degree provide students with continuous education, career mobility and full participation in community life. The Associate of Arts degree offers the equivalent of the first two years in a four-year Baccalaureate program. The program is consistent with the objectives to provide an educational background that is broad enough for the student to continue their education and training according to their and society's changing needs and to provide an educational experience that ensures flexibility of occupational choice. It also serves students who plan on directly entering the workforce or enhancing their career mobility. The degree provides a planned sequence of arts and sciences courses that give students the core competency skills required by today's businesses, as well as the ability to learn how to learn, thereby enhancing their ability to retrain for new and unanticipated application of knowledge and skills.

Associate of Arts Degree - *(AA)*

The Associate of Arts Degree program requires a minimum of sixty-four *(64)* credits from the following distribution. Remedial and developmental work does not count toward degree completion.

Liberal Arts Core Requirements: Every AA degree program shall have a general education core consisting of a minimum of 39 credits in program-specific courses. Specific course requirements are defined by individual programs.

English Composition	3-4 credits
English Electives	3 credits
Humanities/Fine Arts/Language	9 credits
Mathematics	7-8 credits
Lab Science	8 credits
Social Science	9 credits
Liberal Arts Electives	25 credits*

**at least three (3) must be 200 level liberal arts courses.*

Associate of Arts Degree - *(AA)*: Specialized Transfer Concentrations

MCC offers specialized Liberal Arts transfer degrees in Behavioral Science, English, and Social Science. Remedial and developmental work does not count toward degree completion. Liberal Arts Core Requirements: Every AA Degree program shall have a liberal arts core consisting of a minimum of 39 credits in program-specific courses. Specific course requirements are defined by individual programs.

English Composition	3-4 credits
English Electives	3 credits
Humanities/Fine Arts/Language	9 credits
Mathematics	7-8 credits
Lab Science	8 credits
Social Science	9 credits
Liberal Arts Electives in Specialized Area	25 credits*

(See the Program of Study section for specific degree requirements).

Associate of Science Degree *(AS)*

The minimum number of credits for the Associate of Science degree is 64. Remedial and developmental work does not count toward degree completion.

- Major: Every AS Degree program shall have a major consisting of a minimum of 32 credits in program-specific courses.
- Concentration: The AS Degree may have concentrations, which are curricula generally consisting of a minimum of 20 credits of related/sequential course work. Students may choose among two or more of such course groupings for a specialized focus.
- General Education: A minimum of 24 credits in general education.

Associate of Applied Science Degree *(AAS)*

The minimum number of credits for the Associate of Applied Science is 64. Remedial and developmental work does not count toward degree completion. The degree emphasizes specific outcomes designed to meet competencies required for direct entry into employment and to provide a basis for transfer, at a minimum, of the general education component of the curriculum.

Although Associate of Applied Science *(A.A.S.)* degree programs are designed for direct entry into the workforce, they cannot be considered terminal. In addition to the necessity for lifelong learning due to rapidly changing technologies, students can expect to make several career changes during their lifetime. A.A.S. programs do not have a directly related occupational-specific curriculum upper-division component. It should be noted, however, that some bachelor's degree institutions have developed upper-division programs to recognize this degree for transfer purposes. The A.A.S. degree programs must have a minimum of 64 credits and shall provide:

- A minimum of 32 credits of specialized study in courses clearly identifiable with technical skills, proficiency and knowledge required for career competency
- A minimum of 21 credits in General Education.

Dual Associate Degrees

Students may earn additional associate degrees either by concurrent completion of the requirements of the several degrees or by subsequent study after the first degree is received. The requirements for earning additional degrees are as follows:

1. Complete all requirements of each program of study, including general education requirements not in common with the additional program(s), and
2. Earn a minimum of fifteen (15) additional credits at the college, beyond those required for the first and subsequent degrees, excluding Credit by Examination, Credit for Experiential Learning, College Level Examination Program (CLEP) and Transfer Credit.

Professional Certificate Requirements

A Professional Certificate requires completion of a minimum of 32 semester hours of credit to develop skills in an occupational field and a minimum of 12 General Education credits with a minimum cumulative grade point average of 2.0. Each is designed to facilitate transfer into an associate degree if the student decides to continue.

Directed Study

Under certain circumstances, a matriculated student may take a course in a semester when the course is not offered. A directed study allows a matriculated student to pursue the learning objectives/outcomes for a course independently under the guidance of a qualified faculty member. A matriculated student must have a minimum CGPA of 2.0 to be eligible.

The student must provide compelling reasons why the course could not be taken in a subsequent semester or was not taken in the semester when it was originally offered. Barring exceptional circumstances, a directed study will not be granted for a course currently offered.

Independent Study

Opportunities for credit-bearing Independent Study (IS) are available to matriculated students to explore areas of a discipline not covered in the normal curriculum but related to the student's program. IS is not available to non-matriculated students. Students must have a minimum CGPA of 2.0 to be eligible. The intent of the IS is to expand a student's learning experience beyond the normal program curriculum. Typically undertaken for 1-2 credits, an IS may not be done in lieu of any course in MCC's catalog.

Residency Requirement

To establish residency at Manchester Community College, the following is required:

- For an associate degree, a minimum of 16 semester credits must be completed through MCC. At least eight credits must be taken in advanced level courses in the student's major. Advanced courses carry a course number of 200 or higher. Students may not test out of courses in order to fulfill their residency requirement.
- For a Professional Certificate, a student must complete at least nine credits or 25% of the credits, whichever is larger, required for the Professional Certificate, at MCC.
- For a Certificate, a student must complete at least six credits or 25% of the credits, whichever is larger, required for the Certificate at MCC.

Changing Course Requirements

MCC is constantly reviewing and upgrading the content of programs to ensure that each graduate receives adequate knowledge and training to perform competently in a chosen technical field. To accomplish this, the college reserves the right to modify course requirements based on its educational and professional objectives and the needs of its students.

III. Academic Placement Policy

Any student admitted into a degree, professional certificate or certificate program at MCC must take placement tests in reading, writing and mathematics skills so that appropriate course placements can be made.

A mandatory assessment tool, the Accuplacer™, will be used to identify the appropriate level coursework for mathematics and English skills for courses impacted by one of these competencies. The Accuplacer* is administered by the Academic Success Center and can be done on a drop-in basis during the Academic Success Center open hours. Students will not be denied admission based on placement test scores. However, students may be required to successfully complete a developmental skills course prior to beginning coursework in the program of study to which they have been admitted. Placement testing may be waived, in full or in part, for those individuals who have met one or more of the following conditions:

- Earned a minimum score of 500 on the SAT quantitative. This condition applies only to the MATH portion of the Accuplacer; it may not be used to waive English placement requirements. A copy of the SAT scores must be provided when this waiver is requested.
- Completed a computer-based placement test *(CBT)* within the past three years at MCC or another accredited postsecondary institution. After three years, students must retake the Accuplacer to determine appropriate course placement.
- Transferred a mathematics or English course from another accredited institution into an MCC program.

Any student who has a disability that might interfere with his/her ability to take the assessment independently may request special testing accommodations from the Coordinator for Disability Services. Students who are non-native speakers of the English language may access a variation of the placement test *(LOEP)* that will determine course placement based on assessed levels of English proficiency.

**Accuplacer is a product of College Board, a division of the Educational Testing Service (ETS). Policy adopted: Dec. 3, 2003.*

English Placement Policy

Before students may register for college-level English courses, they must demonstrate mastery of English at the high school level.

English Placement Guidelines

Accuplacer English placements evaluates students' reading and writing skills. English course placement is based on the results of a written essay. (Writeplacer-WP) and Sentence Skills (SS) and Reading Comprehension (RC). Foundational work in reading and writing is required for WP scores below 5 and Sentence Skills scores less than 70 and Reading Comprehension scores of less than 70.

Accuplacer Scores

Writing Course Placement	Course Placement
WP (Writeplacer) score of 2 or 3 and SS (Sentence Skills) of greater than or equal to 40 and RC (Reading Comprehension) of greater than or equal to 40	Placement in ENGL093M
WP (Writeplacer) score of 4 and SS (Sentence Skills) of greater than or equal to 50 and RC (Reading Comprehension) of greater than or equal to 55	Placement in ENGL095M
WP (Writeplacer) score of 5 or above and SS (Sentence Skills) of greater than or equal to 70 and RC (Reading Comprehension) of greater than or equal to 70	Placement in ENGL110M

Students wishing to move from ENGL093M to ENGL110M MUST retake the Writeplacer and Sentence Skills and Reading Comprehension sections of the Accuplacer and place into ENGL110M.

Mathematics Placement Policy

Before students may register for college-level mathematics courses, they must demonstrate mastery of mathematics at the high school level. Placements are determined as follows:

Accuplacer Placement Criteria	Course Placement
AR ≥ 32 and EA ≤ 62	MATH090M
EA ≥ 63 and < 78	MATH111M
EA ≥ 63 and < 78	MATH132M
EA ≥ 63 and < 78	MATH145M

Accuplacer codes: AR - Arithmetic; **EA -** Elementary Algebra

Accuplacer may place students in higher levels of mathematics. Please see the Academic Success Center for that information. Courses with numbers between "0-99" are considered developmental and cannot be used toward graduation requirements. Courses with numbers between "100-199" are considered beginning level courses.

IV. Adding/Dropping Courses

Before adding or dropping a class or classes, students should consult their Academic Advisor and/or the instructors responsible for those classes.

Adding a Course

Students are allowed to add classes (prorated for alternative semester lengths) if space is available, up to and including the seventh (7th) calendar day of the semester. A course may be added after the seventh (7th) calendar day of the semester (prorated for alternative semester lengths) only with the permission of the instructor.

Adding a 100% Online Course

Students may add a 100% online course up to the day before the official start of the term. Once the semester has started, students may add a 100% online course only with the permission of the instructor.

Dropping a Course

Students should initiate the official drop procedure after consultation with their faculty advisor. Simply ceasing to attend classes or notifying the instructor does not constitute officially dropping a course.

Though there may be financial or academic penalties involved, courses may be dropped at any time, but only through formal written notification to the Registrar's Office and completion of the following procedure:

Before officially dropping a course, the student should first discuss the matter with the instructor and faculty advisor. If, after discussing the matter with both individuals, the student decides to drop, an **ADD/DROP** form must be completed by the student and submitted to the Registrar's Office. The form can be obtained from the Registrar's Office or from the college website. Students who officially drop from a course.

- any time prior to the end of the 14th calendar day of the semester, will receive no grade in the course and no notation will appear on his/her academic record.
- up to the end of the 10th week of a semester will receive a *"W"* grade on their transcript.
- up to 10 days prior to the beginning of the final exam period, will receive Withdraw/Pass *(WP)* or Withdraw/Fail *(WF)* on the transcript. The WP is not calculated in the GPA. The WF is calculated in the GPA as an *"F."*
- When there are fewer than 10 class days remaining to the beginning of the final exam period, students will receive an appropriate grade other than WP or WF and that grade will be computed on the transcript in the student's grade point average.

Note: The above timeline is specific to classes that meet 16 weeks. Any class that meets fewer than 16 weeks will follow a prorated timeline.

If you decide to drop a class... DO NOT JUST STOP ATTENDING. FILL OUT AN ADD/DROP FORM IN THE REGISTRAR'S OFFICE.

OTHER ACADEMIC POLICIES

CCSNH Computer Use Policy

This document contains guidelines regarding the use of computing and networking facilities located at or operated by MCC. The complete policy is available on the college website.

Attendance Policy

It is the responsibility of MCC students to attend all classes, laboratory sessions and clinical/co-op affiliations. Students must recognize that absence will interfere with academic success in their program of study. The instructor will be responsible for informing students of the attendance policy at the beginning of each course.

MCC requires an instructor to have a published attendance policy which may be described as participation.

Commencement Requirements

Commencement occurs once a year in May. Students must complete all degree requirements with a CGPA of 2.0 before being awarded a degree. Complete information about graduation is on the MCC website.

GRADING

Grade Explanation

Students are assigned grades based upon evaluations of their work. Grades are given at the end of each semester and are based on criteria listed on an individual instructor's syllabus, but generally include quizzes, tests, projects, papers and participation.

Letter Grade	Numerical Grade	Numerical Equivalent	Letter Grade		Numerical Equivalent
A	93.33 - 100	4.0	AF	Administrative Failure	0.0
A-	90 - 93.32	3.7	AU	Audit	0.0
B+	86.67 - 89.99	3.3	CS	Continuing Study	0.0
B	83.33 - 86.66	3.0	I	Incomplete	0.0
B-	80 - 83.32	2.7	NP	No Pass	0.0
C+	76.67 - 79.99	2.3	P	Pass	0.0
C	73.33 - 76.66	2.0	W	Withdraw	0.0
C-	70 - 73.32	1.7	WF	Withdraw/Fail	0.0
D+	66.67 - 69.99	1.3	WP	Withdraw/Pass	0.0
D	63.33 - 66.66	1.0			
D-	60 - 63.32	0.7			
F	below 60	0.0			

Explanation of Grades: (AF, AU, CS, I, NP, P, W, WF, WP)

AF - Administrative Failure: In accordance with policy stated in the Student Handbook, as well as the Academic Catalog, an instructor or administrator may initiate a student's withdrawal at any time for reasons other than poor grade performance: e.g., failure to meet attendance requirements as published in the instructor's syllabus, violation of the Student Code of Conduct, disruptive behavior, etc. The grade may also be issued if a student registered in a clinic, practicum, internship or lab is deemed unsafe or performing in an unsatisfactory manner as determined by an evaluation by a faculty member/agency supervisor in accordance with department criteria and procedure. AF is calculated in the GPA as an "F."

AU - Audit: A course taken as an audit does not earn credit and cannot be used to meet graduation requirements. Admission is by permission of the instructor and the Registrar's Office. Not all courses can be taken for audit. ***See Auditing Courses.***

CS - Continuing Study: This grade allows a student to re-register for a developmental course if competencies have not been met by the end of the course. It is intended for students who have demonstrated progress and a commitment to succeeding in the course, but who need more time to achieve competencies. The CS grade does not affect the student's GPA.

I - Incomplete: An Incomplete grade indicates that a student has completed the vast majority of the work in the course but has not completed a major course assignment due to extraordinary circumstances, such as serious illness, death in the family, etc. It is not used to give an extension of time for a student delinquent in meeting course responsibilities. The 'I' grade is not calculated into the GPA. However, all work must be completed by the end of the third week of the subsequent semester or the grade defaults to an "F". ***See Incomplete Grades.***

NP - No Pass: Unsatisfactory work; not calculated into the GPA.

P - Pass: Not calculated into the GPA.

W - Withdrawal: Student-initiated withdrawal from a course at any time prior to the drop deadline *(60% of the course)*. Does not affect GPA.

WP- Withdraw/Pass: Student initiated withdrawal from a course after the drop deadline *(60% of the course)* when the student has a passing grade at time of drop, as determined by the instructor. Does not affect GPA.

WF - Withdraw/Fail: Student initiated withdrawal from a course after the drop deadline *(60% of the course)* when the student has a failing grade at time of drop, as determined by the instructor. The WF grade is calculated in the GPA as an "F."

Auditing Courses

Under the Audit policy, students may enroll in courses which provide an opportunity to learn more about the challenges of college work, explore a discipline of interest, refresh prior learning, or supplement existing knowledge. Typically, a student attends lectures, seminars and/or lab, but does not complete graded assignments. When enrolled as an audit, the student will not be given a final grade nor will credit toward graduation be given for the course *(the academic transcript will reflect AU for the course)*. Students must pay full tuition for the course. Financial Aid does not cover costs for an audited course.

Not all courses can be taken for audit and entry into a course as an auditing student is by permission of the instructor. A student must register as an audit during the first week of classes. Once admitted as an audit, the student may not change to credit status; likewise, a student registered for credit may not change to audit status.

Change of Program

Students wishing to change their major should submit a Change of Major Form. Credit will be transferred only for those courses that apply to the new program. Some programs with limited enrollment may not be available.

Incomplete Grades

An Incomplete Grade (I) indicates that a student has completed the vast majority of the work in the course but has not completed a major course assignment due to extraordinary circumstances, such as serious illness, death in the family, etc.

It is not used to give an extension of time for a student delinquent in meeting course responsibilities. The 'I' grade is not calculated into the GPA. However, all work must be completed by the end of the third week of the subsequent semester or the grade defaults to an "F".

The grade is applied only in those instances where the student has a reasonable chance of passing. It is not used to give an extension of time for a student delinquent in meeting course responsibilities.

When a student requests an incomplete, the faculty member must determine if the situation complies with the policy (above) and if so, work with the student to complete the Incomplete Contract Form. The faculty member obtains the signature of the department chair for final approval and then submits the form to the Registrar's Office. The Incomplete Contract Form will be maintained in the Registrar's Office until the student has completed the requirements for the course. Once requirements have been completed by the student, the instructor must file a Grade Change Form with the Registrar's Office. Students must complete all remaining requirements necessary to earn credit for the course by the end of the 3rd week of the following semester. Otherwise, the incomplete grade will automatically become an "F".

All Incompletes must have the approval of the Department Chairperson.

The work must be completed by the student through formal arrangement with the instructor no later than:

- The end of the third week in the spring semester for a grade issued in the fall semester;
- The end of the third week in the fall semester for a grade issued in the summer term;
- Three weeks from the earliest start date of the summer term for a grade issued in the spring semester.

Should the student fail to complete the work within the designated period, the grade will automatically become an "F". Exceptions to the above deadlines may be made by the Vice President of Academic Affairs or his/her designee. "I" grades will not be included in the computation of the Grade Point Average. An "I" grade may affect a student's financial aid. Students should contact the Financial Aid Office for further information.

Grade Appeal Procedure

Students have until the conclusion of the next semester to bring forward their grade appeal and must begin with their faculty member.

Manchester Community College faculty have the responsibility of using professional judgment to determine the quality of student work and academic performance. Students who believe a valid basis exists for appealing a final grade will avail themselves of the following procedure and at each step in the process will supply their request in writing along with supporting documentation.

Step 1. Student Contacts Faculty

The student shall contact the faculty member and schedule a meeting to discuss the grade appeal and attempt to resolve the conflict. The faculty member and student shall meet within the next five (5) work days after the initial contact. The faculty member issues his/her decision to the student in writing within five (5) days from this time.

Step 2. Student Contacts Department Chair

If the issue is not resolved in Step I above, the student has three (3) work days from the date of the instructor's decision to file a written appeal with the instructor's Department Chair. Within three (3) work days the Department Chair will mediate the dispute either through discussion with the instructor, or with the student in the company of the faculty member with the Chair issuing his/her decision to the student in writing within five (5) days from this time.

Step 3. Student Contacts Vice President of Academic Affairs (VPAA)

If the issue is not resolved in Step 2 above, the student has three (3) work days from the date of the Department Chair's decision to file a written appeal with the VPAA. The VPAA will meet with all parties concerned to attempt to resolve the dispute. The VPAA will have three (3) work days from the last meeting to render a decision on the grade appeal. The decision of the VPAA is final.

Note: During the summer, when faculty are not on campus, students may begin the grade appeal process in the Office of Academic Affairs. Every attempt will be made to have the faculty member contact and meet with the student within the specified time. On occasion, however, these times may need to be adjusted.

Academic Warning

The instructor may give a student an academic warning at any time if the student is failing or in danger of failing a course.

Grade Changes

Grade changes will only be allowed until the end of the semester following the assignment of the original grade.

Course Repeat

For purposes of calculating the cumulative GPA (CGPA), when a student repeats a course at the same CCSNH institution, the grade achieved in the most recent course will be the grade used in the CGPA calculation. All previous grades will remain on the transcript but not used in the calculation. Therefore, courses repeated at a CCSNH college or at any college other than where the original course was taken will NOT be used in the calculation of the GPA/CGPA, but may be used as transfer as appropriate.

A student may take a course twice. If a student wishes to take a course for a third time, it will require the written approval of the student's academic advisor, the appropriate department chair/program coordinator and the Office of Academic Affairs.

Credit Hour Guidelines

A credit hour shall be the equivalent of one (1) hour of work per week for a 16-week semester. A semester credit hour shall be comprised of the following:

- Class
- Clinicals
- Internships
- Laboratory
- Co-ops

A credit hour shall be allocated by the following:

	Contact hours per week	**Contact hours** per semester *(based on min. 15 wk. semester)*
Class	1	15
Laboratory	2 or 3	30-45
Clinical	3 to 5	45-75
Practicum, Fieldwork	3	45
Internship	3 to 6	45-90
Co-op	Variable by Dept.	Variable by Dept.

One instructional hour shall be equal to fifty *(50)* minutes.

Grade Point Averages

Scholastic standing at the end of each semester is determined via the grade point average *(GPA)*, computed by dividing total semester points *(grade equivalent multiplied by credit hours)* by total credits attempted.

The cumulative grade point average *(CGPA)* is determined at the end of the second and subsequent semesters by dividing cumulative points by the total credit hours attempted, taking into account all previous work completed. Refer to the online Student Handbook for additional information pertaining to calculating or determining GPAs and CGPAs.

ACADEMIC ADVISING AND STUDENT SUCCESS

I. Academic Advising

Academic advising at Manchester Community College is an interactive, ongoing partnership between the student and the academic advisor dedicated to the goal of the student's success. Advising is an important component of the student's total educational experience. Students are more likely to succeed if they are an active participant in the advising process; students who engage with advising are more likely to fully comprehend the realities, rigors and expectations of college, understand and access the resources available to help them succeed and regularly connect with a faculty academic advisor who supports their efforts. The roles and responsibilities of students and academic advisors are fully outlined in the advising syllabus, which is handed out in the FYE100M course and available in the Academic Advising Center, located in the Learning Commons in Room 268.

Faculty Advisor

A relationship with their faculty advisor is one of the most significant partnerships students will experience at MCC. Faculty advisors help students form accurate perceptions and have realistic expectations that enhance the college experience. In addition, advisors provide information to help students make informed choices about their academic experience.

The faculty advisor is the student's partner for implementing the Personal Learning Plan, which is developed in the First Year Cornerstone class. Students are expected to seek out their faculty advisor at least twice a semester to review their Learning Plan and support successful progression toward their educational goals.

Academic Advising Center

Faculty serve as the primary academic advisors for all matriculated students. However, the Academic Advising Center, located in the Learning Commons, can serve as a secondary academic advising source for matriculated students for general questions and/or when faculty advisors are not available in a reasonable amount of time. Further, the Academic Advising Center is the location for all non-matriculated student advising.

The Academic Advising Center will assist faculty advisors as they work with students to develop retention strategies linking to the *"Student Success Plan."* Students who receive academic warnings or who are on academic probation or suspension, will receive follow-up support from faculty advisors and/or Center staff to address these issues. The student is ultimately responsible for their own success and should initiate contact with their faculty advisor at least twice a semester.

II. Student Success

The college is committed to providing an opportunity for students to: understand themselves as people and as learners, understand the expectations and rigors of college and understand the resources available to help them succeed. The First Year Cornerstone course is designed to do this and provide specific skills to maximize academic performance.

First Year Cornerstone

First Year Cornerstone (FYE100M) is designed for students who are entering college level coursework and **must be taken in the first semester of attendance.**

First Year Cornerstone - Waiver Process

At times, students come to the college possessing the skills taught in this course.

A student may waive the FYE100M requirement if one of the following conditions is met:

1. The student has previously completed a degree or certificate program at an accredited college or university.
2. The student has attended an accredited college or university and has completed a minimum of 15 credits with at least a 3.0 CGPA.

ACADEMIC SUPPORT SERVICES

Learning Commons

The Learning Commons is a collaboration between the Academic Success Center (formerly known as CAPS), the Library and the Office of Online Learning. Together, the three departments support students' learning by providing access to various learning technologies, expert research assistance, print and online research resources, writing and tutoring help and multiple study spaces for individual and group learners. The space, resources and services in a common area promote an active and collaborative learning environment.

Academic Success Center

The mission of the Academic Success Center (ASC) is to foster learning and help students achieve their highest academic potential. MCC students may use the services in the ASC to become successful, independent learners through collaboration with the rest of the college community. Academic support services are provided free of charge to all MCC students. Individualized tutoring is available in writing, mathematics, business, arts and sciences, technical courses, and liberal arts and sciences on a first-come, first-serve drop-in basis. Additionally, tutoring in specialized subject areas is offered by appointment. Students should come to the ASC to ask for a Tutor Request Form for such subjects.

The ASC offers assistance in soft skills, such as: study skills, test taking, and time management, among others. The ASC runs discussion groups, review sessions, as well as workshops for students in specific courses or areas of study on an as-needed basis. The tutoring staff includes professional tutors and peer tutors chosen for their academic excellence in their specific academic areas. The ASC is home to Math Boot Camp, the Peer Mentoring Program, and Student Success Coaching. Students are encouraged to visit the Academic Success Center during their first week of classes to become familiar with how the staff helps students succeed. Community members may access the Academic Success Center on a fee per service basis.

Library Services

The MCC Library offers students and community members a variety of print and electronic resources and expert research help in order to foster intellectual curiosity and lifelong learning. Services and resources include: in-person and online research assistance, print and electronic books and periodicals (journals, magazines and newspapers), DVDs, anatomy models, access to PC and Mac desktop computers, laptops, printers and a photocopier/scanner. For more information visit the library's website at library.mccnh.edu.

Nearly all MCC library services and resources are available to students online. Databases provide online access to electronic books, newspapers, magazines and journals. The MCC librarians have also created subject and course-specific online research guides where students may find links to books, articles and websites in one easy-to-use location. Students may also receive research help from a professional librarian through email and IM/chat. Look for links in Blackboard to access the library's online resources and services or visit the library's website: library.mccnh.edu.

Office of Online Learning

The Office of Online Learning supports students' academic success by providing online learning methodologies, tools and applications in addition to Blackboard training.

Online Services

Each of the departments in the Learning Commons offers various academic support services to students online. Online tutoring for many subjects is available to students through Blackboard. Students may make an appointment with the Academic Success

Center to work with an MCC tutor through Blackboard's Collaborate software. Also, students may take advantage of SmartThinking, an on-demand online tutorial service. SmartThinking is available through Blackboard for online courses. Students simply need to click the link to be immediately connected to one of thousands of tutors nationwide. PLATO is an online learning resource that provides students access to self-paced tutorials on a variety of subjects including reading, writing, math and science. Contact the Academic Success Center to sign up for a PLATO account.

Disabilities Support Services

Under the Americans with Disabilities Act *(ADA)* of 1990 and Section 504 of the Rehabilitation Act of 1973, individuals with disabilities are protected from discrimination and entitled to academic adjustments with appropriate documentation. Students are entitled to equal access to programs and services for which they are otherwise qualified. Disability Support Services are available to MCC students with documented disabilities through the Disabilities Counselor. MCC has a responsibility to maintain confidentiality of the documentation and may not release any part of the documentation without the student's informed consent or under compulsion of legal process. As each student's needs are unique, the provisions of services are designed individually each semester. Changes to academic adjustments are determined by the nature of the disability, requirements of the curriculum or program of study, expectations in the classroom and the timeliness of the request.

Section 504 and Title II Grievance Policies and Procedures Appeal Process for a Student Denied Disability Services

Students denied disability services may submit a written appeal of the decision to the MCC Director of the Academic Success Center and the Vice President of Academic Affairs within 10 working days of the receipt of the decision from the Disabilities Counselor. If the student does not agree with the decision of the Director and the VPAA, the student may submit the written appeal to the MCC President. The original documentation and recommendation of the Disabilities Counselor will be reviewed by the President *(or designee)* who will communicate his/her decision in writing within 15 working days of receipt of the written appeal. The student may appeal this decision to the Chancellor of the Community College System of NH. Inquiries may also be directed to the U.S. Dept. of Education, Office of Civil Rights, J. W. McCormack Post Office & Courthouse, Room 701, 01-0061, Boston, MA 02109-4557; (617) 223-9662, TDD: (617) 223-9695

Tutoring Services

Peer tutoring is free for MCC students in credit-bearing courses and is located in the Academic Success Center. Online tutoring is available for online classes through Blackboard. Tutoring is offered on a drop-in basis daily from 9am to 8pm Monday through Thursday and until 6pm on Fridays, and Saturdays 9am to 2pm. Schedules for tutoring are posted each semester in the Academic Success Center and on the website. For more information about receiving tutoring or becoming a tutor, contact the Academic Success Center.

Project STRIDE

Project STRIDE is a support program for single parents, displaced homemakers and single pregnant women. The program provides a weekly support group and referrals to community resources. Pending grant funding, tuition support can also be made available to eligible participants matriculated in technical-designated programs, and who meet certain program requirements. Students must submit an application during Fall Semester to be considered for tuition support. Please speak with staff in the Academic Support Center about participation in the STRIDE project.

Student Support Services

The Office of Student Support Services provides an open, supportive environment where students can explore the academic or personal challenges that prevent them from making the most of their college experience. Working in collaboration with a counselor, students identify barriers and develop functional strategies to help them access the resources they need to pursue their personal, educational and professional development. Student Support Services offers:

- Short-term counseling and support groups (as needed)
- Referrals to on-campus resources (faculty, tutoring, student life, service learning, food pantry)
- Referral to relevant community agencies (fuel assistance, legal aid, scholarships, transportation, dental and health services)
- Veterans Support Services

Veterans Services

Manchester Community College has a long-standing tradition of providing quality education and training to veterans and active duty personnel and their families. The Veterans Service Team is committed to providing comprehensive, coordinated service and support to those individuals seeking to gain new skills, enhance existing skills and to transfer skills acquired in the military for use in civilian life. From first point of contact through transfer/graduation/career, the Veterans Team is here to provide the information and support necessary for vets to take full advantage of their educational experience at Manchester Community College. Contact info for Veterans Service Team members is below.

Admissions & Financial Aid	(603) 206-8104
Veterans Certifying	(603) 206-8120
Veterans and Disability Support, Accuplacer and CLEP Testing	(603) 206-8140
General Studies Program	(603) 206-8012
Veteran Support Services, Counseling and Advocacy	(603) 206-8177
Veteran Transfer & Career Choices, ACP Mentoring for Veterans	(603) 206-8171
Veteran Work Study/Civic Engagement	(603) 206-8176

For more info on Veterans, visit www.mccnh.edu/admissions/veterans

STUDENT LIFE

Student Life Mission Statement

The Office of Student life implements programming, events and cultural experiences in order to provide students with:

- Leadership development
- Exposure to new experiences
- A voice in determining their future
- A sense of self
- Opportunities for play and recreation
- Experiences that build a connection to campus and a respect for diversity
- An understanding of the importance of civic engagement

Students are encouraged to take advantage of the many leadership opportunities, social activities and community service involvement offered at MCC. The college believes the rewards of meaningful relationships, development of skills gained through participation as a student leader and the many benefits to community service are an important part of the collegiate experience. For complete information about the Student Life opportunities at MCC, visit www.mccnh.edu/student-life

ACADEMIC STANDARDS

Students falling below the following standards will be designated as not meeting satisfactory academic progress. Failure to meet satisfactory progress will result in either Academic Probation or Academic Suspension.

Academic Probation Definition: A warning which indicates the student may not be on track to graduate because of poor academic performance. The student may remain in the program, but his/her academic progress will be monitored. Students will be required to reduce their course load to part-time and meet regularly with their academic advisor. Additionally, students will develop a Personal Study plan to support future academic success. Students meeting the criteria below will be placed on Academic Probation.

0-13 Credits Accumulated:	below	1.50 CGPA
14-27 Credits Accumulated:	below	1.70 CGPA
28-40 Credits Accumulated:	below	1.80 CGPA
41+ Credits Accumulated:	below	2.00 CGPA

Academic Suspension Definition: Suspension may be from the program or the college and is usually for one semester. Suspension from the program means that

a student may continue to take courses as a non-matriculated student and will not be eligible for Financial Aid. Suspension from the college prohibits a student from taking classes during the period of suspension. In addition, students will be required to register for First Year Cornerstone (if they have not already done so); develop a Personal Study Plan to support their future academic success; meet monthly with their academic advisor and seek academic support and tutoring. Students meeting the criteria below will be put on Academic Suspension.

Note: Credits accumulated are total credits earned by student.

0-13 Credits Accumulated:	below	.50 CGPA
14-27 Credits Accumulated:	below	1.10 CGPA
28-40 Credits Accumulated:	below	1.25 CGPA
41+ Credits Accumulated:	below	1.50 CGPA

A student who does not meet satisfactory progress for Academic Probation for three consecutive semesters will be placed on Academic Suspension. Financial aid may be in jeopardy if a student fails to achieve satisfactory academic progress as defined above.

Academic Amnesty

A student who previously attended MCC and is admitted at a later time, may be eligible for Academic Amnesty, which provides for the following:

a. All grades taken during the student's previous time at the college will no longer be used to calculate the student's new CGPA. However, grades of "C-" and above taken during the student's previous time at the college will be used to meet course requirements (where appropriate), subject to approval of the Vice President of Academic Affairs.
b. Even though previous grades will not be used to calculate the new CGPA, all previous grades will remain on the student's transcript.

In order to be eligible for academic amnesty, a student must meet all of the following conditions:

a. The student has not taken any courses at MCC for a period of at least three years from the last semester of attendance.
b. The student applies for academic amnesty before the start of his/her second semester of readmission.
c. The student has never before received academic amnesty.
d. The student achieved a CGPA below 1.7 during his/her previous attendance.

Students requesting Academic Amnesty should submit a written request to the Vice President of Academic Affairs.

Process for Re-admission to the College

Students who have withdrawn, or who have been suspended by the college, may apply for re-admission. Students may continue to take courses at the college on a non-matriculated basis if space is available. Contact the Office of Admissions for more information.

STUDENT SERVICES

Bookstore

The college contracts with a private vendor to run our campus bookstore. The bookstore is stocked with textbooks, supplies, novelty items and college clothing articles. Students who have questions about pricing, books, or any issues should direct their inquiries directly to the MCC bookstore at (603) 622-9941.

Bus Service

Bus service is provided by Manchester Transit Authority and is available Monday-Friday. Schedules are available at the main reception desk.

Cafeteria

A private vendor runs the cafeteria, which is located in the Student Center. Students can buy hot or cold foods and drinks. Cafeteria hours are posted each semester. Vending machines are available when the grill is closed.

Career Development & Transfer to Four-Year Colleges

MCC's Career & Transfer Counselor supports students with their transfer to four-year institutions as well as seeking employment. In addition, a computerized guidance system, **CHOICES**, is available, which allows students to explore different career paths and make informed decisions based on numerous factors, including interest, ability and financial need.

Housing and Living Expenses

MCC **does not** maintain residence halls or assume responsibility for housing. Students are advised to check on campus to see if information about local options is available or has been posted. Arrangements and contracts for housing are solely between the student and the landlord.

Insurance

A student blanket accident insurance policy is available to all students enrolled in the CCSNH System. Please be aware this plan is an accident only plan. For more information visit: studentplanscenter.com and click CC System of NH. The college is not liable for personal injuries incurred by students who are in attendance. Students are encouraged to either provide their own coverage or purchase the insurance provided by the system.

All Nursing and Allied Health Students who have a clinical must have personal health insurance, as well as professional liability coverage. This professional liability insurance coverage is purchased through MCC's Bursar's office.

Student Handbook

The college's student handbook is available to all students on the college website. The student handbook documents academic and student policies and procedures. Students are responsible for familiarizing themselves with the information in the student handbook.

Child Care

MCC runs a Child Development Center (CDC) for preschoolers through kindergarten age as a Lab School for MCC's Early Childhood Education (ECE) students. The CDC is staffed by fully degreed ECE teachers and supervised student interns and offers part-time, full-time and drop-in options, developmentally appropriate and individualized programming and low ratios.

The Center is open from 7:30am to 5:30pm. The Center is licensed by the State of NH Childcare Licensing Bureau and complies with all regulations and requirements. The Center also holds a quality award by the National Association for the Education of Young Children (NAEYC). For more information, call 206-8098 or visit www.mccnh.edu/cdc

Summer Camp

MCC's Child Development Center offers a variety of summer camps for children entering first through fourth grades. Each program runs from 8:30am to 4:30pm, Monday through Friday for several weeks during the summer.

For more information, call 206-8098 or visit www.mccnh.edu/summer-camps

MCC Alerts

MCC ALERTS is Manchester Community College's emergency notification system that will help ensure rapid and reliable mass communication to students, faculty and staff. The MCC ALERTS system is designed to communicate with cell phones *(text and voice messages),* landlines and e-mail systems, should a crisis, emergency situation or weather closure/delay occur on the MCC campus. For more information on MCC ALERTS visit the college website.

TRANSFER OPPORTUNITIES & ARTICULATION AGREEMENTS

I. Transfer to Other Institutions from MCC

Transfer policies vary from institution to institution. When transfer to another institution is sought, the number of transfer credits granted for courses completed at MCC is determined entirely by the institution to which the student transfers.

Transcripts

Copies of official transcripts are provided by the Registrar's Office. A student's transcript is private information. No third party may receive a copy of a student's transcript without the student's written consent. Student accounts must be paid in full in order to receive a transcript. Students may print unofficial transcripts from the Student Information System.

NH Transfer Connections Program

University System of New Hampshire (USNH) Connections Program

The NH Transfer Connections Program (NHTCP) is designed for high school seniors who eventually wish to enroll in a bachelor's program at Granite State College (GSC), Keene State College (KSC), Plymouth State University (PSU), the University of New Hampshire (UNH), or the University of New Hampshire Manchester (UNH Manchester). NHTCP students begin their college study at GSC or one of the campuses of the Community College System of New Hampshire (CCSNH).

Admission Requirements for Community College System of NH (CCSNH) Students

We encourage you to work with the transfer advisors at your community college to develop an individualized selection of classes that will prepare you to meet the specific transfer goals you have for your future.

Meeting the criteria listed below will guarantee* your general admission to GSC, KSC, PSU, UNH and UNH Manchester. This means that you would qualify for admission to most of the programs; however, every semester there are a few major programs on each campus that restrict the number of new transfer students that they accept, due to severe space limitations or specific course prerequisites. We encourage you to contact the GSC, KSC, PSU, UNH, or UNH Manchester Admissions Office to see whether the major you are interested in is restricted.

Transfer Requirements for Non-Restricted Majors:

NHTCP Req.	Minimum CGPA	Lowest transferable grade	Courses that must be taken (or competencies met)
GSC	2.5	C	• College composition • Mathematics: equivalent to GSC's MATH 502 • Any additional courses in humanities, social or natural
KSC	2.5	C	• College composition • Mathematics: either algebra and tigonometry, or statistics • Any additional courses in humanities, social or natural
PSU	2.5	C	• College composition • Mathematics: equivalent to PSU's MA 1500 or above • Any additional courses in humanities, social or natural
UNH (Durham & Manchester)	2.8	C	• College composition • Mathematics: through at least intermediate algebra, statistics, or finite • Laboratory science

*Note: Additional course work may be required of students who are considering transferring to an institution at which they have previously been denied admission, or would have been denied based on their academic record (high school and/or college). To ensure a seamless transfer experience, students must meet the required admissions standards and are encouraged to refer to the transfer requirements at the specific institution of their choice. Please go to www.nhtransfer.org for more information.

Transfer Opportunities and Articulation Agreements

As a comprehensive community college, MCC has developed partnerships with public and private four-year institutions within and outside New Hampshire. These partnerships include individual course acceptance, formal articulation agreements and dual admission opportunities. MCC is accredited by the New England Association of Schools and Colleges, Inc.'s Commission on Institutions of Higher Education.

Transfer Opportunities

Formal Articulation Agreements

Formal articulation agreements outline courses and their equivalents at the receiving institution. Many articulation agreements allow graduates of MCC associate degree programs to enter the four-year institution with junior status. Students must earn a grade of "C" or better and meet all other admissions criteria.

Individual Course Acceptance

Most colleges – from American University to Worcester Polytechnic Institute and hundreds of colleges in between – accept MCC credits. Students must earn a grade of "C" or better and meet all other admissions criteria. While some courses are transferred in as program requirements, others are transferred as general education courses or open electives.

Dual Admission

In addition to articulation agreements, many four-year institutions also offer dual admission with MCC. Following is a list of formal articulation agreements by MCC academic program. For more information regarding these agreements, contact MCC's Career/Transfer Counselor.

Formal Articulation Agreements with 4 Year Institutions

ALLIED HEALTH PROGRAMS
Granite State College

AUTOMOTIVE TECHNOLOGY
Ben Franklin Institute of Technology
Granite State College
Southern NH University

BUSINESS STUDIES
Cambridge College
Franklin Pierce University
Franklin University (online)
Granite State College
Keene State College
New England College
Plymouth State University
Rivier University
St. Anselm College
Southern NH University
UNH Durham
UNH Manchester

COMPUTER SCIENCE
Champlain College
Franklin University (online)
Granite State College
Keene State College
New England College
Plymouth State University
Southern NH University

EARLY CHILDHOOD EDUCATION
Cambridge College
Granite State College
Keene State College
Plymouth State University
Rivier University
Southern NH University

EDUCATION
Cambridge College
Granite State College
Keene State College
New England College
Plymouth State University
Rivier University
Southern NH University

ELECTRICAL TECHNOLOGY
Granite State College
Southern NH University

EXERCISE SCIENCE
New England College

FINE ARTS
Granite State College
Keene State College
New England College
NH Institute of Art

GRAPHIC DESIGN
Granite State College
Keene State College
New England College
NH Institute of Art

HEALTH SCIENCE
Rivier University

HVAC
Ferris State University
Granite State College
Southern NH University

LIBERAL ARTS
Burlington College
Cambridge College
Franklin University
Granite State College
Keene State College*
New England College *(Honors Program partner)*
NH Institute of Art
Plymouth State University*
Rivier University
St. Anselm College
Southern NH University
UNH*
UNH-Manchester

MATHEMATICS
Plymouth State University
Rivier University

NURSING
Emmanuel College
Endicott College
Franklin Pierce University
Granite State College
New England College
Rivier University
St. Anselm College
St. Joseph's College of Maine
Southern NH University
University System of NH+
Walden University

TECHNICAL PROGRAMS
Granite State College
Southern NH University

WELDING
Ferris State University
Southern NH University

+Bachelors Completion Program for Nurses

The Community College System of NH and the University System of NH recently signed a memorandum of understanding creating a new, streamlined pathway between the community college nursing programs at the associate degree level and the university system's bachelor's and master's degree levels. It is a partnership that helps students, current nurses and health care employers and meets the changing needs of health care in NH. Through this bachelors' completion partnership, students can earn an associate degree in nursing from a community college, benefitting from local campuses, affordable and accessible programs and graduate and sit for the RN licensing exam and go to work. This agreement allows them to continue their education by taking courses resulting in the completion of a bachelor's of science in Nursing, in a 3 + 1 model with some completion courses offered by the community college and others provided by the university system. The BSN is awarded by the University System institution. This pathway benefits new nursing students as well as the thousands of nurses who currently hold an associate degree. Importantly for students, the entire program through the bachelor's degree level will be at the NH Community College tuition rate.

II. Transferring to Manchester Community College

A matriculated student who can present evidence supporting education in one or more courses applicable to the student's program of study may request that those credits/experience be evaluated and applied toward graduation requirements. The following information outlines the opportunities available to students.

Formal Articulation Agreements with Secondary/Other Institutions

ADVANCED MANUFACTURING TECHNOLOGY
Manchester School of Technology
NH Job Corps

AUTOMOTIVE TECHNOLOGY
Manchester School of Technology

BUILDING CONSTRUCTION
Manchester School of Technology
All NH Career & Technical Centers

COMPUTER SCIENCE
NH Job Corps

EARLY CHILDHOOD EDUCATION
Manchester School of Technology
Salem High School Vocational Center

HEATING, VENTILATION, & AIR CONDITIONING
Concord HS/Regional Technical Center
Manchester School of Technology
Nashua High School South/Technical Center
Spaulding HS/RW Creteau Technical Center
Sugar River Valley Technical Regional Center

MEDICAL ASSISTANT
NH Job Corps

NURSING
Salter School of Nursing & Allied Health
(LPN to RN)

WELDING
Portsmouth Career/Technical Center
Seacoast School of Technology

Higher Education Opportunities

I. TRANSFER CREDIT

Transfer of Credit from Another Institution

The student must furnish the college with official transcripts and course descriptions of academic courses from each accredited college they have attended. Accreditation of transfer institutions must be similar to MCC's accreditation from the New England Association of Schools and Colleges (NEASC), Commission on Institutions of Higher Education (CIHE). Grades of "C" or better in courses judged by the college to be equivalent in nature and content to MCC program offerings will be accepted.

Students seeking a degree/professional certificate at MCC must fulfill residency requirements. A student must have a minimum of 64 credits to complete a degree and must complete all required courses for their academic program. Transfer of a course to MCC does not guarantee transfer of that same course to subsequent institutions. See individual academic program descriptions for specific program transfer policies.

II. CREDIT BY EXAMINATION

A. College Level Examination Program (CLEP)

The College Board offers standardized examinations in a variety of subjects. Students who have completed a CLEP examination must request their scores be sent to MCC for review. This request is made to the College Board and can be done during or after the exam. Acceptance of CLEP exams for transfer credits will be based on the following criteria:

- The student has earned a passing score as defined by The College Board and the college.
- The student has been accepted into a program.
- There is a course within the student's program of study that is equivalent to the CLEP exam.

CLEP scores are not calculated into a student's GPA or in any way interpreted as a grade and may not be applied toward MCC's 25% residency requirement. Students may not transfer CLEP credits for a course they have successfully completed or for a course that is more advanced than the subject of the exam. Any student who fails an MCC course and wishes to take a CLEP exam in lieu of retaking the course must realize that the original grade received will remain on his/her transcript and will be counted in the CGPA. The CLEP exam score does not replace a grade for an MCC course. CLEP exams are administered online in the Academic Success Center. For more information, please visit: clep.collegeboard.org

B. Credit by Examination (Internal)

Credit by examination may be earned only by a matriculated student who, by study, training or experience outside MCC, has acquired skills or knowledge equivalent to that acquired by a student enrolled at MCC and has a CGPA of 2.0 or higher. A student is eligible for a maximum of 16 credits through credit by examination.

If the student passes the exam, appropriate credits shall be applied to the student's academic record. Credit will not be given for grades below a "C". A student receiving a grade below "C" is ineligible for another special examination in that course.

Students who have previously taken a course and failed it are not eligible for an examination for credit in that course. Typically, credit earned by internal examination is not transferrable to other institutions.

C. Excelsior College Examinations

Excelsior College provides educational opportunities to adult learners by offering quality assessment of prior learning. College level credit in select subject areas can be obtained by passing Excelsior proficiency exams. In addition to a variety of subject areas, the Excelsior exams are acceptable for advanced placement in nursing. For more information, please visit www.excelsior.edu.

Secondary Education Opportunities

A. Running Start Program Coursework

The New Hampshire Running Start (RS) Program is a unique higher education initiative for high school students that enables them to enroll in selected college courses offered by the Community College System of New Hampshire at a significant reduction in tuition. College courses are offered during the day at high schools throughout New Hampshire.

The cost to enroll in a CCSNH course through Running Start is $150 per course, plus books and supplies *(if not provided by the student's high school)*. This represents a substantial savings in college tuition costs. Additional details are available at: www.ccsnh.edu/prs

B. Advanced Placement (AP) Coursework

Students requesting credit for Advanced Placement Courses taken in high school must complete the Advanced Placement Exam offered by the College Entrance Examination Board. Official documentation, including score reports from CEEB, must be submitted in order to have examinations evaluated for transfer credit. MCC will accept Advanced Placement scores of "3" or higher. For more information, please visit apstudent.collegeboard.org/home.

C. International Baccalaureate Diploma Program

The International Baccalaureate Diploma Program is designed as an academically challenging and balanced program of education with final examinations that prepares students, normally aged 16 to 19, for success at colleges and universities. Transcripts from the IB Diploma Program are reviewed as transfer credit toward appropriate MCC courses. Credit may be awarded for higher level examinations passed with a score of 5, 6 or 7. For more information, please visit: www.ibo.org/.

Technical Studies Degree Program

The Technical Studies program offers a flexible curriculum tailored to the students' professional needs and to provide avenues for credit for prior learning experiences. This program will allow students to complete a specialized degree program and complement their work experiences, training experiences and certifications with academic coursework. The Technical Studies degree is intended to be a program of

study in an area other than the current degree programs of the college.

Students coming from recognized apprenticeship programs or students with certifications in a technical field (in an area that we do not offer an Associate Degree) may receive credits toward an associate's degree in Technical Studies for industry training and/or certifications. Documented certification exams and/or military experience may also be reviewed for credit. For more information contact the Academic Affairs Office.

Experiential Learning Opportunities

Credit for Prior Learning

Credit for prior learning offers students the opportunity to demonstrate the knowledge they have gained through life experiences and apply this knowledge toward credit in a degree or certificate program. A student must be matriculated at MCC to apply for experiential credit.

A request for credit for prior learning should initiate with the faculty advisor who normally teaches the course. After initial discussion, the student should submit a Credit by Experiential Learning Form, a portfolio containing a cover letter and resume, extensive work experience explanations, letters from employers, certificates of accomplishment, samples of work, as well as any other information deemed appropriate. The responsibility of proof will be on the student requesting evaluation. The portfolio is then reviewed by an appropriate instructor, the department chair and the Associate Vice President of Academic Affairs. If credit is granted, the student will be charged a fee for credit for prior learning based on the formula below.

Fee for Credit for Prior Learning - Experiential Learning

Students will be assessed a fee based on 50% of the current tuition rate on the total credits awarded (e.g., for 12 credits awarded: 0.50 x current tuition rate x 12 credits).

Military Opportunities

A. DANTES (Defense Activities for Non Traditional Support) & DSST

DANTES sponsors a wide range of examination programs to assist service members in meeting their educational goals. These examinations are administered on over 500 military installations by the DANTES Test Control Officer (TCO), who is normally the Education Services Officer or Navy College Education Specialist for the military installation, or by base-sponsored National Test Centers.

The DSST program (formerly known as the DANTES Subject Standardized Tests) is a series of 38 examinations in college subject areas that are comparable to the final or end-of-course examinations in undergraduate courses. The American Council on Education (ACE) recommends 3 semester hours of credit per test. For more information, please visit: www.dantes.doded.mil/Programs/Exams_DSST.html.

B. ACE (American Council on Education) Credit

Students can gain academic credit for formal courses and examinations taken outside of traditional degree programs. Manchester Community College accepts ACE exams as reliable course equivalency to facilitate credit award decisions. The ACE military evaluations program is funded by the Department of Defense (DoD) and coordinated through DANTES (above).

Licences, Certifications and Training Programs

Manchester Community College recognizes that certain Licenses, Certifications and Corporate Training Programs may be reviewed for prior learning experience credit. Course materials, certificates and other pertinent information are required in order to be considered. Certificate or licenses must be valid within 5 years of the date of acceptance into the college. The license, certification or training must be applicable to the student's degree program at MCC.

While all licenses and certifications are eligible for consideration, the list below is a sample of licenses and certifications that may be considered:

Valid Real Estate Broker or Salesperson	HAZMAT Training (80 hours)
Advanced Listing and Selling Combined	Current EMT or LPN License
Pilot's License - Private, Commercial, Instrument Rated, or Multi-Engine	Fire Fighter Training
AIB - American Institute of Banking	NH Police Standards
Life Insurance Agent	Dale Carnegie Training
H & R Block Basic Tax Course	Non Credit Paralegal Training
Registered Representative of National Association of Securities Dealers Variable Annuity License	

Community Affiliations: Clinical, Internship and Practicum Sites

Many of our programs have courses that offer practical experience. We have agreements with a multitude of businesses in the Manchester area and surrounding towns. Following is a partial list of past and present affiliations by program.

AUTOMOTIVE

Amoskeag European Auto Specialist
Bill Dube Ford Toyota
Bonneville & Son
Contemporary Chrysler Jeep Dodge
Grappone Ford
IRA Toyota
Manchester VW
Merchant's Auto
Mom's Garage
Port City Dogde
Rockingham Toyota
VIP
White River Toyota
AutoServ Plymouth
Bob Mariano Dodge Jeep
Clark Chrysler
Foss Motors
Hurlburt Toyota
Irwin Ford
McFarland Ford
Merrimack Street Volvo
Nashua Toyota
Port City Nissan
Subaru of Manchester
Wall's Ford

EARLY CHILDHOOD EDUCATION

Atkinson Elementary School
Early Head Start/Manchester
Head Start Manchester
Nutfield Cooperative Preschool
Children's World Learning Center/Manchester
Children's Center at St. Paul's
Glen Lake Elementary School
Kindercare/ Merrimack
Sunrise Childcare

EXERCISE SCIENCE

Birch Hill Terrace
Center for Physical Therapy/Exercise
Elliot Hospital
Health Fitness Corp/Fidelity
Merrick Spine Center
Performance Rehab, Inc
Synergy
The Complete Athlete-Sports Performance Clinics
YMCA/Manchester
Best Fitness
Concord Hospital
Hampshire Hills
Hillcrest
Next Level Performance
RSVP/Senior Counts
Training Effects
Work Out Club & Wellness Center

GRAPHIC DESIGN

Alphagrapics
Combine Services of Delta Dental
Float Left Labs
NH Magazine
RAM Printing
SyAM Software
BiGraphics
Eisenberg, Vital & Ryze Advertising
Mt. Kearsarge Indian Museum
Original Gourmet Food Company
Special Olympics of NH

MEDICAL ASSISTANT

Bedford Commons OB-GYN, PA
Concord Hospital Family Health Center
Dartmouth-Hitchcock Clinic
Family Physicians of Pembroke
Foundations Partners/SNHMC
Lamprey Healthcare Southern NH Health System
NH Neurospine Institute
Pleasant Street Internal Medicine
Southern NH Internal Medicine Assoc.
Webster Street Internal Medicine
Catholic Medical Center
Concord Hospital Medical Group
The Elliot Physicians Network
Family Physicians of Penacook
Harbour Women's Healthcare
Manchester Obstetrical Assoc.
Pediatric Health Associates
Senior Health Primary Care
The Doctor's Office

HEALTH INFORMATION MANAGEMENT

Catholic Medical Center
Dartmouth-Hitchcock Cancer Center
Exeter Hospital
Mary Hitchcock Memorial Hospital/ Dartmouth-Hitchcock Clinic
Southern NH Medical Center
CORE Physicians
Elliot Hospital
Lawrence General Hospital
Riverside Rest Home
St. Joseph Hospital
Wentworth Douglass Hospital

NURSING

Catholic Medical Center
Dana Farber Cancer Institute
Easter Seals
Dartmouth-Hitchcock Manchester
Elliot Hospital
Exeter Health Resources

Community Affiliations: Clinical, Internship and Practicum Sites Continued

Infusion Solution
Manchester School Department
New Horizons Shelter
Parkland Medical Center
Southern NH Medical Center
Veterans Administration Hospital
Manchester Health Department
New Hampshire Hospital
Northeast Rehab Health Network
Rockingham VNA & Hospice
VNA Home Health & Hospice

PHLEBOTOMY

Concord Hospital
Dartmouth Hitchcock-Lebanon & Manchester
Frisbee Memorial Hospital
LRG Healthcare
Portsmouth Regional Hospital
St. Joseph Hospital
Wolfeboro Hospital
Cheshire Medical Center
Elliot Hospital
Lab Corp.
Mass General Hospital
Quest Labs/Londonderry
Wentworth Douglass Hospital

Service Learning

Service learning combines community service with academic instruction. Students enrolled in courses with a service-learning component are guided through a critical analysis of what they observe in the field and what is presented in class. This approach enhances the breadth and depth of student learning in at least three domains: academics/higher order cognitive skills, life skills and sense of civic responsibility and ability to be effective members of their communities. Course learning outcomes are the basis for integrating projects that serve the college or the community at large. To preserve the academic integrity of the service-learning opportunity, students are not graded on simply "putting in the hours." Rather, they are graded on specific assignments and/or projects that demonstrate learning from the service-learning experience. Some courses provide built-in experiential projects; others require the student to identify his/her own project.

Running Start Program

The New Hampshire Running Start (RS) Program is a unique higher education initiative for high school students that enables them to enroll in selected college courses offered by the Community College system of New Hampshire at a significant reduction in tuition. College courses are offered during the day at high schools throughout New Hampshire.

The cost to enroll in a CCSNH course through Running Start is $150 per course, plus books and supplies (if not provided by the student's high school). This represents a substantial savings in college tuition costs. For more information on Running Start, visit www.ccsnh.edu/academics/running-start

NON-CREDIT LEARNING

Workforce Development/Professional Development

The Workforce Development Center at MCC responds quickly to the changing needs of business and industry and provides lifelong learning and professional development opportunities. The center provides training for people who need to sharpen their existing skills or learn new ones, maintain professional licenses or certifications and for people who are looking for advancement or a new career challenge. Some of the many innovative and exciting workshops, seminars, courses and certificates address the educational requirements of computer and information technology professionals, business professionals, managers and supervisors, teachers, medical professionals, electricians and office staff.

To encourage companies to upgrade the skills of their employees, the state has created the NH Job Training Fund, which covers up to 50% of the cost of employee training. For more information about the training grant or the Workforce Development Center at MCC call (603) 206-8160, email ManchesterWDC@ccsnh.edu or visit www.mccnh.edu/wdc

Corporate and Customized Training

The Workforce Development Center collaborates with organizations to assess their training needs and provide high-quality customized credit, non-credit and certificate courses and programs, which can be delivered at MCC or on site. For more info about corporate and customized training, call (603) 206-8160. Programs include, but are not limited to:

Basic Mechanics Machinery Leadership
Business Skills Manufacturing Courses
Communication Skills
Computer and Information Technology
Customer Service
ESOL (English Speakers of other Languages)
Home Inspection
OSHA -10
Pharmacy Technician
Project Management
Safety
Soldering
Tube formation
Veterinarian Assistant

WorkReadyNH

The tuition-free WorkReadyNH Program at Manchester Community College helps job seekers improve their skills, increase their marketability, and add a nationally recognized credential to their resumes. WorkReadyNH provides classroom instruction in "Soft Skills" practices identified by employers as key to workplace success.

Each session is three weeks long and runs four days a week. A class day consists of five hours of Soft Skills training, a half an hour for lunch, and an hour of Skill Building. For a WorkReadyNH schedule, visit www.mccnh.edu/workreadynh.

ENGLISH SPEAKERS OF OTHER LANGUAGES (ESOL)

Program Mission

The mission of the ESOL program is to help non-native English speakers improve their English language skills and proficiency for personal, professional and academic advancement.

Program Goal/Objectives

- English language fluency and integration of all language skills
- Use of authentic materials
- Understanding and valuing different cultures
- Peer and self-assessment
- Computer literacy

Program Description

The English Speakers of other Languages *(ESOL)* Program at MCC serves students from more than 50 countries. The range of sequenced non-credit courses provides instruction and support at multiple levels from beginning to advanced. This sequencing format provides students the opportunity to build on the foundation of their language skills and further develop these skills within a comprehensive, cohesive program of English-language instruction.

Assessment

Students must complete an English language assessment/placement test before they can enroll in any ESOL course. Assessments are administered through the Workforce Development Center. No appointment is necessary. Students receive a certificate of completion after each course.

Non-credit Courses

Students receive a certificate of completion after each course.

- ESL033 Intermediate 1 Academic Writing & Vocabulary
- ESL034 Intermediate 2 Academic Writing & Vocabulary
- ESL038 High intermediate 1 - Academic Writing & Vocabulary - High Intermediate
- ESL039 High intermediate 2- Academic Writing & Vocabulary - High Intermediate
- ESL050 ESOL – Listening, Speaking and Pronunciation

Specialized ESOL Courses

Specialized ESOL courses are offered for specific areas such as medical/allied health and business and can be offered on campus or at companies. For more information, contact the Director of Workforce Development at (603) 206-8160. For the most current listing of non-credit ESOL courses, please visit www.mccnh.edu/wdc/schedule

MANCHESTER COMMUNITY COLLEGE



PROGRAMS OF STUDY

Accreditation Statement

Manchester Community College is accredited by the New England Association of Schools and Colleges Commission, Inc., a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering post-graduate instruction.

Manchester Community College has been granted accreditation from the New England Association of Schools and Colleges Commission, Inc.'s Commission on Institutions of Higher Education. Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited school or college is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the New England Association is not partial but applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered, or competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Specialized Accreditations

Business Programs (Accounting, Management, Marketing) - Accreditation Council for Business Schools & Programs (ACBSP)

Early Childhood Education - National Association for the Education of Young Children, full accreditation

Medical Assistant - Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Medical Assisting Education Review Board (MAERB): Commission on Accreditation of Allied Health Education Program (CAAHEP) 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL 33763, (727) 210-2350

Nursing - Accreditation Commission for Education in Nursing, Inc. (ACEN) – formerly National League for Nursing Accrediting Commission (NLNAC), full accreditation; New Hampshire Board of Nursing (NHBON), full approval.

The MCC catalog is available online at
www.mccnh.edu/academics/academic-catalogs

ACCOUNTING ASSOCIATE OF SCIENCE

Program Goal

The student will be able to transfer to a four-year college or university with a solid accounting and overall business studies foundation to continue their accounting education in a seamless manner, or become employed in an entry-level accounting position.

Program Outcomes

Students who graduate from this program will be able to:

- Have a practical working knowledge of financial and managerial accounting
- Know how to operate at least one accounting software program
- Know how to prepare a complex individual tax return
- Be able to prepare accurate and well-organized financial statements
- Be able to make the adjustments needed to create financial statements in accordance with generally accepted accounting principles
- Demonstrate proficiency in analytical thinking, oral and written communication and applied mathematical skills
- Articulate the necessity for continued education through a bachelor degree and national licensing such as the CPA or CMA

Program Purpose Statement

Accounting is a field that offers challenging and meaningful work, a career opportunity, good working conditions and a rewarding salary. According to the 2014 Occupational Outlook Handbook published by the U.S. Department of Labor, employment of accountants and auditors is expected to grow 13 percent from 2012 to 2022 and has a 2012 median pay of $63,500 per year. According to the 2014 Job Outlook published by the National Association of Colleges and Employers, finance and accounting are again the top business degrees in demand.

The Accounting curriculum is continually modified and updated to keep pace with ever-changing rules, laws and technology. The program focuses on providing the student with the accounting skills needed for the job, as well as on the analytical skills needed to evaluate situations and look at the *"big picture."* The degree provides a foundation in economics, law, management, finance and computer technology.

Admissions Requirements

Although the Accounting program does not have any specific admissions requirements, an individual with criminal charges may not be able to become a Certified Public Accountant *(CPA)*. Please check with the NH Board of Accountancy before pursing a degree in accounting if you have been convicted of a criminal charge and want to become a CPA.

Transfer Credit Policy

Students may transfer credits earned at other accredited institutions with a grade of "C" or better in courses with equivalent content. Appropriate transfer credits may be accepted within a ten-year period.

Accreditation

The Department of Business Studies is nationally accredited by the Accreditation Council for Business Schools & Programs *(ACBSP)*. Our national accreditation allows our graduates to transfer to four-year colleges and universities in all regions of the country.

Employment Opportunities

MCC has a working partnership with Robert Half International, KBW and Staff Hunters *(placement agencies for accounting/finance professionals)*, where they can assist accounting students to find temporary and permanent placement in accounting-related jobs. Graduates of the program are ready for entry-level positions in public accounting, private industry, government, non-profit organizations and international arenas. Accounting careers include jobs in such areas as cost accounting, taxes, auditing, managerial accounting, consulting, personal advising, general ledger and forensic accounting.

Transfer Opportunities

The Accounting Associate degree transfers in its entirety to many four-year colleges and universities. Southern New Hampshire University accepts 90 credits from MCC and awards scholarships to MCC accounting graduates based on academic performance. Locally, Plymouth State University, UNH-Manchester and Franklin Pierce University accept accounting graduates. Credits also transfer nationally to ACBSP accredited colleges.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
ACCT113M	Accounting & Financial Reporting I	3	0	3
BUS114M	Management	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
ENGL110M	College Composition I	4	0	4
MATH145M	Topics in Applied College Mathematics	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**17**	**2**	**18**

First Year	Spring Semester	TH	LAB	CR
ACCT123M	Accounting & Financial Reporting II	3	0	3
ECON134M	Macroeconomics	3	0	3
MATH202M	Probability and Statistics	4	0	4
	English Elective	3	0	3
	Science Elective	3	0	3
	Total	**16**	**0**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
ACCT213M	Cost Accounting I	3	0	3
ACCT216M	Software Systems Applications	2	2	3
ACCT220M	Intermediate Accounting I	3	0	3
ACCT243M	Federal Income Taxes - Individual	3	0	3
BUS212M	Business Law I	3	0	3
ECON135M	Microeconomics	3	0	3
	Total	**17**	**2**	**18**

Second Year	Spring Semester	TH	LAB	CR
ACCT215M	Cost Accounting II	3	0	3
ACCT221M	Intermediate Accounting II	3	0	3
ACCT222M	Intermediate Accounting III	3	0	3
BUS210M	Organizational Communications	3	0	3
BUS221M	Business Finance	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**18**	**0**	**18**

Total Credits - 70

ACCOUNTING CERTIFICATE

		TH	LAB	CR
ACCT113M	Accounting & Financial Reporting I	3	0	3
ACCT123M	Accounting & Financial Reporting II	3	0	3
ACCT213M	Cost Accounting I	3	0	3
ACCT215M	Cost Accounting II	3	0	3
ACCT216M	Software Systems Applications	2	2	3
ACCT220M	Intermediate Accounting I	3	0	3
ACCT221M	Intermediate Accounting II	3	0	3
ACCT222M	Intermediate Accounting III	3	0	3
ACCT243M	Federal Income Taxes - Individual	3	0	3
BUS221M	Business Finance	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
			Total Credits - 33	

Accounting Operations-Specializations Description

MCC offers a series of classes focusing on specialized accounting skills that prepare you for entry-level jobs and for national certification in one of the specialized areas of Accounting Operations. The independent national certification and classroom education add credibility to your skill set and increase your chances of being hired.

The following individual classes prepare a student for national certification exams:

ACSP101M Payroll Fundamentals-Entry Level **3-0-3**

Covers the skills needed to work in entry-level payroll and sit for the Fundamental Payroll Certification Examination offered by the American Payroll Association. (no prior payroll work experience is required to sit for the certification).
www.americanpayroll.org/certification/certification-fpcinfo/

ACSP103M Accounts Payable-Entry Level **2-.5-2**

Covers the skills needed in entry-level accounts payable positions and to sit for the Certified Accounts Payable Associate (CAPA) national exam after fulfilling the one year required work experience with an Associates degree The CAPA designation is awarded by the Institute of Financial Operations.

BOOKKEEPING CERTIFICATE

Program Goal

The Bookkeeping Certificate covers the skills needed to work as a bookkeeper and to sit for the National Certified Bookkeepers exam offered by the American Institute of Professional Bookkeepers.

Program Outcomes

Upon successful completion of this certificate, students will:

- Be able to function in relevant positions in business settings.
- Be familiar with the relevant applications in QuickBooks.
- Be prepared to sit for national certifications in accounts payable, payroll and bookkeeping and be prepared for entry-level work as a bookkeeper.

Program Purpose Statement

Many small businesses require a bookkeeper to maintain their financial records accurately. Proper bookkeeping Is critical to the long-term success of any company. Individuals that work as bookkeepers may work for the company directly or may be in business for themselves and offer bookkeeping services. The art of properly maintaining a company's books requires a detail-oriented person with great attention to detail and accuracy. Accounting students may desire to also obtain the Bookkeeping Certificate in addition to an Accounting Associate degree. Having a solid understanding of the bookkeeping function can be beneficial to accounting students especially as the accountant progresses in his/her career and becomes the supervisor of the bookkeeping functions including Accounts Payable, Payroll and Accounts Receivable. According to the 2014 Occupational Outlook Handbook published by the U.S. Department of Labor, employment of bookkeeping and accounting clerks Is expected to grow 11 percent from 2012-2022 with a 2012 median pay of $35,170.

		TH	LAB	CR
	Accounting Elective - *Choose one: (ACCT100M,ACCT216M)*	3	0	3
ACCT113M	Accounting & Financial Reporting I	3	0	3
ACCT123M	Accounting & Financial Reporting II	3	0	3
ACSP101M	Payroll Fundamental - Entry Level	3	0	3
ACSP103M	Accounts Payable - Entry Level	2	.5	2
ACSP110M	Bookkeeping Internal Controls and Advanced Topics	2	0	2
ACSP111M	Advanced Bookkeeping Applications	3	0	3
			Total Credits - 19	

The Bookkeeping Certificate is no longer accepting new students.

ADVANCED MANUFACTURING TECHNOLOGY ASSOCIATE OF SCIENCE

Program Goal

The Advanced Manufacturing Technology Program will help you learn marketable skills in a variety of Automated Manufacturing processes to enter the dynamic world of high-tech manufacturing. There are two pathways for students to choose from, either a focus on Mechatronics or on Robotics.

Program Outcomes

Students who graduate from this program will be able to:

- Define the automated manufacturing processes
- Illustrate the flow of materials and resources within the manufacturing cycle
- Demonstrate the ability to manipulate the system to create finished product
- Program the material handling equipment to identify product to the system
- Provide analysis to improve the process
- Be able to make modifications to the system
- Develop the system to optimize production

Program Purpose Statement

The term “Advanced Manufacturing Technology” is used to describe flexible manufacturing systems that use innovative technology to improve the design and manufacture of products and processes. The Advanced Manufacturing Technology Program will teach you how these systems – using robotic and transport-based automation including modular work cells: assembly stations, storage locations, machining centers, welding centers and painting stations – play out in the product, from design to manufacture to delivery to the customer. Each student will acquire an overview of how a complete system is tied together to produce high-quality product at a low cost.

Admissions Requirements

In addition to college-wide admissions requirements, students must:

- Successfully complete high school algebra I and II

Job Opportunities

Labor market demand over next five years is positive for students and the New Hampshire Long-Term Occupational Projections (2006 – 2016) and Wage Data for Advanced Manufacturing Occupations (as defined by U.S. Bureau of Labor Statistics) shows a projected 13.9% increase in jobs in the Advanced Manufacturing sector.

Technical Standards

- Good manual dexterity
- Ability to visualize and portray ideas graphically
- Other requirements necessary for this program can be accommodated with appropriate documentation

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
ADMT110M	Manufacturing Processes	2	3	3
ADMT112M	Introduction to Engineering Design and Solid Modeling	3	3	4
ADMT115M	Engineering Print Reading	2	3	3
ADMT118M	Electrical Fundamentals for Manufacturing	3	3	4
MATH155M	College Algebra with Trigonometry	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**15**	**12**	**19**

First Year	Spring Semester	TH	LAB	CR
ADMT120M	Motor Controls & PLC for Manufacturing	3	3	4
ADMT135M	Basic Machining Practices	1	5	3
MATH171M	Pre-Calculus	4	0	4
PHYS135M	College Physics I	3	3	4
ENGL110M	College Composition I	4	0	4
	Total	**15**	**11**	**19**

Choose between a Mechatronics or Robotics pathway:

There are two pathways students must choose from, either a focus on Mechatronics or on Robotics.

Mechatronics Pathway
Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
ADMT210M	Manufacturing Systems I	2	3	3
ADMT220M	Material Science	2	3	3
ADMT230M	CAD/CAM for Manufacturing	2	3	3
PHYS136M	College Physics II	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**12**	**12**	**16**

Second Year	Spring Semester	TH	LAB	CR
ADMT240M	Manufacturing Systems II	3	6	5
WELD223M	Statics and Strength of Materials	2	2	3
	Business Elective	3	0	3
	Social Science Elective	3	0	3
	Total	**11**	**8**	**14**

Total Credits - 68

Robotics Pathway
Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
ADMT210M	Manufacturing Systems I	2	3	3
ADMT220M	Material Science	2	3	3
ROBO210M	Robotic Processes	2	3	3
PHYS136M	College Physics II	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**12**	**12**	**16**

Second Year	Spring Semester	TH	LAB	CR
ADMT240M	Manufacturing Systems II	3	6	5
ROBO211M	Robotic Design	2	2	3
	Business Elective	3	0	3
	Social Science Elective	3	0	3
	Total	**14**	**10**	**18**

Total Credits - 68

APPLIED CAREER FUNDAMENTALS FOR ADVANCED MANUFACTURING CERTIFICATE

The Applied Career Fundamentals for Advanced Manufacturing Certificate will prepare the student to enter the workforce in an entry-level position. It is designed for the student who seeks immediate employment and who may continue their education and pursue an Associate Degree in manufacturing.

		TH	LAB	CR
ADMT110M	Manufacturing Processes**	2	3	3
ADMT115M	Reading and Interpreting Engineering Drawings**	2	3	3
BUS110M	Introduction to Business	3	0	3
ENGL110M	College Composition	4	0	4
ENGL113M	Introduction to Public Speaking	3	0	3
CIS110M	Microsoft® Computer Applications I*	2	2	3
MATH145M	Topics in Applied College Mathematics	4	0	4
PHYS110M	Physical Science*	3	2	4
			Total Credits - 27	

** may substitute a higher level course in this discipline*
*** may substitute another ADMT course*

COMPUTER AIDED DESIGN (CAD) CERTIFICATE

The Computer Aided Design *(CAD)* Certificate provides short-term training for job skill development and advancement leading to employment. The courses prepare students to work in engineering environments to create drawings for manufacture and to help solve engineering problems through graphic communication. The skills will prepare students to be continuous learners and be adaptable to other CAD system software. This certificate will address all of the skills needed to support disciplines locally and globally with the focus on architectural and mechanical drafting.

		TH	LAB	CR
CAD110M	CAD I - Fundamentals	2	2	3
CAD120M	CAD II - Intermediate	2	2	3
CAD210M	CAD III - Advanced	2	2	3
CAD220M	Inventor Fundamentals	2	3	3
CAD225M	Design Project for Rapid Prototyping	2	6	4
			Total Credits - 16	

MECHATRONICS CERTIFICATE

The Mechatronics Certificate will provide detailed knowledge of machining, electrical and electronic theory as it applies to the latest technologies and skills required by manufacturers. Students will learn installation, troubleshooting and maintenance for all types of electromechanical and manufacturing machinery.

First Year	**Fall Semester**	TH	LAB	CR
ADMT110M	Manufacturing Processes	2	3	3
ADMT112M	Introduction to Engineering Design and Solid Modeling	3	3	4
ADMT115M	Engineering Print Reading	2	3	3
ADMT118M	Electrical Fundamentals for Manufacturing	3	3	4
	Total	**10**	**12**	**14**

First Year	**Spring Semester**	TH	LAB	CR
ADMT120M	Motor Controls and PLCs *(8 weeks)*	3	3	4
ADMT135M	Basic Machining Practices	1	5	3
ADMT210M	Manufacturing Systems I	2	3	3
ADMT230M	CAD/CAM for Manufacturing	2	3	3
	Total	**8**	**14**	**13**

Total Credits - 27

ROBOTICS CERTIFICATE

The Robotics Certificate will provide skills and knowledge of robots in automation technology as needed to provide high quality in a production environment. Students will learn robotic operation, build and design and programming fundamentals specific to tasks the robot will complete.

First Year	**Fall Semester**	TH	LAB	CR
ADMT110M	Manufacturing Processes	2	3	3
ADMT112M	Introduction to Engineering Design and Solid Modeling	3	3	4
ADMT115M	Engineering Print Reading	2	3	3
ADMT118M	Electrical Fundamentals for Manufacturing	3	3	4
	Total	**10**	**12**	**14**

First Year	**Spring Semester**	TH	LAB	CR
ADMT120M	Motor Controls and PLCs *(8 weeks)*	3	3	4
ADMT210M	Manufacturing Systems I	2	3	3
ROBO210M	Robotic Processes	2	3	3
ROBO211M	Robotic Design	2	3	3
	Total	**9**	**12**	**13**

Total Credits - 27

AUTOMOTIVE TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Program Goal

The Automotive Technology Program provides a strong foundation for a successful and financially rewarding career in a very complex field.

Program Outcomes

MCC's partnerships with Chrysler, other local dealerships and independent businesses provide exceptional training which leads to an Associate Degree and an invaluable opportunity for full-time employment.

Program Purpose Statement

Today's automotive technicians need high-level skills and knowledge to diagnose and service increasingly complex systems. The evolution from yesterday's mechanic to a skilled technician requires that today's technicians are competent with highly sophisticated systems, as well as with the traditional mechanical areas.

Automotive Technology at MCC is a state-of-the-art, two-year program that combines classroom and practical training with paid, on-the-job co-op experience leading to an Associate Degree. MCC automotive curriculum is designed to meet the individual student's area of interest by offering four comprehensive pathways, including:

- **Chrysler MCAP** (Mopar Career Automotive Program) is an alliance with Dodge, Jeep, Ram, Chrysler and Fiat dealers
- **Ford MLR** (Maintenance and Light Repair) is an alliance with Ford Motor Company and Ford and Lincoln dealers
- **Audi Education Partnership**
- **The Global Pathway** takes a "global" approach to automotive education, with courses on Asian, European and domestic models (including Mercedes Benz, BMW, Volkswagen, Nissan, Hyundai, Subaru and more!)

Students spend time in the classroom and labs on MCC campus, as well as working full-time at their co-op sites. Students are required to complete 22 weeks of work experience at an approved co-op site where they will become familiar with the latest technology while working as a paid technician trainee.

Admission Requirements

In addition to the college-wide admissions requirements, the following requirements apply to both the degree and the certificate programs:

- Must possess a valid driver's license and have a driving record that meets industry insurability standards.
- Must have college assessment results that indicate placement into College Composition I *(ENGL110M)* and college mathematics *(100 level or higher)*.
- Must have a personal interview with one of the automotive department advisors.

Transfer Credit Policy

Automotive coursework proposed for transfer must be completed no more than 10 years prior to acceptance into the program.

Accreditation/Certifications

The Chrysler MCAP *(Mopar Career Automotive Program)* program is NATEF-Certified.

Employment Opportunities

Job placement for successful graduates begins with the co-op part of our program. Students often find full-time employment with their co-op sponsors. All students have the personnel skills and experience to find successful employment in a new situation.

Technical Standards

Students should also be aware of the following technical standards when applying to the degree or certificate programs:

- It is strongly recommended that students have driving experience with a manual transmission.
- Students should have strength to lift automotive parts and equipment and perform manual tasks.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
AUTO111M	Introduction to Automotive Service	1	6	3
AUTO112M	Steering, Suspension & Alignment	2	4	4
AUTO113M	Electrical Systems	3	3	4
FYE100M	First Year Cornerstone	1	0	1
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**10**	**13**	**15**

First Year	Spring Semester	TH	LAB	CR
AUTO121M	Brake Systems	2	3	3
AUTO122M	Engine Theory, Diagnosis & Repair	2	3	3
AUTO123M	Electronics I	2	3	3
AUTO124M	Automotive Co-op I	0	15	1
CIS110M	Microsoft® Computer Applications I	2	2	3
	Mathematics Elective *(100 level or higher)*	3	0	3
	Total	**11**	**26**	**16**

First Year	Summer Session	TH	LAB	CR
AUTO131M	Climate Control Systems	2	3	3
AUTO132M	Electronics II	2	3	3
AUTO133M	Customer Service	1	0	1
AUTO134M	Automotive Co-op II	0	15	1
	Science Elective	3	0	3
	Total	**8**	**21**	**11**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
AUTO211M	Manual Transmissions & Transaxles	2	4	4
AUTO214M	Powertrain & Emission Controls	2	3	3
AUTO215M	Advanced Vehicle Systems	3	0	3
ENGL110M	College Composition I	4	0	4
	Total	**11**	**7**	**14**

Second Year	Spring Semester	TH	LAB	CR
AUTO220M	Automotive Co-op III	0	15	1
AUTO221M	Automatic Transmission Hydraulic & Mechanical Systems	2	3	3
AUTO223M	Driveability & Performance	2	3	3
AUTO224M	Automatic Transmission Electronics	2	3	3
	English Elective	3	0	3
	Social Science Elective	3	0	3
	Total	**12**	**24**	**16**

Total Credits - 72

AUTOMOTIVE TECHNOLOGY CERTIFICATE

In the Certificate program, students learn the skills necessary for an entry-level technician's position. The program combines classroom and practical training with on-the-job work experience. Students become familiar with the latest technology, earn a certificate and work as an apprentice technician. Students gain skills that directly apply to the field of study, prepare for ASE exams and work toward full-time employment. All certificate students must complete an internship course with a minimum of 244 hours of work experience at an approved site.

		TH	LAB	CR
AUTO101M	Introduction to Service & Maintenance	1	6	3
AUTO102M	Suspension & Steering Systems	2	3	3
AUTO103M	Basic Electrical	3	3	4
AUTO104M	Automotive Brakes	2	3	3
AUTO105M	Automotive Engines	2	3	3
AUTO106M	Electronic Systems	2	3	3
AUTO107M	Automotive Climate Control	2	3	3
AUTO108M	Automotive Co-op	0	15	1

Total Credits - 23

BUSINESS COMMUNICATIONS ASSOCIATE OF SCIENCE

Program Goal

The mission of the Business Communications degree is to prepare students for transfer to a four-year college or university or become employed in an entry-level business communications position. Students will possess a solid business communications and business studies foundation.

Program Outcomes

Students who graduate from this program will be able to:

- Demonstrate knowledge of various advertising mediums such as print, radio, television, e-commerce, etc.
- Develop integrated marketing communication skills in the areas of product, place, price and promotion
- Demonstrate excellent written communication skills to be applied to business settings
- Demonstrate team work principles and techniques
- Demonstrate excellent oral and presentation communication skills
- Articulate global business communications perspectives

Program Purpose Statement

Every organization requires some form of effective business communications, which is a vital skill for today's graduates. Whether communicating with co-workers and colleagues or prospects and clients, business graduates must use various communication skills and techniques in their professions on a daily basis.

Students are introduced to basic business communication concepts, theories and techniques. They will also engage in organizational behavior exercises and team building activities, as well as have the opportunity to apply their business communication knowledge using hands-on, real-world projects. This may include Service-Learning projects, integrated marketing communication plans, marketing research projects, advertising campaigns, as well as case studies and business communication simulations. Students will obtain a well-rounded education in business theory and application.

Admissions Requirements

Applicants for admission to the Business Communications degree program must comply with the college admission requirements; no specific program requirements apply.

Employment Opportunities

According to the National Association of Colleges and Employers *(NACE)*, job prospects for business graduates are strong. Students with a business background can find entry-level jobs in the service, government and non-profit sectors.

Transfer Credit Policy

Students may transfer credits earned at other accredited institutions provided a grade of "C" or better has been earned in courses with equivalent content. Appropriate transfer credits may be accepted within a 10-year time frame.

Accreditation

The Department of Business Studies is nationally accredited by the Accreditation Council for Business Schools & Programs *(ACBSP)*. Our national accreditation allows our graduates to transfer to four-year colleges and universities in all regions of the country.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
BUS120M	Introduction to Communications Media	3	0	3
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
ENGL110M	College Composition I	4	0	4
CIS110M	Microsoft® Computer Applications I	2	2	3
FYE100M	First Year Cornerstone	1	0	1
	Total	**13**	**2**	**14**

First Year	Spring Semester	TH	LAB	CR
BUS114M	Management	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
ACCT113M	Accounting and Financial Reporting I	3	0	3
MATH132M	Business Mathematics	3	0	3
	English Elective - *Choose one: (ENGL203, ENGL214)*	3	0	3
	Science Elective	3	0	3
	Total	**18**	**0**	**18**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
MKTG210M	Advertising	3	0	3
BUS216M	Organizational Behavior	3	0	3
GDES110M	Page Layout and Design	2	3	3
PHIL240M	Ethics	3	0	3
ENGL113M	Introduction to Public Speaking	3	0	3
	Total	**14**	**3**	**15**

Second Year	Spring Semester	TH	LAB	CR
MKTG135M	Global Consumer Behavior	3	0	3
MKTG205M	International Marketing	3	0	3
BUS200M	Team Building	3	0	3
BUS210M	Organizational Communications	3	0	3
MKTG282M	Marketing Research	3	0	3
	Liberal Arts Elective	3	0	3
	Total	**18**	**0**	**18**

Total Credits - 65

BUSINESS COMMUNICATIONS CERTIFICATE

		TH	LAB	CR
BUS120M	Introduction to Communications Media	3	0	3
BUS200M	Team Building	3	0	3
BUS210M	Organizational Communications	3	0	3
BUS216M	Organizational Behavior	3	0	3
ENGL110M	College Composition I	4	0	4
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
MKTG135M	Global Consumer Behavior	3	0	3
MKTG210M	Advertising	3	0	3
MKTG282M	Marketing Research	3	0	3

Total Credits - 28

BUSINESS STUDIES ASSOCIATE OF ARTS

Program Goal

The AA in Business Studies degree is designed to facilitate transfer to a four-year institution for continued study in business administration. The degree is designed to be a place for students who want to explore careers in Business Studies but are not sure what aspect of business they wish to pursue.

Program Outcomes

Students who graduate from this program will be able to:

- Demonstrate knowledge of a wide variety of disciplines
- Narrow interests in the field of business
- Articulate business principles and ethics
- Transfer to another business degree and/or four-year institution

Program Purpose Statement

In the first year of the program students take a wide variety of business courses, representing the disciplines of accounting, management and marketing. The second year allows for the student to narrow his/her interest and explore courses in a particular discipline. The liberal arts requirements are general to allow a student to take courses that will align with the four-year institution of his/her choice.

While it is appropriate for a student to complete the degree and transfer, it is also appropriate for a student to change his/her major into one of the current degrees in the Department of Business Studies: Accounting, Business Communication, Management, or Marketing.

Admissions Requirements

Applicants for admission to the Business Studies degree program must comply with the college admission requirements; no specific program requirements apply.

Employment Opportunities

According to the National Association of Colleges and Employers *(NACE)*, job prospects for business graduates are strong. Students with a business background can find entry-level jobs in the service, government and non-profit sectors.

Transfer Credit Policy

Students may transfer credits earned at other accredited institutions provided a grade of "C" or better has been earned in courses with equivalent content. Appropriate transfer credits may be accepted within a 10-year time frame.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
ACCT113M	Accounting and Financial Reporting I	3	0	3
BUS114M	Management	3	0	3
BUS110M	Introduction to Business	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
ENGL110M	College Composition I	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**16**	**2**	**17**

First Year	Spring Semester	TH	LAB	CR
ACCT123M	Accounting and Financial Reporting II	3	0	3
ENGL120M	College Composition II	4	0	4
ECON134M	Macroeconomics	3	0	3
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
MATH145M	Topics in Applied College Mathematics	4	0	4
	Business Elective* *(must be 200 Level)*	3	0	3
	Total	**20**	**0**	**20**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
ECON135M	Microeconomics	3	0	3
MATH202M	Probability and Statistics	4	0	4
PHIL240M	Ethics	3	0	3
	Lab Science Elective	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**16**	**3**	**17**

Second Year	Spring Semester	TH	LAB	CR
	Lab Science Elective	4	0	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Business Elective* *(must be 200 Level)*	3	0	3
	Business Elective* *(must be 200 Level)*	3	0	3
	Social Science Elective	3	0	3
	Total	**16**	**0**	**16**

Total Credits - 70

***Business Elective:** *Choose any 200 level ACCT, BUS or MKTG course offered at MCC.*

COMPUTER SCIENCE ASSOCIATE OF SCIENCE

Program Goal

The Computer Science program provides foundation-level preparation and logic common to all computer science areas, rather than on specific application programs. In the second year of the program, students are able to focus on one of several functional areas, including applications, database, networking/web development, programming, or web graphics.

Program Outcomes

Students who graduate from this program will be able to:

- Demonstrate proficiency in the foundation of programming languages, object-oriented databases and networking
- Demonstrate expertise in one area of computer science: programming, data structures, databases or networking
- Demonstrate proficiency in state-of-the-art technology within the student's area of concentration
- Demonstrate problem solving and critical thinking skills
- Demonstrate knowledge in social, legal and ethical implications for computer science
- For non-CS majors, provide fundamental understanding of Microsoft® Office Suite™ applications

Program Purpose Statement

The Computer Science Associate Degree Program offers students technical and professional preparation for careers in computer science as well as transfer to a four-year degree program. All degree candidates study core computer science competencies including various programming, Internet, networking and operating system courses.

Admissions Requirements

The Computer Science program has no additional requirements.

Technical Standards

Most physical requirements necessary for this program can be accommodated with appropriate documentation.

Transfer Credit Policy

- Any computer course being considered for transfer cannot be more than 10 years old from the date of matriculation into the CS program.
- Any Microsoft® course being considered for transfer cannot be more than five years old from the date of matriculation into the CS program.

Employment Opportunities

Computer Science remains one of the fastest growing fields, with a projected shortage of qualified job candidates for the foreseeable future for programmers, networkers, database professionals and web designers. These areas have been noted by the U.S. Dept. of Labor's Bureau of Labor Statistics as "high growth" areas.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
CIS105M	Introduction to Computer Science	2	2	3
	Apps Elective - *Choose one: (CIS107M, CIS108M)*	2	2	3
ENGL110M	College Composition I	4	0	4
MATH155M	College Algebra with Trigonometry.	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**13**	**4**	**15**

First Year	Spring Semester	TH	LAB	CR
CIS113M	Database Design & Management Using SQL	3	3	4
	Programming Language Elective - *Choose One: (CIS117M, CIS118M, CIS126M, CIS148M, CIS158M)*	2	2	3
MATH171M	Pre-Calculus	4	0	4
ENGL113M	Introduction to Public Speaking	3	0	3
	Social Science Elective	3	0	3
	Total	**15**	**5**	**17**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
	Concentration Elective - *Choose one: (CIS116M, CIS124M, CIS220M, CIS233M)*	2	2	3
CIS210M	Data Structures and Elementary Algorithms	3	3	4
MATH170M	Discrete Mathematics	4	0	4
ENGL206M	Professional Communication	3	0	3
	Technical Elective *(any level)*	2	2	3
	Total	**14**	**7**	**17**

Second Year	Spring Semester	TH	LAB	CR
CIS274M	XML Programming I	2	2	3
CIS291M	Capstone Senior Seminar	2	2	3
	Technical Elective *(must be 200 level)*	2	2	3
PHYS135M	College Physics I	3	3	4
	Liberal Arts and Science Elective	3	0	3
	Total	**12**	**9**	**16**

Total Credits - 65

PROGRAMMING CERTIFICATE

Designed to prepare students for careers in computer programming, this certificate provides the skills necessary for entry-level positions in the field. Students will also be prepared to transfer these courses into the Computer Science degree program.

		TH	LAB	CR
	Apps Elective - *Choose one: (CIS107M, CIS108M)*	2	2	3
CIS118M	Introduction to Programming using VB.NET	2	2	3
CIS148M	Introduction to Programming using JAVA	2	2	3
CIS158M	Introduction to Programming using C#	2	2	3
CIS210M	Data Structures & Elementary Algorithms	3	3	4
CIS220M	Object Oriented Programming	2	2	3

Total Credits - 19

WEB PROGRAMMING CERTIFICATE

Designed for students interested in developing key skills for careers in Internet application development, this certificate focuses on the technical skills necessary to prepare students for jobs as entry-level Web Programmers. As the Web continues to impact business and education, developers must be prepared for the new challenges in the ever-evolving world of Internet technology.

		TH	LAB	CR
	Apps Elective - *Choose One: (CIS107M, CIS108M)*	2	2	3
CIS113M	Database Design & Management Using SQL	3	3	4
CIS124M	Web Programming I	2	2	3
CIS148M	Introduction to Programming using JAVA	2	2	3
CIS224M	Web Programming II	2	2	3
CIS234M	PHP & MySQL® Web Development	2	2	3

Total Credits - 19

COMPUTER SCIENCE AND INNOVATION ASSOCIATE OF SCIENCE

Program Goal

In each year of the Computer Science and Innovation degree program, students are presented with a personalized, student-centered learning program focused on innovative workplace and consumer applications. The Computer Science and Innovation program focuses on emerging technology such as mobile devices and devices not normally associated with Computer Science such as automobiles, household appliances and other devices including future computerized devices.

Program Outcomes

Students who graduate from this program will be able to:

- Explain the term "Internet of Things"
- Demonstrate proficiency in the foundation of programming languages, object oriented databases and networking
- Explain the need to develop non-traditional computer application for use on a mobile platform or other emerging technology
- Demonstrate the need for Software Quality Assurance
- Demonstrate differences between manual and automated software testing
- Demonstrate methods of creating secure code on various platforms
- Demonstrate expertise in one area of computer science: programming, data structures, databases or networking
- Demonstrate proficiency in state-of-the-art technology within the student's area of concentration
- Demonstrate problem solving and critical thinking skills
- Demonstrate knowledge in social, legal and ethical implications for computer science
- Create a stepping-stone for transfer to the Computer Science and Innovation four-year degree at Granite State College
- Explain the necessity for a commitment to life-long learning

Program Purpose Statement

The Computer Science and Innovation Associate Degree Program offers students technical and professional preparation for careers in computer science as well as transfer to a four-year degree program. In particular students are prepared for admission into the Computer Science Innovation Bachelor of Science degree at Granite State College in accordance with the Articulation Agreement. All degree candidates study core computer science competencies including various programming, Internet, networking and operating system courses.

Admissions Requirements

The Computer Science and Innovation program has no additional requirements.

Technical Standards

Most physical requirements necessary for this program can be accommodated with appropriate documentation.

Transfer Credit Policy

Any computer course being considered for transfer cannot be more than 10 years old from the date of matriculation into the Computer Science and Innovation program.

Employment Opportunities

Computer Science remains one of the fastest growing fields, with a projected shortage of qualified job candidates for the foreseeable future for programmers, networkers, database professionals and web designers. These areas have been noted by the U.S. Dept. of Labor's Bureau of Labor Statistics as "high growth" areas.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
CIS105M	Introduction to Computer Science	2	2	3
ENGL110M	College Composition I	4	0	4
MATH155M	College Algebra with Trigonometry	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Apps Elective - *Choose One (CIS107M, CIS108M)*	2	2	3
	Liberal Arts and Sciences Elective	3	0	3
	Total	**16**	**4**	**18**

First Year	Spring Semester	TH	LAB	CR
PHYS135M	College Physics I	3	3	4
ENGL206M	Professional Communication	3	0	3
	Programming Language Elective - *Choose one: (CIS117M, CIS118M, CIS126M, CIS148M, CIS158M)*	2	2	3
	Technical Elective *(any level)*	2	2	3
	Social Science Elective	3	0	3
	Total	**13**	**7**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
CIS210M	Data Structures and Elementary Algorithms	3	3	4
CIS220M	Object Oriented Programming	2	2	3
CSCN210M	Computer Science In Action I -Technology Innovation	3	3	4
MATH171M	Pre-Calculus	4	0	4
ENGL113M	Introduction to Public Speaking	3	0	3
	Total	**15**	**8**	**18**

Second Year	Spring Semester	TH	LAB	CR
CSCN220M	Entrepreneurship in Computer Science	3	3	4
CSCN225M	Computer Science in Action II - Quality Assurance & Security	3	3	4
MATH170M	Discrete Mathematics	4	0	4
ACCT113M	Accounting and Financial Reporting I	3	0	3
	Capstone Elective - *Choose one (CSCN290M, CIS291M)*	2	2	3
	Total	**15**	**8**	**18**

Total Credits - 70

CYBERSECURITY INVESTIGATIONS ASSOCIATE OF SCIENCE

Program Goal

Cybersecurity Investigations provides foundation-level preparation and expertise common to all computer forensics and intrusion investigations. In the second year of the program, students will use real work tools used in the investigation of cybercrime and network intrusions, including tools used in desktop forensics, mobile forensics and network intrusions.

Program Outcomes

Students who graduate from this program will be able to:

- Demonstrate the concepts of a well-rounded education in cybercrime theory and application
- Demonstrate knowledge of various methods of detecting, recovering and preventing cybercrime
- Develop flexible data recovery plans relating to new and evolving data storage devices
- Demonstrate the ability to detect, track and prevent cyber intrusions
- Demonstrate integrated marketing communication skills in the areas of product, place, price and promotion
- Demonstrate the written communication skills necessary to produce well throughout conclusive reports to substantiate findings
- Demonstrate the oral communication skills necessary to explain and possibly testify to the findings of a digital examination
- Demonstrate a command of team work
- Explain the concept and importance of ethics in Cybersecurity Investigations
- Demonstrate a foundation for employment or transfer to a four-year institution
- Explain the necessity for a commitment to life-long learning

Program Purpose Statement

The most fundamental change in corporate security and law enforcement in recent years is the increase in cybercrime which is causing significant financial losses in the US. The number of crimes involving electronic data has been skyrocketing as our dependence on digital devices in our lives increases. Only trained digital forensics experts can search computers and computer devices for electronic evidence, perform digital investigations, recover lost data, track cyber intrusions and provide technical expertise in a way that preserves the integrity of the original digital material. A degree in Cybersecurity Investigations will place students into a pool of sought-after professionals in the digital forensics world and will provide graduates with a foundation in digital investigations allowing them to transfer to a four-year institution to pursue a bachelor's degree.

Normal investigation techniques cannot detect or extract bits of digital information that may remain after deletion. Cyber forensics examines files that are hidden, deleted or overwritten; recovers file fragments and other obfuscated data; detects cyber intrusions and embedded malicious code and compiles evidence relating to the disclosure of personal and financial information.

Admissions Requirements

The Cybersecurity program has no additional requirements beyond the college-wide requirements.

Transfer Credit Policy

- Any computer course being considered for transfer cannot be more than 10 years old from the date of matriculation into the program.
- Any certifications being considered must be in good standing.

Prior Learning Information

Students who have trained for the following CompTIA certification exams and who have successfully obtained and hold current certifications do not need to repeat that training. Students who wish to receive credit for certification exams should complete a "Credit for Experiential Learning" form which can be obtained from the Department Chairperson.

- Students with a current CompTIA A+ certificate are not required to take CIS102M and CIS103M
- Students with a current CompTIA Network + certificate are not required to take CIS116M
- Students with a current CompTIA Security + certificate are not required to take CYBD220M

Employment Opportunities

- Cybersecurity Investigator
- Intrusion Detection Specialist
- Data Recovery Specialist
- Computer Forensic Analyst
- Network Security Specialist
- Mobile Device Data Recovery

Technical Standards

Most physical requirements necessary for this program can be accommodated with appropriate documentation.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
CYBD100M	Introduction to Computer Forensics	2	3	3
CIS102M	A+ Preparation - Hardware	2	3	3
CIS110M	Microsoft® Computer Applications I	2	2	3
CIS116M	Network + Preparation	3	3	4
ENGL110M	College Composition I	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**14**	**11**	**18**

First Year	Spring Semester	TH	LAB	CR
CYBD110M	Investigations & Evidence Recovery	3	3	4
CIS103M	A+ Preparation - Software	2	2	3
ENGL113M	Introduction to Public Speaking	3	0	3
MATH132M	Business Mathematics	3	0	3
POLS110M	American Government	3	0	3
	Total	**14**	**5**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
CYBD210M	Operating System Artifacts	3	3	4
CYBD215M	PC Forensics	3	3	4
	Cybersecurity Investigations Elective *Choose one: (CYBD200M, CYBD220M)*	3	3	4
PHIL240M	Ethics	3	0	3
	Lab Science Elective	3	3	4
	Total	**15**	**12**	**19**

Second Year	Spring Semester	TH	LAB	CR
CYBD230M	Mobile & Emerging Device Analysis	3	3	4
CYBD235M	Network Intrusions	3	3	4
	Capstone Elective - *Choose one: (CIS291M, CYBD225M)*	2	2	3
	English Elective - *(200 Level)*	3	0	3
	Social Science Elective	3	0	3
	Total	**14**	**8**	**17**

Total Credits - 70

EARLY CHILDHOOD EDUCATION ASSOCIATE OF APPLIED SCIENCE

MCC's Early Childhood Education degree program is currently the only ECE associate degree program in NH accredited by the National Association for the Education of Young Children with full accreditation and no conditions.

Program Goal

The goal of the Early Childhood Education program is to provide students with the most current knowledge, skills and to cultivate the dispositions that will enable them to become exemplary early childhood educators. To do so, we maintain high academic and professional expectations which adhere to the standards of quality set forth by the National Association for the Education of Young Children *(NAEYC)*. Students will learn to be competent, reflective practitioners able to:

- Demonstrate an understanding of the early childhood profession and a commitment to its Code of Ethical Conduct
- Demonstrate understanding of the diverse developmental, cultural and individual needs of all children
- Create high quality, inclusionary, positive and nurturing learning environments and curriculum for young children.
- Demonstrate skillful observation, documentation and assessment of children's progress
- Build and maintain positive, productive and reciprocal relationships with children, families, colleagues and the community
- Serve as an advocate on behalf of young children and their families to improve the quality of early childhood programs and services

Program Outcomes

Students who graduate from this program will be able to:

- Compare, contrast, and discuss the diversity and breadth of learning and developmental theories, philosophies, and educational approaches from a historical and current perspective.
- Explain and demonstrate knowledge of the multiple interacting influences on children's development and learning, and demonstrate the ability to support the physical, social, emotional, and cognitive development of young children from birth to age twelve, including those with unique developmental or learning needs.
- Establish and maintain safe, healthy, supportive, inclusionary, and culturally pluralistic learning environments for young children.
- Demonstrate an understanding of the goals, benefits, and purposes of assessment and the ability to utilize a variety of assessment and evaluation strategies and tools, including technology, effectively and ethically to observe and document children's development and behavior in a positive and constructive manner, noting each child's strengths and interests as well as needs.
- Design, implement and evaluate a meaningful, challenging, and developmentally appropriate curriculum that demonstrates a wide array of teaching practices reflecting the spectrum of content areas as well as intentionally taking into consideration the individual needs, learning styles, and interests of young children.
- Establish and maintain positive, productive relationships with families by respecting families' choices and goals for children, communicating effectively and meaningfully with families, and using families as a primary source of information in planning to meet the needs of individual children.
- Establish and maintain positive, productive relationships with colleagues, work effectively as members of instructional teams, and communicate effectively with other professionals, agencies, and the larger community to support children's development, learning, and well-being.
- Demonstrate an awareness of professional standards that will guide their practice and a commitment to the profession's code of ethical conduct.
- Demonstrate reflective thinking and the ability to continually evaluate the effect of their choices and actions on others, seek out opportunities to grow professionally, and serve as an advocate for children, families, and the early childhood profession.

Program Purpose Statement

The ECE program is designed to prepare individuals to be competent professionals. Graduates meet the New Hampshire Child Care Licensing *(NHCCL)* requirements for a lead teacher and center director *(with some job-related experience)*. The campus offers flexibility in scheduling and course and career options.

The Associate of Applied Science *(A.A.S.)* degree program provides a combination of theory and practical experience to prepare graduates for immediate entry into the ECE field or for transfer to a bachelor degree program. Graduates have approximately 300 hours of supervised experience with children of two different age levels *(infant/toddler, preschool, primary grade)*, adhering to the NAEYC standards.

In addition, the program offers four certificates that provide training for different aspects of early childhood education: Lead Teacher Certificate, Infant/Toddler Certificate, Special Education Certificate and Early Childhood Professional Certificate.

Admissions Requirements

In addition to college-wide admission requirements, ECE applicants:

- Are required to attend an info session before acceptance into the program.
- Must provide a copy of health form required by NHCCL for childcare personnel indicating the individual is "recommended to work with young children" in order to participate in practicum experiences and to obtain a job in childcare or public school.

Note: Students in the ECE programs must be free from criminal felony convictions. Applicants who are unsure of their status in this area should discuss the matter with their academic advisor, as it may impact their ability to participate in practicum and observation assignments and to be employed in the field of childcare or early childhood education. All students enrolled in any practicum class must complete a criminal records check through the practicum site that includes fingerprinting. There is a $40-$50 charge for this. Students are to present a copy of their receipt of fingerprinting from the NH DMV to their practicum course instructor before they may begin practicum. According to NH law, fingerprinting is required for both practicum and employment and must be renewed every three years. Students should keep their original receipt in order to participate in future practicums or work in the field. Students must also complete a health form, provided by the NH Dept. of Health and Human Services, before participating in a practicum experience. The form is good for three years.

Any student enrolled in any ECE course is required to purchase a subscription to Taskstream, an online portfolio server each semester in which one or more ECE courses are taken. The student will develop an online portfolio highlighting work and competencies learned in their ECE courses. Due to program accreditation requirements, data will also be collected through the server (individuals will remain anonymous). Subscriptions can be purchased to cover one or more semesters through the college book store or directly from taskstream.com. Cost can be covered by financial aid.

Technical Standards

Technical Standards provide insight for students into the skills and abilities required to function successfully in the ECE program and eventually the profession. Applicants who do not feel they can meet these standards should contact the ECE program coordinator before applying. Students enrolling in the ECE program must have sufficient strength, stamina and motor coordination to:

- Stand for sustained periods of time and walk, run, bend, sit on the floor and on child-size furniture to meet the child's needs and accomplish tasks.
- Lift, move and transfer children, especially infants and toddlers.

In addition, students should have:

- Sufficient visual and hearing acuity to ensure a safe environment and the ability to respond quickly in an emergency.
- Sufficient verbal ability to express and exchange information and ideas and to interpret instructions to children, co-workers and parents.
- The ability to work with frequent interruptions, to respond appropriately in unexpected situations and to cope with extreme variations in workload and stress levels.

Early Childhood Education Transfer Credit Policy

In addition to MCC transfer credit policies, transfer of courses in early childhood education more than 10 years old will be evaluated by the Department Chair on an individual basis.

Early Childhood Education Practicum

Some students have had quality and lengthy work or training experiences and may wish to test out of a practicum experience. Students must first meet with their academic advisor and provide documentation to indicate their knowledge and skills. Testing out may include exams, projects, lesson plans, essays, journal entries and other documentation that meets course requirements. Students seeking to test out of Early Childhood Education practicum must have completed a minimum of nine Early Childhood Education credits with a minimum of a 3.0 GPA.

Degree Program

General Requirements		TH	LAB	CR
TCHE205M	Technology in Education	2	2	3
ENGL110M	College Composition I	4	0	4
MATH145M	Topics in Applied College Mathematics	4	0	4
FYE100M	First Year Cornerstone	1	0	1
PSYC110M	Introduction to Psychology	3	0	3
PHIL240M	Ethics	3	0	3
	English Elective	3	0	3
	Science Elective	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3

ECE Core Requirements		TH	LAB	CR
ECE100M	Early Childhood Growth and Development	3	0	3
ECE104M	Foundations of Early Childhood Education	3	0	3
ECE105M	Creative Activities & Curriculum for Early Childhood	3	0	3
ECE110M	Children's Literature and Language Arts	3	0	3
	Practicum Elective - *Choose one: (ECE111M, ECE112M)*	2	2	3
ECE116M	Child Health, Safety and Nutrition	3	0	3
ECE200M	Math and Science for Young Children	3	0	3
ECE201M	Children's Individual and Special Needs	3	0	3
ECE202M	Student Teaching Practicum	1	9	4
ECE204M	Developmentally Appropriate Curriculum for Infants & Toddlers	3	0	3
ECE210M	Child, Family and Community Relations	3	0	3
ECE212M	Professional Development Practicum: ECE Capstone	1	9	4
ECE214M	Developmentally Appropriate Guidance and Discipline for Young Children	3	0	3
ECE250M	Childcare Administration and Management	3	0	3

Total Credits - 71

EARLY CHILDHOOD LEAD TEACHER CERTIFICATE

This certificate will enable students to qualify as lead teachers in an early childhood program according to NH state child care program licensing rules. All courses in this program transfer directly into the associate degree program for students who wish to continue their education.

		TH	LAB	CR
ECE100M	Early Childhood Growth & Development	3	0	3
ECE104M	Foundations of Early Childhood Education	3	0	3
ECE112M	Preschool Practicum: Learning Environments	2	3	3
ECE116M	Child Health, Safety and Nutrition	3	0	3
ECE201M	Children's Individual and Special Needs	3	0	3
ECE214M	Developmentally Appropriate Guidance & Discipline	3	0	3
	ECE Elective - *Choose one: (ECE110M, ECE200M)*	3	0	3

Total Credits - 21

EARLY CHILDHOOD PROFESSIONAL CERTIFICATE

Designed for students who already hold an associate or bachelor's degree, or 60 college credits from an accredited college in another field who wish to become center director qualified in NH *(with work experience). (Core courses must be taken first).*

ECE Core Courses		TH	LAB	CR
ECE100M	Early Childhood Growth and Development	3	0	3
ECE104M	Foundations of Early Childhood Education	3	0	3
ECE112M	Preschool Practicum: Learning Environments	2	3	3
ECE116M	Child Health, Safety and Nutrition	3	0	3
ECE201M	Children's Individual and Special Needs	3	0	3
ECE250M*	Childcare Administration and Management	3	0	3
	Curriculum Elective - *Choose one: (ECE110M, ECE200M)*	3	0	3
	Relationship Elective - *Choose one: (ECE210M, ECE214M)*	3	0	3

Total Credits - 24

**Required for Center Director Credential in New Hampshire.*

EARLY CHILDHOOD SPECIAL EDUCATION CERTIFICATE

Teachers and paraprofessionals are increasingly working in inclusive settings and are responsible for meeting students' Individualized Educational Plans *(IEP)*. They are members of the IEP or IFSP teams and need adequate training to effectively work with children with unique learning characteristics. This certificate trains individuals interested in working as paraprofessionals in Early Intervention or Early Childhood Special Education and Inclusionary classrooms.

	Birth-Grade 3 Option	TH	LAB	CR
ECE100M	Early Childhood Growth and Development	3	0	3
ECE104M	Foundations of Early Childhood Education	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
ECE112M	Preschool Practicum: Learning Environments	2	3	3
ECE201M	Children's Individual and Special Needs	3	0	3
TCHE215M	Classroom Management and Behavioral Guidance Strategies	3	0	3
TCHE220M	Family, Professional and Community Relations in Education	3	0	3
TCHE225M	Curriculum Planning and Implementation for Children with Unique Learning Characteristics	3	0	3

Total Credits - 24

INFANT/TODDLER LEAD TEACHER CERTIFICATE

Quality infant/toddler care is a critical need in New Hampshire and more caregivers are needed who are specifically trained in developmentally appropriate practices for this age group. This certificate meets the licensing requirements of the State of NH for lead teachers. All courses in this certificate program will transfer to the associate degree program.

		TH	LAB	CR
ECE100M	Early Childhood Growth & Development	3	0	3
ECE104M	Foundations of Early Childhood Education	3	0	3
ECE111M	Infant/Toddler Practicum: Nurturing Environments	2	3	3
ECE116M	Child Health, Safety, and Nutrition	3	0	3
ECE201M	Children's Individual & Special Needs	3	0	3
ECE204M	Developmentally Appropriate Curriculum for Infants & Toddlers	3	0	3
ECE214M	Developmentally Appropriate Guidance & Discipline	3	0	3

Total Credits - 21

ELECTRICAL TECHNOLOGY ASSOCIATE OF SCIENCE

Program Goal

The mission of the Electrical Technology program is to provide students with the foundation to become effective electrical technicians.

Program Outcomes

Students who graduate from this program will be able to:

- Be prepared with the required theory training for an electrician apprenticeship
- Be well-versed in fundamental electrical theory
- Demonstrate safe and appropriate use of electrical equipment
- Possess in-depth knowledge of the National Electrical Code
- Be prepared for entry-level positions

Program Purpose Statement

The electrical field continues to grow in its scope and employment opportunities due to technological advances as well as economic changes and expansion. Electrical work is becoming more complex with electronics, microprocessor based controls and data communications integrated into residential, commercial and industrial electrical systems. This increasing complexity is creating an ever-growing need for well trained and qualified licensed electricians and electrical technicians.

Classroom instruction highlights contemporary and evolving electrical technologies applications. Students enrolled in the program will be provided with the opportunity to be issued a NH electrical apprentice identification card. The identification card will allow the student to earn practical working experience hours, as well as related classroom hours in accordance with NH electrical apprenticeship requirements.

The Associate Degree classes are held during the day and in the evening to accommodate a variety of scheduling needs. Students who attend full-time during the day are able to complete the program in two calendar years, once any necessary developmental coursework is completed. Evening students will take a minimum of four years to complete the program.

Admission Requirements

In addition to college-wide admissions requirements students must:

- Read at the college-level based on Accuplacer testing.
- Place into MATH135M, Numerical Algebra and Trigonometry.
- Interview with Program Coordinator.

Employment Opportunities

Students who successfully complete this program can seek employment as electrical maintenance technicians, industrial electrical technicians or electrical field service technicians.

Technical Standards

It is highly recommended that applicants have:

- The physical strength necessary to maneuver and lift moderately heavy objects.
- Good manual dexterity.
- Adequate vision for reading printed instructions and electrical diagrams and should not have color blindness.*(Adaptive equipment is acceptable).*
- Adequate hearing to distinguish various sounds and changes in pitch. *(Adaptive equipment is acceptable).*
- Ability to visualize and portray ideas graphically.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
ETEC110M	Electrical Fundamentals I *(1st 8 weeks)*	3	3	4
ETEC120M	Electrical Fundamentals II *(2nd 8 weeks)*	3	3	4
MATH135M	Numerical Algebra and Trigonometry	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
FYE100M	First Year Cornerstone	1	0	1
	Total	**12**	**8**	**15**

First Year	Spring Semester	TH	LAB	CR
ETEC150M	Power, Transformers and Rotating Machinery	3	3	4
ETEC160M	Residential, Commercial & Industrial Wiring	3	3	4
MATH151M	Intermediate Algebra	4	0	4
ENGL110M	College Composition I	4	0	4
	Business Elective	3	0	3
	Total	**17**	**6**	**19**

Second Year	Fall Semester	TH	LAB	CR
ETEC210M	Electrical & Electronic Motor Controls	3	3	4
ETEC220M	Communications & Low Voltage Building Systems	3	3	4
MATH155M	College Algebra with Trigonometry	4	0	4
ENGL206M	Professional Communication	3	0	3
	Social Science Elective	3	0	3
	Total	**16**	**6**	**18**

Second Year	Spring Semester	TH	LAB	CR
ETEC250M	Advanced Control Systems I	3	3	4
ETEC260M	Advanced Control Systems II	3	3	4
PHYS135M	College Physics I	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**12**	**9**	**15**

Total Credits - 67

ELECTRICAL TECHNOLOGY CERTIFICATE

		TH	LAB	CR
ETEC110M	Electrical Fundamentals I	3	3	4
ETEC120M	Electrical Fundamentals II	3	3	4
ETEC150M	Power, Transformers and Rotating Machinery	3	3	4
ETEC160M	Residential, Commercial & Industrial Wiring	3	3	4
ETEC210M	Electrical & Electronic Motor Controls	3	3	4
ETEC220M	Commercial & Low Voltage Building Systems	3	3	4
ETEC250M	Advanced Control Systems I	3	3	4
ETEC260M	Advanced Control Systems II	3	3	4
MATH135M	Numerical Algebra and Trigonometry	3	0	3
MATH151M	Intermediate Algebra	4	0	4

Total Credits - 39

EXERCISE SCIENCE ASSOCIATE OF SCIENCE

Program Goal

The mission of the Exercise Science program is to prepare students to become leaders within the many areas of the health/wellness industry and to provide students with the fundamental knowledge and skills to establish professional relationships through rapport building, screening and physical assessments. With these skills, they may safely and effectively design, implement and lead health/wellness and exercise programs.

Program Outcomes

Students who graduate from this program will be able to:

- Possess the knowledge and skills needed to safely and effectively screen, assess, analyze, design and lead health/wellness and exercise programs for various populations
- Possess the knowledge and skills needed to successfully complete industry leading (ACSM, ACE, NSCA, NASM) national certification exams
- Possess an appreciation for and knowledge of the human body systems as well as understanding of the acute and chronic effects within the body resulting from physical activity, everyday repetitive motion and exercise
- Demonstrate strengths in rapport building, interpersonal skills, professional integrity and responsibility, independent thinking and problem solving
- Demonstrate an awareness and appreciation of the importance of involvement in local business, community and industry organizations

Program Purpose Statement

Exercise Science is a cross-disciplinary subject area involving the scientific study of human performance and the acute and chronic changes within the body resulting from physical activity, repetitive motion and exercise. Students will apply this scientific foundation to practical application of health/fitness assessment, programming and leadership through a variety of hands-on labs and service-learning opportunities.

Employment Opportunities

Students are prepared for an entry-level position in a field that has a broad choice of career options. Graduates seek employment as Personal Trainers, Health/Wellness Specialists and Fitness Leaders in health/wellness/fitness facilities, corporate fitness organizations, sports medicine and rehabilitative clinics, community/older adult programs, as well as health promotions companies. Completion of the degree also prepares students for transfer into exercise physiology, physical therapy, kinesiology, athletic training and health education programs.

Transfer Credit Policy

There is no time limit on courses eligible for transfer into the Exercise Science program.

Program Policies

- All certificate and degree students must take the English and Math portions of the Accuplacer. Students must place into ENGL095M and MATH090M or higher before registering for EXER courses. Students placing into ENGL095M and MATH090M must take these courses in the first semester of enrollment and earn a grade of "C" or better to continue in the program. Students may retake a course once if the minimum grade is not earned.
- A grade of "C" or better in EXER105M is required to continue in the program. Students may retake a course once if the minimum grade is not earned.
- Due to physical activity requirements of the program, students must complete an Informed Consent and a PAR-Q form prior to participation in EXER courses. Based on PAR-Q results, students may be asked to obtain a medical clearance for exercise from their physician. Students with any limitations to exercise should contact the program coordinator to discuss the physical activity requirements of the program or specific courses they wish to register for.
- All students enrolled in the certificate and degree must purchase required stethoscope, blood pressure cuff, heart rate monitor, gulick tape measure, skinfold calipers and stop watch prior to participation in EXER112M (consult faculty for more information).
- Students will be required to show proof of physical exam, immunizations and a background check prior to participation at certain professional experience and community service sites.
- Students are responsible for any travel to and from professional experience sites, community service sites or site visits for EXER111M.
- Students must acquire and maintain American Heart Association Heart Saver CPR/ AED (available in EXER111M for an additional fee) or American Red Cross equivalent and obtain professional liability insurance *(available at the college)* prior to participation in EXER221M.

Technical Standards

- Students seeking careers within health and fitness should be physically and mentally fit to withstand a physically active work environment and have the ability to respond quickly and appropriately as required.
- Students are expected to have the maturity to exercise sound judgement, maintain confidentiality, accept direction and guidance from a supervisor or faculty member and establish rapport and maintain sensitive interpersonal relationships with teachers, fellow students and clients.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
EXER105M	Essentials of Exercise Science	3	0	3
EXER109M	Applied Nutrition for Health Fitness Professionals	3	2	4
EXER111M	Introduction to Exercise Science Profession	3	0	3
EXER112M	Health Risk Appraisal	2	1	2
ENGL110M	College Composition I	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**16**	**3**	**17**

First Year	Spring Semester	TH	LAB	CR
EXER113M	Exercise Physiology	3	2	4
EXER135M	Functional Assessment & Programming	2	3	3
BIOL110M	Human Anatomy and Physiology I	3	3	4
MATH145M	Topics in Applied College Mathematics	4	0	4
CIS110M	Microsoft® Computer Applications I	3	0	3
	Total	**15**	**8**	**18**

First Year	Summer Semester	TH	LAB	CR
EXER213M	Resistance Training	2	3	3
	Total	**2**	**3**	**3**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
EXER220M	Performance Training	2	2	3
EXER230M	Kinesiology	3	2	4
BIOL120M	Human Anatomy & Physiology II	3	3	4
	Social Science Elective	3	0	3
	English Elective	3	0	3
	Total	**14**	**7**	**17**

Second Year	Spring Semester	TH	LAB	CR
EXER212M	Physical Activity and Aging	3	0	3
EXER215M	Group Exercise Leadership	1	3	2
EXER221M	Professional Experience	2	4	3
EXER240M	Injury Prevention & Post Rehab Exercise	3	2	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**12**	**9**	**15**

Total Credits - 70

PERSONAL TRAINING CERTIFICATE

		TH	LAB	CR
EXER100M	ACE Personal Trainer Review Course	1	0	1
EXER105M	Essentials of Exercise Science	3	0	3
EXER109M	Applied Nutrition for Health Fitness Professionals	3	2	4
EXER111M	Introduction to Exercise Science Program	3	0	3
EXER112M	Health Risk Appraisal	2	1	2
EXER113M	Physiology of Exercise	3	2	4
EXER135M	Functional Assessment & Programming	2	4	3
EXER213M	Resistance Training	2	3	3
		Total Credits - 23		

FACILITIES MANAGEMENT DEGREE ASSOCIATE OF SCIENCE

Program Goal

The student will be able to transfer to a four-year college or university with a solid background in facilities management or become employed in an entry-level facilities management position.

Program Outcomes

Students who graduate from this program will be able to:

- Demonstrate a working knowledge of construction theory and sustainable building practices
- Demonstrate a knowledge of current codes and standards for facilities
- Demonstrate safe and appropriate use of electrical equipment; and articulate electrical theory
- Demonstrate written and oral proficiency in business communications
- Articulate the fundamentals of management theory and practice
- Apply basic principles of planning, management and real estate practice
- Communicate effectively and work as part of a team, using oral and written modes

Program Purpose Statement

Facilities managers are the people who plan and manage the buildings, grounds and systems of businesses and institutions. Often working behind the scenes, as a group they are involved in a broad array of activities: planning, management, finance, design and building operations issues. This program provides students with a foundational education addressing the multi-disciplinary nature of the field, thereby allowing for diverse job opportunities. The core of the Facilities Management curriculum addresses gaining the basic technical knowledge of heating, cooling, construction, codes, processes, systems and business management.

Admissions Requirements

In addition to college-wide admissions requirements, students must:

- Successfully complete high school algebra I and II

Transfer Credit Policy

Students may transfer credits earned at other accredited institutions provided a grade of "C" or better has been earned in courses with equivalent content. Appropriate transfer credits may be accepted within a 10-year timeframe.

Employment Opportunities

Graduates of the Facilities Management program may find careers as Facility Manager or Director, Plant Maintenance Engineer, Building and Systems Analyst, Administrative Services Manager and various entry-level positions in Facilities Management.

Technical Standards:

- The physical strength to maneuver and/or lift heavy objects
- Good manual dexterity
- Adequate vision *(Adaptive equipment acceptable)*
- Adequate hearing *(Adaptive equipment acceptable)*

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
ETEC110M	Electrical Fundamentals I *(1st 8 weeks)*	3	3	4
ETEC120M	Electrical Fundamentals II *(2nd 8 weeks)*	3	3	4
MATH145M	Topics in Applied College Mathematics	4	0	4
ENVS125M	Introduction to Environmental Science	3	3	4
ENGL110M	College Composition I	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**18**	**9**	**21**

First Year	Spring Semester	TH	LAB	CR
BUS110M	Introduction to Business	3	0	3
INTD123M	The Built Environment: Codes/Standards	2	2	3
HVAC102M	Refrigeration & Air Conditioning Systems for Non-HVAC Majors	3	0	3
HVAC103M	Heating Systems for Non-HVAC Majors	3	0	3
ENGL206M	Professional Communication	3	0	3
	Total	**14**	**2**	**15**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
BLDG214M	Sustainable Building Practices	3	0	3
BLDG225M	Blueprint Reading & Estimating	3	3	4
HVAC243M	DDC and Building Automation Controls I	5	0	5
MATH202M	Probability and Statistics	4	0	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**18**	**3**	**19**

Second Year	Spring Semester	TH	LAB	CR
FMGT250M	Project Management	3	0	3
FMGT260M	Facilities Operations Management	3	0	3
FMGT299M	Facilities Management Capstone Seminar	3	2	4
BUS224M	Human Resource Management	3	0	3
SOCI110M	Introduction to Sociology	3	0	3
	Total	**15**	**2**	**16**
				Total Credits - 71

FINE ARTS
ASSOCIATE OF ARTS

Program Goal

The Fine Arts Degree program offers students a strong foundation in the fine arts and includes the general education requirements to transfer to a four-year college. The program provides an educational background that is broad enough for the student to continue their education and training according to society's changing needs and provides an educational experience ensuring flexibility of occupational choice.

Program Outcomes

Students who graduate from this program will be able to:

- Have the working knowledge and the appropriate vocabulary of art terms and techniques including the principles and elements of art
- Be able to draw, paint, weld and photograph following specific instructions
- Participate in events including a fine arts exhibition, art museum field trip and portfolio reviews
- Develop a portfolio for transfer to a four-year college

Program Purpose Statement

The Fine Arts degree will help develop the student's artistic interest and strengths, with the flexibility to transfer to other college programs. The Fine Arts program explores a wide range of experiences through a studio-oriented program of study and encourages students to develop creativity through discovery along with ability to observe and analyze visual images. Exposure to career opportunities and educational options is an integral part of the program.

The curriculum provides students with a thorough exploration of a variety of visual art fundamentals. Throughout their curriculum students will expand their ability to use verbal, written and visual language effectively, use critical thinking, think logically and solve problems practically. Students will learn to examine issues in a historical context and develop the ability to make ethical choices. Coursework within the Fine Arts concentration will reinforce these liberal arts goals and students will become aware of how the arts fit and shape the larger society, making the student more connected with the world and a more well-rounded individual.

The curriculum requirements for the Associate of Arts in Fine Arts Degree offer the equivalent of the first two years of a four-year Bachelor of Arts degree. The Associate of Arts Fine Arts Degree program meets the needs of our transfer students by preparing them to pursue a four-year bachelor degree in Studio Arts, Arts, Fine Arts, Photography, Art History, Art Therapy and Art Education.

Admission Requirements

In addition to college-wide admission requirements, applicants must have:

- A grade of "C" or better in high school level algebra, English, reading and writing.

Transfer Credit Policy

Appropriate transfer credits for courses within the major may be accepted within a 10-year time frame. The Department Chair, on an individual basis, will evaluate transfer of courses more than 10 years old.

Employment Opportunities

Though most graduates of the Fine Arts program transfer into a four-year college, MCC Fine Arts program graduates will possess the skills and knowledge to obtain entry-level positions in art management.

Transfer Opportunities

Students who graduate from MCC's Fine Arts program will have the opportunity to transfer to several four-year colleges including: University of New Hampshire, New Hampshire Institute of Art, Keene State College, Plymouth State University, Colby-Sawyer College, New England College, Massachusetts College of Art, Maine College of Art, Franklin Pierce University, Endicott College, Art Institute of Boston, The New England Institute of Art and University of Massachusetts at Lowell.

Degree Program - First Year

First Year	Fall Semester		TH	LAB	CR
ARTS123M	Drawing I		2	3	3
ARTS210M	Painting I		2	3	3
ARTS130M	Introduction of Art		3	0	3
ENGL110M	College Composition I		4	0	4
FYE100M	First Year Cornerstone		1	0	1
	Mathematics Elective		3	0	3
		Total	**15**	**6**	**17**

First Year	Spring Semester		TH	LAB	CR
ARTS117M	Art History I		3	0	3
ARTS223M	Drawing II		2	3	3
ENGL214M	Creative Nonfiction		2	3	3
	Art & Design Elective - *Choose one: (All ARTS courses, GDES115M, GDES122M, GDES155M, GDES211M, GDES221M)*		*	*	3
	Lab Science Elective		3	3	4
		Total	**13**	**9**	**16**

Degree Program - Second Year

Second Year	Fall Semester		TH	LAB	CR
ARTS120M	Digital Photography		2	3	3
ARTS125M	Watercolors I		2	3	3
ARTS217M	Art History II		3	0	3
	Mathematics Elective		3	0	3
	Social Science Elective		3	0	3
		Total	**13**	**6**	**15**

Second Year	Spring Semester		TH	LAB	CR
ARTS212M	Painting II		2	3	3
ARTS226M	Portfolio Prep for Fine Arts		2	3	3
	Art & Design Elective - *Choose one: (All ARTS courses, GDES115M GDES122M, GDES155M, GDES211M, GDES221M)*		*	*	3
	Lab Science Elective		3	3	4
	Social Science Elective		3	0	3
		Total	**12**	**12**	**16**
				Total Credits - 64	

**Theory and Lab credits depend on chosen elective.*

GRAPHIC DESIGN ASSOCIATE OF APPLIED SCIENCE

Program Goal

The mission of the Graphic Design program is to provide students with a solid foundation in design education for entry level careers and/or transfer to four-year institutions.

Program Outcomes

Students who graduate from this program will be able to:

- Demonstrate proficiency with graphic design principals and elements including color and type
- Show the ability to conceptualize design solutions
- Possess a skillset of digital tools used in graphic design software
- Showcase the capability to learn and create in a progressive digital environment
- Exhibit evidence of verbal and visual presentation skills
- Create a professional portfolio that reflects problem solving ability, innovative ideas, suitable for an entry level design position or presentation to a four-yearcollege

Program Purpose Statement

The Graphic Design Program provides students with a comprehensive educational experience that develops creativity, technical expertise and professional industry knowledge. The curriculum integrates theory and practice that fosters each student's ability to create expressive, effective visual communication. As students' progress through the coursework, they will gain proficiency in traditional media, computer design skills, cultivate critical thinking and analytical skills. The curriculum is supplemented with guest lecturers, service learning projects, internships and other experiential learning opportunities. Each student will develop self-promotional materials and a portfolio of work which will be juried by industry professionals prior to graduation. The program concludes with capstone courses where students will apply newly acquired skills, professional job attitudes and explore career opportunities in graphic design.

Transfer Credit Policy

Appropriate transfer credits for courses within the major may be accepted within a five-year time frame. Transfer of courses more than five years old will be evaluated by the Department Chair on an individual basis.

Employment Opportunities

Graduates of the Graphic Design program possess the skills and knowledge to obtain entry-level positions in advertising agencies, printing companies, publishing firms and companies that maintain in-house design departments.

Transfer Opportunities

Graduates of MCC's Graphic Design program have transferred to the University of New Hampshire, New Hampshire Institute of Art, Keene State College, Plymouth State University, The New England Institute of Art, UMass at Lowell and Southern New Hampshire University.

Technical Standards

Applicants must have:

- Placement into ENGL095M
- Eye-hand coordination to perform intensive project construction
- Maturity to accept critique of work and perform changes based on constructive criticism
- Capacity to work in teams to solve design problems
- Ability to meet deadlines under stressful conditions

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
GDES110M	Page Layout and Design	2	3	3
GDES114M	Graphic Design I	2	3	3
GDES115M	Digital Imaging	2	3	3
ARTS123M	Drawing I	2	3	3
ENGL110M	College Composition I	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**13**	**12**	**17**

First Year	Spring Semester	TH	LAB	CR
GDES122M	Color Theory for Graphic Design	2	3	3
GDES124M	Typography	2	3	3
GDES150M	Digital Publishing Methods	2	3	3
GDES155M	Computer Illustration	2	3	3
ENGL113M	Introduction to Public Speaking	3	0	3
	Social Science Elective	3	0	3
	Total	**14**	**12**	**18**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
GDES210M	History of Graphic Design	3	0	3
GDES211M	Illustration I	2	3	3
GDES213M	Graphic Design II	2	3	3
GDES227M	Graphic Design Internship Seminar	1	0	1
MATH145M	Topics in Applied College Mathematics	4	0	4
MKTG210M	Advertising	3	0	3
	Total	**15**	**6**	**17**

Second Year	Spring Semester	TH	LAB	CR
GDES225M	Graphic Design III	2	3	3
GDES226M	Portfolio Preparation	2	3	3
GDES228M	Graphic Design Internship	0	8	2
MATH132M	Business Mathematics	3	0	3
	Science Elective	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**13**	**14**	**17**

Total Credits - 69

GRAPHIC DESIGN CERTIFICATE

This certificate is for people currently employed in the field of graphic design who need to update their professional and technical skills. Successful graduates of the Graphic Design Certificate will be able to add to their professional portfolio and are expected to complete an internship. They will be prepared for continued growth in their career field and for entry-level jobs in advertising agencies, printing companies, publishing firms and companies that maintain in-house graphic design departments.

Co/prerequisite requirements for courses listed in the certificate will be handled on a case-by-case basis.

		TH	LAB	CR
GDES110M	Page Layout and Design	2	3	3
GDES114M	Graphic Design I	2	3	3
GDES115M	Digital Imaging	2	3	3
GDES122M	Color Theory for Graphic Design	2	3	3
GDES124M	Typography	2	3	3
GDES150M	Digital Publishing Methods	2	3	3
GDES155M	Computer Illustration	2	3	3
GDES213M	Graphic Design II	2	3	3
GDES225M	Graphic Design III	2	3	3
GDES227M	Graphic Design Internship Seminar	1	0	1
GDES228M	Graphic Design Internship	0	8	2

Total Credits - 30

GRAPHIC DESIGN FOR WEB CERTIFICATE

The Graphic Design for Web Certificate draws on theory and principle classes offered in the Graphic Design Associate Degree program and includes courses in using the applications and correct file formats specific to designing web sites. The certificate is an innovative approach to providing students with the opportunity to be educated in two areas of design and for meeting the emerging need in the graphic design industry for employees trained to create for print and web mediums.

Co/prerequisite requirements for courses listed in the certificate will be handled on a case-by-case basis. If students do not have current graphic design experience or degree, GDES110M will be required before GDES124M can be taken.

		TH	LAB	CR
GDES114M	Graphic Design I	2	3	3
GDES115M	Digital Imaging	2	3	3
GDES124M	Typography	2	3	3
GDES230M	Animation for Web	2	3	3
GDES235M	Web Design	2	3	3
CIS124M	Web Programming I	2	2	3
CIS224M	Web Programming II	2	2	3
			Total Credits - 21	

GRAPHIC ILLUSTRATION CERTIFICATE

This certificate allows students to add to their skills in mechanical and computer-generated illustration and provides them with entry-level electronic layout skills so they can grow personally and professionally. Successful graduates of the Graphic Illustration Certificate will be able to add to their professional portfolio and will be prepared for continued growth in graphic illustration with job possibilities in permanent or freelance illustration for advertising agencies, publishing firms and companies that maintain in-house graphic design departments.

Co/prerequisite requirements for courses listed in the certificate will be handled on a case-by-case basis.

		TH	LAB	CR
GDES110M	Page Layout and Design	2	3	3
GDES114M	Graphic Design I	2	3	3
GDES122M	Color Theory for Graphic Design	2	3	3
GDES155M	Computer Illustration	2	3	3
GDES211M	Illustration I	2	3	3
GDES213M	Graphic Design II	2	3	3
GDES221M	Illustration II	2	3	3
GDES226M	Portfolio Preparation	2	3	3
ARTS123M	Drawing I	2	3	3
ARTS210M	Painting I	2	3	3
ARTS223M	Drawing II	2	3	3
			Total Credits - 33	

HEALTH INFORMATION MANAGEMENT ASSOCIATE OF SCIENCE DEGREE

Program Goal

The Health Information Management program will prepare confident, ethical and competent entry-level health information technicians to become valued members of an ever-changing Healthcare delivery system. Graduates will have the skills, knowledge and desire for lifelong learning required to meet the needs of our community and to succeed in Health Information Management fields.

Program Outcomes

Students who graduate from this program will be able to:

- Code diagnostic and procedural data for optimal reimbursement and assist with maintaining revenue cycle and compliance with third-party payer guidelines
- Manage, process and analyze health data *(electronic, paper or scanned)* to ensure an accurate and complete medical record and cost-effective processing
- Formulate and implement health information policies and systems that meet with all national and state laws and regulatory guidelines
- Apply principles of management and provide leadership to staff
- Participate in Performance Improvement and other quality initiatives

Program Purpose Statement

This program provides an overview of Healthcare organizations and delivery systems, foundations in Health Information Management and career-enhancing courses such as Medical Terminology, Medical Coding, Insurance and Reimbursement and Legal Issues in Healthcare.

Admission Requirements

- Must Complete the Accuplacer and place into College Comp (ENGL110M) and Topics in Applied College Mathematics (MATH145M) or better (waived if transfer credit in math and English awarded)
- Following the Accuplacer, contact Jacqueline Poirier, College Counselor, at jpoirier@ccsnh.edu, or (603) 206-8102 for an informational meeting to discuss Accuplacer course placement results (waived if above transfer credit award).
- Prior to practicum, all students must complete a certified background check, drug screening, proof of immunizations, health insurance, liability insurance, TB, Flu and any other required screenings a practicum site may request.

Transfer Credit Policy

Students may transfer credits earned at other accredited institutions provided a minimum grade of "C" has been earned in courses in medical terminology and allied health (AHLT), coding (MCOD) and science (BIOL). Appropriate transfer credits may be accepted in a five-year time frame.

Employment Opportunities

The field of Health Information is projected to grow at a rapid pace and, according to the U.S. Dept. of Labor's Bureau of Labor Statistics, employment of health information technicians is expected to increase by 20% through 2018. Graduates will have employment options that include: Coding Specialist, HIM Department Director or Supervisor, Clinical Data Analyst, Privacy, Information Security or Compliance Officer, Quality Improvement Specialist and others. Choices for employment range from hospitals to physician practices, ambulatory care centers, rehabilitation facilities, insurance and pharmaceutical companies, consulting firms, software and IT vendors and government agencies.

Technical Standards

- Have ability to walk, sit and stand for long periods of time *(2 hours)* in succession.
- 20-20 vision *(with or without accommodation)*.
- Successfully pass a criminal background check (*cost incurred by student)*.
- Possess and maintain both personal health insurance and professional liability insurance while on Practicum. This professional liability insurance coverage is purchased through MCC's Bursar's office.
- HIM students are required to confer with HIM program faculty prior to course selection and registration every semester.

Progression

- A grade of "C" or better required for all AHLT, MCOD, BIOL and HLIM courses.
- Courses may be retaken only once.

Degree Program - First Year

First Year	Fall Semester		TH	LAB	CR
HLIM100M	Introduction to Health Information Management		3	0	3
AHLT110M	Medical Terminology		3	0	3
ENGL110M	College Composition I		4	0	4
BIOL110M	Anatomy & Physiology I		3	3	4
FYE100M	First Year Cornerstone		1	0	1
		Total	**14**	**3**	**15**

First Year	Spring Semester		TH	LAB	CR
HLIM120M	Computers in Healthcare		2	2	3
BIOL120M	Anatomy & Physiology II		3	3	4
MATH145M	Topics in Applied College Mathematics		4	0	4
ENGL120M	College Composition II		4	0	4
		Total	**13**	**5**	**15**

First Year	Summer Semester		TH	LAB	CR
HLIM208M	Pharmacology for Health Professions		3	0	3
HLIM215M	Healthcare Statistics & Performance Improvement		3	0	3
MCOD100M	ICD-CM-Coding		4	0	4
BIOL220M	Pathophysiology		3	0	3
		Total	**13**	**0**	**13**

Degree Program - Second Year

Second Year	Fall Semester		TH	LAB	CR
HLIM115M	Legal Aspects of Health Information		3	0	3
HLIM200M	HIM Practicum I		1	8	3
HLIM205M	Resource & Data Management		3	0	3
MCOD110M	CPT Coding		4	0	4
		Total	**11**	**8**	**13**

Second Year	Spring Semester		TH	LAB	CR
HLIM216M	Reimbursement Methods		3	0	3
HLIM225M	HIM Practicum II		1	6	3
	Social Science Elective *(SOCI, PSYC)*		3	0	3
	Foreign Language/Humanities/Fine Arts Elective		3	0	3
		Total	**10**	**6**	**12**

Total Credits - 68

MEDICAL CODING PROFESSIONAL CERTIFICATE

Unprecedented changes in Healthcare have created an overwhelming and unmet demand for qualified medical coders. The U.S. Dept. of Labor's Bureau of Labor Statistics reports a 51% increase in the need for medical coders during the next five years. In addition to medical reimbursement, coding is used for planning and research, to track diseases and by hospital administrators to determine if facilities are used effectively.

Medical coding requires the coder to abstract information from the patient record and combine it with their knowledge of reimbursement and coding guidelines to optimize physician payment. This coding curriculum will train participants to code for medical offices, clinics, mental health facilities and hospitals. Successful completion of this certificate will prepare you to sit for a national coding exam.

Students must achieve a minimum grade of "C" (73.33) in all courses in order to receive the Medical Coding Professional Certificate.

Admission Requirements

Must complete the Accuplacer and place into ENGL110M College Composition I.

		TH	LAB	CR
ENGL110M	College Composition	4	0	4
CIS110M	Microsoft® Computer Applications I	2	2	3
AHLT110M	Medical Terminology	3	0	3
BIOL110M	Human Anatomy & Physiology I	3	3	4
BIOL120M	Human Anatomy & Physiology II	3	3	4
BIOL220M	Pathophysiology	3	0	3
HLIM100M	Introduction to Health Information Management	3	0	3
MCOD100M	ICD-CM-Coding	4	0	4
MCOD110M	CPT Coding	4	0	4
HLIM208M	Pharmacology for Health Professions	3	0	3
HLIM216M	Reimbursement Methods	3	0	3
MCOD215M	Advanced Coding	3	0	3
		Total Credits - 41		

HEALTH SCIENCE ASSOCIATE OF SCIENCE

Program Goal

The Health Science Degree addresses the core requirements of both academic and professional health-related fields and provides a solid foundation on which students may build a successful career. The Health Science Degree provides students with a pathway for pursuing professional health-related career opportunities. The Health Science Degree also serves as a first step in the advancement toward pursuing an academic pathway such as a Nursing concentration or a four-year degree. By providing direction and exposure to health sciences, the Health Science Degree brings a fresh approach to providing both professional and academic direction.

Program Outcomes

Students who graduate from this program will be able to:

- Apply health principles practically in both academic and career settings
- Communicate effectively using health science terminology in an appropriate manner both verbally and written
- Align coursework with four-year degree concentrations for continuing degrees
- Understand and apply the scientific method in research

Program Purpose Statement

The Health Science Degree is designed to address students striving to work in the health industry, but may not be able, interested, or eligible to enroll in an established health-related concentration of study. With a large number of students interested in a health-related career attending Manchester Community College, the Health Science Degree provides opportunities for students to focus on core requirements for other health concentrations of study, or enter the health field with a refined trajectory. At the same time, the Health Science Degree will help to prepare students who are interested in enrolling in a health-related academic concentration in the future. A degree in the Health Science Degree is the beginning of a pathway that leads to careers such as: Clinical Data Manager, Athletic Trainer, EMT/Paramedic, Health Technician, Nurse, Medical Assistant, Occupational Therapist Assistant, Surgical Technician, Home Health Aide or Speech-Language Pathologist.

Transfer Credit Policy

In addition to college-wide transfer credit policies, Human Anatomy and Physiology I and II and Microbiology must be taken within an eight-year period from the time of acceptance into the Health Science program.

General Education Core Requirements

		TH	LAB	CR
FYE100M	First Year Cornerstone	1	0	1
ENGL110M	College Composition I	4	0	4
ENGL120M	College Composition II	4	0	4
BIOL150M	Nutrition Theory	3	0	3
BIOL151M	Nutrition Lab	0	1	1
PSYC110M	Introduction to Psychology	3	0	3
MATH202M	Probability and Statistics	4	0	4
	Social Science Elective	3	0	3
	Mathematics Elective *(can be 3 or 4 credits)*	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	4	1	4

Health Science Requirements

		TH	LAB	CR
BIOL110M	Human Anatomy & Physiology I	3	3	4
BIOL120M	Human Anatomy & Physiology II	3	3	4
BIOL201M*	Principles of Genetics	3	3	4
BIOL210M*	Microbiology	3	3	4
BIOL220M*	Pathophysiology	3	0	3
AHLT110M	Medical Terminology	3	0	3
PSYC210M	Human Growth and Development	3	0	3
HLIM208M*	Pharmacology for Health Professions	3	0	3
HLTH299M*	Health Science Capstone	3	0	3
	Health Science Elective *Choose one: (HLIM115M, AHLT205M)*	3	0	3
		Total Credits - 64		

***Students must have a minimum of three (3) 200 level courses in Health Science taken at MCC.**

HEATING, VENTILATION & AIR CONDITIONING ASSOCIATE OF APPLIED SCIENCE

Program Goal

This multi-disciplinary program includes heating, ventilation, refrigeration, air conditioning and electricity. Through problem solving, inquiry and analysis skills gained while in the HVAC program, students are prepared to become industry leaders. Upon satisfactory completion, the graduate is prepared to enter the field to design, install, service, maintain and troubleshoot residential and commercial HVAC systems.

Program Outcomes

Students who graduate from this program will be able to:

- Read and interpret electrical diagrams, wire control systems from electrical diagrams, set controls, design controls systems and diagnose and repair faults in electrical control systems
- Properly size HVAC systems, design HVAC systems, correctly install HVAC system components, install HVAC systems following the relevant codes and industry practice
- Articulate the purpose and operation of HVAC system components, the operation of HVAC systems, diagnose, repair faults and perform maintenance on HVAC systems
- Demonstrate positive work traits and good customer skills and continue to upgrade their knowledge and skills

Program Purpose Statement

The Heating, Ventilation and Air Conditioning program provides students with the education and training to enter careers as climate control technicians. It is offered with a two-year or three-year track because of the large number of credits required.

HVAC is in high demand. People and businesses depend on these systems and must keep them in good working order, regardless of economic conditions. As a result HVAC is a recession-proof career.

Admissions Requirements

In addition to college-wide admissions requirements:

- It is recommended that students complete courses in Algebra I, Algebra II and science. Advanced levels of mathematics and a physics course are preferred.
- Student must participate in an individual faculty interview.

Technical Standards

- The physical strength to maneuver and/or lift heavy objects.
- Good manual dexterity. Be able to climb a ladder.
- Adequate vision for reading instructions and blueprints and should not have color blindness *(Adaptive equipment acceptable)*.
- Ability to visualize and portray ideas graphically.
- Students should be aware that many employers will require criminal background checks and a clean driving record.

Transfer Credit Policy

Students may transfer credits earned at other accredited institutions when a grade of a "C" or better has been earned in HVAC courses. Appropriate transfer credits may be accepted within a 10-year time frame.

Accreditation/Certification Information

Students will obtain their OSHA10 Certification, NFPA70E Certificate of Training and in class portion of the State of NH Gas Fitters gas piping installer's license while in the program. Students will be prepared for and offered the opportunity to obtain their NORA Bronze Certification and Section 608 (EPA) Certification.

Employment Opportunities

HVAC contractors, gas utilities, oil companies, in-house HVAC departments in large commercial buildings, property management companies, hospitals, manufacturers and wholesale and retail sales and design. Specialty areas include DDC controls, air balancing, cryogenics, clean room and operating room systems.

Transfer Opportunities

The program has articulation agreements that allow graduates to enter as a junior at: Southern New Hampshire University, Granite State College, Ferris State University and Penn State University.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
HVAC101M	Introduction to HVAC Systems	3	0	3
HVAC109M	Related Electricity I Theory	3	0	3
HVAC110M	Related Electricity I Lab	0	3	1
HVAC111M	Fundamentals of Refrigeration I Theory	3	0	3
HVAC112M	Fundamentals of Refrigeration I Lab	0	3	1
HVAC114M	Fundamentals of Heating Theory I	3	0	3
HVAC115M	Fundamentals of Heating Lab I	0	3	1
FYE100M	First Year Cornerstone	1	0	1
	Total	**13**	**9**	**16**

First Year	Spring Semester	TH	LAB	CR
HVAC119M	Related Electricity II Theory	3	0	3
HVAC120M	Related Electricity II Lab	0	3	1
HVAC121M	Fundamentals of Refrigeration II Theory	3	0	3
HVAC122M	Fundamentals of Refrigeration II Lab	0	3	1
HVAC134M	Fundamentals of Gas Heating and Piping Installation Theory	3	0	3
HVAC135M	Fundamentals of Gas Heating and Piping Installation Lab	0	3	1
ENGL110M	College Composition I	4	0	4
	Mathematics Elective *(must be at least a 100 level)*	3	0	3
	Total	**16**	**9**	**19**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
HVAC211M	Commercial Refrigeration Theory	3	0	3
HVAC212M	Commercial Refrigeration Lab	0	6	2
HVAC223M	Warm Air and Steam Systems Theory	3	0	3
HVAC224M	Warm Air and Steam Systems Lab	0	6	2
CIS110M	Microsoft® Computer Applications I	2	2	3
	Mathematics Elective - *Choose one: (MATH135M, MATH155M)*	3	0	3
	Social Science Elective	3	0	3
	Total	**14**	**14**	**19**

Second Year	Spring Semester	TH	LAB	CR
HVAC221M	Residential and Commercial AC and Heat Pumps Theory	3	0	3
HVAC222M	Residential and Commercial AC and Heat Pumps Lab	0	6	2
HVAC213M	Hydronic Systems Theory	3	0	3
HVAC214M	Hydronic Systems Lab	0	6	2
HVAC299M	HVAC Capstone	1	0	1
	Physics Elective - *Choose One: (PHYS100M, PHYS135M)*	2	3	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	English Elective	3	0	3
	Total	**15**	**15**	**20**
			Total Credits	**74**

ADVANCED HVAC CERTIFICATE

		TH	LAB	CR
HVAC101M	Introduction to HVAC Systems	3	0	3
HVAC226M	Air and Water Testing and Balancing	3	0	3
HVAC230M	Gas Equipment Installations and Service Theory	4	0	4
HVAC243M	DDC and Building Automation Controls I	3	3	4
HVAC244M	DDC and Building Automation Controls II	3	3	4
		Total Credits - 18		

AIR CONDITIONING/ REFRIGERATION CERTIFICATE

		TH	LAB	CR
HVAC101M	Introduction to HVAC Systems	3	0	3
HVAC109M	Related Electricity I Theory	3	0	3
HVAC110M	Related Electricity I Lab	0	3	1
HVAC111M	Fundamentals of Refrigeration I Theory	3	0	3
HVAC112M	Fundamentals of Refrigeration I Lab	0	3	1
HVAC119M	Related Electricity II Theory	3	0	3
HVAC120M	Related Electricity II Lab	0	3	1
HVAC121M	Fundamentals of Refrigeration II Theory	3	0	3
HVAC122M	Fundamentals of Refrigeration II Lab	0	3	1
HVAC211M	Commercial Refrigeration Theory	3	0	3
HVAC212M	Commercial Refrigeration Lab	0	6	2
HVAC221M	Residential and Commercial AC and Heat Pumps Theory	3	0	3
HVAC222M	Residential and Commercial AC and Heat Pumps Lab	0	6	2
		Total Credits - 29		

HEATING SERVICES CERTIFICATE

		TH	LAB	CR
HVAC101M	Introduction to HVAC Systems	3	0	3
HVAC109M	Related Electricity I Theory	3	0	3
HVAC110M	Related Electricity I Lab	0	3	1
HVAC114M	Fundamentals of Heating I Theory	3	0	3
HVAC115M	Fundamentals of Heating I Lab	0	3	1
HVAC119M	Related Electricity II Theory	3	0	3
HVAC120M	Related Electricity II Lab	0	3	1
HVAC134M	Fundamentals of Gas Heating & Piping Installation Theory	3	0	3
HVAC135M	Fundamentals of Gas Heating & Piping Installation Lab	0	3	1
HVAC213M	Hydronic Systems Theory	3	0	3
HVAC214M	Hydronic Systems Lab	0	6	2
HVAC223M	Warm Air and Steam Systems Theory	3	0	3
HVAC224M	Warm Air and Steam Systems Lab	0	6	2
		Total Credits - 29		

INTERIOR DESIGN ASSOCIATE OF APPLIED SCIENCE

Program Goal

The mission of the Interior Design program is to prepare the student with marketable skills for entry into a career devoted to the quality of designing the interior built environment.

Program Outcomes

Students who graduate from this program will be able to:

- Demonstrate knowledge of the process involved in the implementation of the interior built environment from concept development, presentation, construction documentation and final project completion
- Possess the technical knowledge and skills for professional entry-level employment opportunities within the field of interior design and the related construction industry
- Apply critical thinking and problem solving necessary for thoughtful, creative and innovative solutions for the interior built environment
- Demonstrate competency in oral and written skills
- Possess knowledge of basic codes, life safety and ADA compliance for public safety and those with special needs
- Produce basic interior construction drawings using AutoCad® or other electronic mediums
- Demonstrate design intent through the use of visual methods such as sketches, perspective, rendering techniques and material choices on display boards.
- Possess knowledge of business practices, professional standards and related work ethics as in the field of interior design
- Successfully complete an internship related to the business of interior design.
- Assemble a well-rounded portfolio and resumé which exhibits meaningful skills to potential employers

Program Purpose Statement

The Interior Design program at MCC is centered on activity-based learning to develop technical, analytical and reasoning skills while simultaneously guiding the student's own creative abilities. Exciting studio sessions will move the student through the process of real-world project assignments while related courses will support the methods for communicating and implementing design solutions. Relevant industry-related learning, academic excellence and personalized attention by a dedicated faculty will provide the student with the skills needed to succeed in a career in interior design. The portfolio preparation course and an internship in the interior design field complete the course of study in preparing the student for career employment or for transfer to a bachelor's degree program.

Curriculum content includes study in commercial and residential interior design, drawing techniques, AutoCad®, lighting, construction documentation, business practice and a field-related design internship.

Admissions Requirements

In addition to college-wide admission requirements, applicants must have a grade of "C" or better in high school level algebra, English, reading and writing.

Transfer Credit Policy

Appropriate transfer credits for courses within the major may be accepted within a five-year time frame. Transfer of courses more than five-years-old will be evaluated by the Interior Design Program Coordinator on an individual basis.

Employment Opportunities

Employment opportunities for the graduate reach across many industry sectors. Entry-level positions with interior design firms, architects or building construction contractors can be pursued within the New England area. Potential specialized career paths include contract/commercial design with jobs in offices, hospitality, retail and healthcare facilities, or residential design with opportunities as an individual practitioner, kitchen and bath, manufacturer's representative and retail showroom consultant.

Technical Standards

- Effective communication skills that include the ability to orally communicate English at the college level.
- Basic computer skills.
- Ability to work in teams to find solutions for design problems.
- Ability to follow written instructions with minimal supervision.
- Ability to accept critique of designs and make changes based on constructive criticism.
- Ability to meet deadlines and work in a stressful environment.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
INTD101M	Interior Design Technology Studio I	2	3	3
INTD102M	Technical Drawing for Interiors I	2	3	3
INTD103M	Visual Presentation for Interior Design	1	3	2
ENGL110M	College Composition I	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**13**	**9**	**16**

First Year	Spring Semester	TH	LAB	CR
INTD121M	Interior Design Technology Studio II	2	3	3
INTD122M	Technical Drawing for Interiors II	2	3	3
INTD123M	The Built Environment: Codes and Standards	2	3	3
INTD124M	Arch and ID Movements: 1900 - Present	3	0	3
INTD200M	Materials and Components	3	0	3
	Total	**12**	**9**	**15**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
INTD201M	Interior Design Technology Studio III	2	3	3
INTD205M	Interior Contract Documentation	2	3	3
INTD212M	Lighting Design	3	0	3
MATH145M	Topics in Applied College Mathematics	4	0	4
ENGL113M	Introduction to Public Speaking	3	0	3
	Social Science Elective	3	0	3
	Total	**17**	**6**	**19**

Second Year	Spring Semester	TH	LAB	CR
INTD221M	Interior Design Technology Studio IV	2	3	3
INTD224M	Professional Practice in Interior Design	3	0	3
INTD225M	Interior Design Internship	1	8	3
INTD226M	Portfolio Preparation for Interior Design	1	3	2
MATH132M	Business Mathematics	3	0	3
	Science Elective	3	0	3
	Total	**13**	**14**	**17**

Total Credits - 67

INTERIOR DESIGN CERTIFICATE

The Interior Design Certificate program prepares students to identify, research and creatively solve problems relating to the functions and aesthetics of living and working environments. Students are expected to complete an internship. The internship experience and certificate training will prepare the individual for work as an entry-level interior design assistant.

		TH	LAB	CR
INTD101M	Interior Design Technology Studio I	2	3	3
INTD102M	Technical Drawing for Interiors I	2	3	3
INTD103M	Visual Presentation for Interior Design	1	3	2
INTD121M	Interior Design Technology Studio II	2	3	3
INTD123M	The Built Environment: Codes and Standards	2	3	3
INTD200M	Materials & Components	3	0	3
INTD212M	Lighting Design	3	0	3
INTD225M	Interior Design Internship	1	8	3

Total Credits - 23

LIBERAL ARTS DEGREES OVERVIEW

Liberal Arts Degree Program Goals

Liberal Arts degrees at Manchester Community College provide a solid foundation in the Liberal Arts and Sciences so that students may discover and explore academic interests while preparing for future baccalaureate programs. The goal of the degrees is to graduate well-rounded, lifelong learners who demonstrate the intellectual qualities and global awareness required of good stewards and citizens of our changing world. Liberal Arts degrees give students the opportunity to complete an Associate's degree as a stepping stone to a four-year degree. Core requirements for the program are comprised of courses that are the foundation of most four-year degrees.

Transfer Opportunities

Many Liberal Arts degree students begin at MCC and plan to transfer to baccalaureate degrees. Examples include American University, Boston College, Boston University, Clark University, Emerson College, Granite State College, Keene State College, Plymouth State University, Rivier University, Southern NH University, University of New Hampshire, University of New Hampshire-Manchester, University of Massachusetts… and many more. Liberal Arts degree concentrations provide the core curriculum typically covered in the first two years of these four-year degrees.

New Hampshire Transfer Connections

The NH Transfer Connections Program streamlines the transfer process between schools in the Community College System of NH (CCSNH) and schools in the University System of NH (USNH). Requirements for participants are outlined at nhtransfer.org/connections-program; additional information can also be obtained from MCC's Career/Transfer Services.

LIBERAL ARTS ASSOCIATE OF ARTS

Having a clear academic and career pathway is important to a student's success. Students are strongly encouraged to consider a Liberal Arts concentration after taking no more than two semesters of the general Liberal Arts degree.

Program Goal

The goal of the Liberal Arts degree concentration is to offer a flexible curriculum for exploration of a wide variety of academic disciplines.

Program Outcomes

Students in the Liberal Arts degree concentration will possess the necessary course requirements to support timely transfer to Liberal Arts Concentrations, other MCC degrees or four-year institutions.

Program Purpose Statement

The concentration allows students to survey courses in different disciplines in order to determine an area of interest for more in-depth study. Designed for students who do not have a clear academic or career pathway and who wish to transfer to another Liberal Arts degree with a concentration, another MCC degree or a baccalaureate degree.

Students who wish to enter the Liberal Arts degree concentration who do not have a clear academic or career pathway should meet with the Career/Transfer counselor who can provide resources for career pathway exploration.

Transfer Credit Policy

While courses considered for transfer into the Liberal Arts degree concentration will follow general college guidelines, students must be aware that once a concentration is selected, course transfer will be dependent upon the transfer credit policy of the specific degree concentration.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
FYE100M	First Year Cornerstone	1	0	1
ENGL110M	College Composition I	4	0	4
	Lab Science Elective - *Choose one: (BIOL, CHEM, ESCI, PHYS)*	3	3	4
	Behavioral Science Elective *Choose one: (PSYC110M, SOCI109M, SOCI110M)*	3	0	3
	Fine Arts Elective (ARTS)	3	0	3
	Liberal Arts & Sciences Elective* or Open Elective	3	0	3
	Total	**17**	**3**	**18**

First Year	Spring Semester	TH	LAB	CR
ENGL113M	Introduction to Public Speaking	3	0	3
	Mathematics Elective (can be 3 or 4 credits)	3/4	0	3/4
	History Elective *Choose one: (POLS110M, HIST202M, HIST204M)*	3	0	3
	Liberal Arts & Sciences Elective* or Open Elective	3	0	3
	Liberal Arts & Sciences Elective*	3	0	3
	Total	**15/16**	**0**	**15/16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
ENGL120M	College Composition II	4	0	4
	Mathematics Elective *(must be 4 credits)*	4	0	4
	Liberal Arts & Sciences Elective*	3	0	3
	Foreign Language Elective *(ASL, FREN, SPAN)*	3	0	3
	Social Science Elective - *Choose one: (ANTH, ECON, GEOG, HIST, POLS, PSYC, SOCI)*	3	0	3
	Total	**17**	**0**	**17**

Second Year	Spring Semester	TH	LAB	CR
	Life Science Lab Elective *(BIOL)*	3	3	4
	Liberal Arts & Sciences Elective*	3	0	3
	Liberal Arts & Sciences Elective* *(200 level)*	3	0	3
	English Literature Elective	3	0	3
LIBA299M	Liberal Arts Capstone	3	0	3
	Total	**15**	**3**	**16**

Total Credits - 66/67

Liberal Arts and Science Electives

Art, English, Geography, History, Humanities, Languages, Philosophy, Psychology, Social Sciences, Sciences, Mathematics and can include two (2) Open Electives as appropriate to other concentrations' pre-requisites 100 or 200 level – must include at least three (3) courses at the 200 level. A computer literacy course can be included within the open elective area.

LIBERAL ARTS/BEHAVIORAL SCIENCE CONCENTRATION ASSOCIATE OF ARTS

Program Goal

The Behavioral Science concentration offers a comprehensive behavioral science foundation that provides students with a theoretical basis for future study. Aligning with coursework offered at four-year institutions, the Behavioral Science concentration seeks to provide all students with courses in psychology and sociology offering students the first two years of a Bachelor's of Arts degree in Behavioral Science.

Program Outcomes

Students who graduate from this program will be able to:

- Demonstrate a solid foundation of basic theoretical and practical knowledge in the behavioral sciences
- Comprehend key concepts and terminology in the behavioral sciences
- Engage in practical application of common behavioral science theories
- Think critically and analytically

- Communicate effectively through oral and written skills
- Conduct ethically sound research within the behavioral science field
- Exhibit cultural sensitivity and appreciation of diversity, both locally and globally

Program Purpose Statement

The Liberal Arts-Behavioral Science degree concentration at Manchester Community College is designed for students who are planning to pursue a four-year degree in the areas of psychology, sociology, or human/social service disciplines. Through a variety of theoretical and practical applications the Behavioral Science concentration focuses on how underlying concepts, theories and principles affect human behavior and societal systems.

A degree in a Liberal Arts concentration is the beginning of a pathway that leads to careers such as: Social Worker, Personal Home Care Aide, Social Service Technician, Rehabilitation Counselor, Psychologist, Organizational Psychologist, Law Enforcement Officer, Parole/Probation Officer, Sociologist, Child Care Aide or Family Therapist.

Transfer Credit Policy

Courses will be considered for transfer to the Liberal Arts – Behavioral Science program under the following conditions:

Introduction to Psychology and Introduction to Sociology must be completed no more than 10 years prior to acceptance into the Liberal Arts – Behavioral Science program. Exceptions to the 10-year maximum timeframe for Introduction to Psychology and Introduction to Sociology may be granted at the discretion of the Department Chair.

An articulation agreement exists for MCC Liberal Arts/Behavioral Science students to transfer to UNH-Manchester Psychology Degree Program. For details and criteria, please visit MCC's Career and Transfer Office.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
FYE100M	First Year Cornerstone	1	0	1
ENGL110M	College Composition I	4	0	4
	Mathematics Elective *(can be 3 or 4 credits)*	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
	Foreign Language Elective *(ASL, FREN, SPAN)*	3	0	3
	History Elective - *Choose one: (POLS110M, HIST202M, HIST204M)*	3	0	3
	Total	**17**	**0**	**17**

First Year	Spring Semester	TH	LAB	CR
ENGL113M	Introduction to Public Speaking	3	0	3
	Lab Science Elective *(BIOL, CHEM, ESCI, PHYS)*	3	3	4
SOCI110M	Introduction to Sociology	3	0	3
PSYC210M	Human Growth & Development	3	0	3
PSYC215M	Abnormal Psychology	3	0	3
	Total	**15**	**3**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
ENGL120M	College Composition II	4	0	4
MATH202M	Probability and Statistics	4	0	4
PSYC225M	Social Psychology	3	0	3
	Fine Arts Elective *(ARTS)*	3	0	3
	Psychology/Sociology Elective*	3	0	3
	Total	**17**	**0**	**17**

Second Year	Spring Semester	TH	LAB	CR
	Life Science Lab Elective *(BIOL)*	3	3	4
	Psychology/Sociology Elective*	3	0	3
SOCI250M	Multiculturalism	3	0	3
	English Literature Elective	3	0	3
LBSC299M	Liberal Arts/ Behavioral Science Capstone	3	0	3
	Total	**15**	**3**	**16**

Total Credits - 66

**PSYC205M, PSYCH217M, PSYC220M, PSYC225M, PSYC234M, PSYC235M, SOC145M, SOC205M, SOC210M*

Students must have a minimum of three (3) 200 level courses in Psychology and/or Sociology taken at MCC.

LIBERAL ARTS/ENGLISH CONCENTRATION ASSOCIATE OF ARTS

Program Goal

The English concentration at Manchester Community College offers a cohesive college composition curriculum that prepares students for college-level writing, reading and research. Aligning with coursework offered at four-year institutions, the English concentration seeks to provide all students with courses in rhetoric, literature and creative writing that align with English, offering students the first two years of a Bachelor's of Arts degree in English.

Program Outcomes

Students who graduate from this program will be able to:

1. Proficiency in undergraduate college composition competencies most importantly critical thinking/reading to:
   - Analyze, synthesize and evaluate ideas and texts
   - Conduct and understand the process of research through identifying, analyzing, synthesizing and documenting credible source material
   - Ability to compose an argument (thesis) supported by the most essential information available on the topic
2. Proficiency in undergraduate communication competencies that include:
   - Rhetoric (formulation and delivery of an argument)
   - Discipline-specific writing
   - Context-sensitive approaches
   - Effective peer feedback
3. Proficiency in genre-specific competencies in preparation for further study including the ability to:
   - (Literature) propose and support interpretations of a wide range of texts by performing close textual analysis and accounting for the impact of historical, cultural and literary contexts
   - (Creative Writing) recognize the creative/intentional elements employed in the genres of poetry, fiction and drama and compose original writing that engages these elements.

Program Purpose Statement

Designed for students planning to pursue a Bachelor of Arts degree, the English concentration pursues an overall curriculum shaped by relevant and contemporary course design and invested instructors who are Masters in the study of English. In addition to building their capacity in the written and oral communication skills, English majors will explore the many tenets of rhetoric, literature and creative writing.

A degree in a Liberal Arts/English concentration is the beginning of a pathway that leads to careers such as: Journalist, Copyrighter, Editor, Advertising Assistant, Educator, Freelance Writer, Technical Writer, Public Relations Manager or Marketing Director.

Transfer Credit Policy

Courses will be considered for transfer to the Liberal Arts – English program under the following conditions:

- College Composition I and II coursework must be completed no more than 10 years prior to acceptance into the Liberal Arts – English program. Exceptions to the 10-year maximum timeframe for College Composition I and II may be granted at the discretion of the Program Coordinator.
- The College Composition I course proposed for transfer must be a college-level course and require a research paper. The College Composition II course (or equivalent) proposed for transfer must include argument writing and advanced research methods.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
FYE100M	First Year Cornerstone	1	0	1
ENGL110M	College Composition I	4	0	4
	Lab Science Elective *(BIOL, CHEM, ESCI, PHYS)*	3	3	4
	Behavioral Science Elective - *Choose one: (PSYC110M, SOCI109M, SOCI110M)*	3	0	3
	Fine Arts Elective *(ARTS)*	3	0	3
	Social Science Elective *(ANTH, ECON, GEOG, HIST, POLS, PSYC, SOCI)*	3	0	3
	Total	**17**	**3**	**18**

First Year	Spring Semester	TH	LAB	CR
ENGL113M	Introduction to Public Speaking	3	0	3
ENGL207M	Introduction to Literary Analysis	3	0	3
	Mathematics Elective *(can be 3 or 4 credits)*	3/4	0/2	3/4
	History Elective *Choose one: (POLS110M, HIST202M, HIST204M)*	3	0	3
	English Elective - *Choose one: (ENGL213M, ENGL214M)*	3	0	3
	Total	**15/16**	**0/2**	**15/16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
ENGL120M	College Composition II	4	0	4
	Mathematics Elective (must 4 credits)	4	0	4
	English Literature Elective *Choose one: (ENGL230M, ENGL223M)*	3	0	3
	Foreign Language Elective *(ASL, FREN, SPAN)*	3	0	3
	English Elective - *Choose one: (ENGL200M, ENGL201M, ENGL202M, ENGL203M, ENGL218M, ENGL225M)*	3	0	3
	Total	**17**	**0**	**17**

Second Year	Spring Semester	TH	LAB	CR
	Life Science Lab Elective *(BIOL)*	3	3	4
	English Elective - *Choose one: (ENGL200M, ENGL201M, ENGL202M, ENGL203M, ENGL218M, ENGL225M)*	3	0	3
	English Literature Elective *Choose one: (ENGL235M, ENGL224M)*	3	0	3
	English Elective - *Choose one: (ENGL213M, ENGL214M)*	3	0	3
LENG299M	Liberal Arts/English Capstone	3	0	3
	Total	**15**	**3**	**16**
	Total Credits - 66/67			

Students must have a minimum of three (3) 200 level courses in English taken at MCC.

LIBERAL ARTS/SOCIAL SCIENCE CONCENTRATION ASSOCIATE OF ARTS

Program Goal

The Social Science concentration offers a comprehensive social science foundation that provides students with a theoretical basis for future study. Aligning with coursework offered at four-year institutions, the Social Science concentration seeks to provide all students with courses in history, political science and related social sciences disciplines. This concentration offers students the first two years of a Bachelor's of Arts degree in Social Science or related programs of study such as pre-law, political science or history education.

Program Outcomes

Students who graduate from this program will be able to:

- Demonstrate a solid foundation of basic theoretical and practical knowledge in the social sciences
- Comprehend key facts, concepts and terminology in the social sciences
- Engage in practical application of common social science theories
- Think critically and analytically
- Communicate effectively through oral and written skills
- Conduct ethically sound research within the social science field
- Exhibit cultural sensitivity and appreciation of diversity, both locally and globally

Program Purpose Statement

The Liberal Arts Social Science concentration at Manchester Community College provides solid theoretical and practical foundation in the social sciences to facilitate discovery and exploration of academic interests within the field and prepare students for transfer to baccalaureate concentrations. The coursework completed at Manchester Community College will serve as the entry point to a career pathway in fields such as politics, government, law enforcement, or education.

A degree in the Liberal Arts/Social Science concentration is the beginning of a pathway that leads to careers such as: Historian, Educator, Correctional Officer, Paralegal, Archaeologist Technician, Criminal Investigator, Customs Inspector, Court Clerk, Political Analyst, Private Investigator, Police Office, Intelligence Officer, Lawyer, Lobbyist.

An articulation agreement exists for MCC Liberal Arts/Social Science students to transfer to UNH-Manchester Politics and Society Degree Program. For details and criteria, please visit MCC's Career and Transfer Office.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
FYE100M	First Year Cornerstone	1	0	1
ENGL110M	College Composition I	4	0	4
	Mathematics Elective (can be 3 or 4 credits)	3/4	0/2	3/4
	History elective - *Choose one: (HIST120M, HIST202M)*	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Behavioral/Social Science Elective *Choose one: (PSYC110M, ANTH101M, SOCI110M)*	3	0	3
	Total	**17/18**	**0/2**	**17/18**

First Year	Spring Semester	3	LAB	CR
ENGL113M	Introduction to Public Speaking	3	0	3
	History Elective - *Choose one: (HIST130M, HIST204M)*	3	0	3
GEOG110M	World Geography	3	0	3
	Lab Science Elective *(BIOL, CHEM, ESCI, PHYS)*	3	3	4
	Behavioral/Social Science Elective *Choose one: (PSYC110M, ANTH101M, SOCI110M)*	3	0	3
	Total	**15**	**3**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
ENGL120M	College Composition II	4	0	4
MATH202M	Probability and Statistics	4	0	4
POLS110M	American Government	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Social Science Elective *Choose one: (HIST203M, HIST215M, SOCI250M)*	3	0	3
	Total	**17**	**0**	**17**

Second Year	Spring Semester	TH	LAB	CR
POLS210M	Introduction to Political Science	3	0	3
	Liberal Arts and Sciences Elective or Open Elective	3	0	3
	Social Science Elective *Choose one: (HIST203M, HIST215M, SOCI250M)*	3	0	3
	Lab Science Elective *(BIOL, CHEM, ESCI, PHYS)*	3	3	4
LSSC299M	Liberal Arts/ Social Science Capstone	3	0	3
	Total	**15**	**3**	**16**
	Total Credits - 66/67			

Students must have a minimum of three (3) 200 level courses in Social Science taken at MCC.

LIFE SCIENCE ASSOCIATE OF SCIENCE

Program Goal

The Life Science Degree provides a solid foundation on which students build academic pathway for further study in life science disciplines, such as biology, zoology, botany and ecology. Aligning with coursework offered at four-year institutions, the Life Science Degree offers students the first two years of a Bachelor's of Science degree in a life science. This Degree combines theoretical and practical applications of life science concepts throughout coursework.

Program Outcomes

Students who graduate from this program will be able to:

- Apply biological and/or chemical principles practically in both academic and career settings
- Communicate effectively using life science terminology in an appropriate manner both verbally and written
- Align coursework with four-year degree concentrations for continuing degrees
- Understand and apply the scientific method in research

Program Purpose Statement

Designed for students who are planning to pursue a four-year degree in a science related field, the Life Science Degree develops a foundation in the biological and chemical sciences. With a Life Science degree, MCC affords students with academic transfer opportunities while providing a context in which lessons directly translate to industry standards.

A degree in Life Science is the beginning of a pathway that leads to careers such as: Meteorologist, Biologist, Educator, Forensic Science Technician, Product Safety Technician, Chemist, Environmental Specialist, Health Safety Technician, Veterinary Technician or Pharmacy Technician.

Transfer Credit Policy

In addition to college-wide transfer credit policies Human Anatomy and Physiology I and II and Microbiology must be taken within an eight-year period from the time of acceptance into the Life Science program.

General Education Core Requirements

		TH	LAB	CR
FYE100M	First Year Cornerstone	1	0	1
ENGL110M	College Composition I	4	0	4
ENGL120M	College Composition II	4	0	4
CHEM115M	Chemistry I	3	3	4
PHIL240M	Ethics	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
MATH171M	Pre-Calculus *(or MATH204M Calculus I or higher)*	4	0	4
	History Elective - *Choose one: (POLS110M, SOCI110M, HIST202M, HIST204M)*	3	0	3
	Foreign Language/Humanities/Fine Arts	4	0	4

Life Science Requirements

		TH	LAB	CR
CHEM116M	Chemistry II	3	3	4
BIOL108M	College Biology I	3	3	4
BIOL109M	College Biology II	3	3	4
BIOL110M	Anatomy & Physiology I	3	3	4
BIOL120M	Anatomy & Physiology II	3	3	4
BIOL201M	Principles of Genetics	3	3	4
BIOL210M	Microbiology	3	3	4
BIOL220M	Pathophysiology	3	0	3
LSCI299M	Life Science Capstone	3	0	3
			Total Credits - 64	

Students must have a minimum of three (3) 200 level courses in Life Science taken at MCC.

MANAGEMENT ASSOCIATE OF SCIENCE

Program Goal

The student will be able to transfer to a four-year college or university with a solid management and overall business studies foundation or become employed in an entry-level management position.

Program Outcomes

Students who graduate from this program will be able to:

- Articulate the fundamentals of management theory and practices
- Demonstrate written and oral proficiency in business communications
- Demonstrate knowledge of the foundations and importance of business ethics
- Demonstrate competency in fundamental areas of business: accounting, marketing, human resources, finance, computers, economics and business law
- Articulate the necessity for a commitment to life-long learning to ensure employability

Program Purpose Statement

The degree in Management emphasizes broad management competencies in finance, marketing, human resources, economics, law and computers. All of these competencies are needed in industry, non-profit and service organizations. The study of management focuses on how organizations develop and use strategies to compete in domestic and global arenas within the increasingly complex and changing social, political, economic and technological environment.

Students are encouraged to relate theoretical learning to practice and establish bridges between the classroom and the work environment. The degree provides the framework for successful management careers in high-tech industries, manufacturing, banking and finance, healthcare, communications, service industries and non-profit organizations. According to the National Association of Colleges and Employers in the Job Outlook, management is in the top-five degrees in demand.

Admissions Requirements

Applicants for admission to the Management degree program must comply with the college admission requirements; no specific program requirements apply.

Accreditation

The Department of Business Studies is nationally accredited by the Accreditation Council for Business Schools & Programs *(ACBSP)*. Our national accreditation allows MCC graduates to transfer to four-year colleges and universities in all regions of the country.

Employment Opportunities

According to the National Association of Colleges and Employers *(NACE)*, job prospects for management graduates remain strong. Management ranks in the top-five targeted degrees in the service, government and non-profit sectors.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
ACCT113M	Accounting and Financial Reporting I	3	0	3
BUS114M	Management	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
ENGL110	College Composition I	4	0	4
MATH145M	Topics in Applied College Mathematics	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**17**	**2**	**18**

First Year	Spring Semester	TH	LAB	CR
ACCT123M	Accounting and Financial Reporting II	3	0	3
BUS212M	Business Law I	3	0	3
ECON134M	Macroeconomics	3	0	3
MATH202M	Probability and Statistics	4	0	4
	Science Elective	3	0	3
	Total	**16**	**0**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
BUS124M	Small Business Management	3	0	3
BUS224M	Human Resource Management	3	0	3
ECON135M	Microeconomics	3	0	3
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
PHIL240M	Ethics	3	0	3
	Total	**15**	**0**	**15**

Second Year	Spring Semester	TH	LAB	CR
BUS210M	Organizational Communications	3	0	3
BUS221M	Business Finance	3	0	3
MKTG282M	Marketing Research	3	0	3
	Business Elective *(ACCT, BUS, FIN, MKTG)*	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	English Elective	3	0	3
	Total	**18**	**0**	**18**

Total Credits - 67

MANAGEMENT CERTIFICATE

		TH	LAB	CR
ACCT113M	Accounting and Financial Reporting I	3	0	3
ACCT123M	Accounting and Financial Reporting II	3	0	3
BUS114M	Management	3	0	3
BUS212M	Business Law I	3	0	3
BUS224M	Human Resource Management	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
	Business Elective *(ACCT, BUS, FIN, MKTG)*	3	0	3
	Business Elective *(ACCT, BUS, FIN, MKTG)*	3	0	3

Total Credits - 24

HUMAN RESOURCE MANAGEMENT CERTIFICATE

This certificate prepares students interested in human resource management for entry-level careers in the field. Students will be prepared to continue their education at the bachelor degree level if desired. The certificate is also valuable to individuals currently in the field of HRM who wish to earn a certificate to demonstrate proficiency in the specific subject areas of HRM.

		TH	LAB	CR
BUS114M	Management	3	0	3
BUS216M	Organizational Behavior	3	0	3
BUS224M	Human Resource Management	3	0	3
BUS225M	Effective Human Relations	3	0	3
BUS226M	Employment and Labor Law	3	0	3
BUS227M	Training and Development	3	0	3
BUS228M	Seminar in Strategic HR Management	3	0	3
PSYC110M	Introduction to Psychology	3	0	3

Total Credits - 24

SMALL BUSINESS MANAGEMENT CERTIFICATE

This certificate teaches the student to set up and manage a business. It will cover all aspects of running a business from creating a successful business plan, setting up and maintaining the books, hiring and managing employees, to promoting the business. This certificate is designed for the technical trade person or small business owner who has the technical skills and now wants to learn how to run the business.

		TH	LAB	CR
ACCT100M	Bookkeeping for Small Business	2	2	3
BUS114M	Management	3	0	3
BUS124M	Small Business Management	3	0	3
BUS212M	Business Law I	3	0	3
BUS224M	Human Resource Management	3	0	3
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3

Total Credits - 18

MARKETING ASSOCIATE OF SCIENCE

Program Goal

The students will be able to transfer to a four-year college or university with a solid marketing and overall business studies foundation or become employed in an entry-level marketing position.

Program Outcomes

Students who graduate from this program will be able to:

- Identify the marketing mix variables: product, price, place and promotion
- Create and develop an integrated marketing communication plan, including marketing objectives, strategies and tactics
- Analyze consumer decision making as it relates to consumer buying behavior and marketing decisions
- Analyze the decision-making process in marketing products internationally and understand the role marketing plays in a global economy
- Identify the components of a successful advertising campaign and implement the campaign; create and develop an advertising brief
- Demonstrate knowledge of various advertising media such as print, radio, television, outdoor advertising, direct response, etc.
- Apply the strategic selling model to personal selling activities
- Engage in a personal selling situation with emphasis on the customer relationship and deliver a personal sales presentation using a sales portfolio and other sales tools

Program Purpose Statement

In an era of global, digitized, interactive business environments, marketing offers one of the best career opportunities for today's business students. Marketing is a broad field, which includes activities related to selecting, designing, packaging, pricing, advertising, selling, distributing and servicing a product in the domestic and/or international marketplace. It is the driving force in most businesses.

Companies realize that understanding the marketplace and consumer wants and needs requires competent marketing personnel, from marketing researchers to creative advertisers. The degree to which a company responds to customer demands greatly impacts an organization's success. Marketing classes integrate theory and practical applications while applying related business knowledge of computers, accounting and management principles.

Marketing personnel are employed in retail, industrial and commercial firms, schools and hospitals, both locally and internationally. Marketing offers something for every business student -- a desk job as a market research analyst, or travel and excitement with the public as a salesperson, retailer, or public relations person. According to the National Association of Colleges and Employers in the Job Outlook, marketing is in the top-ten degrees in demand.

Admissions Requirements

Applicants for admission to the Marketing degree program must comply with the college admission requirements; no specific program requirements apply.

Accreditation

The Department of Business Studies is nationally accredited by the Accreditation Council for Business Schools & Programs *(ACBSP)*. This national accreditation allows marketing graduates to transfer to accredited four-year colleges throughout the country.

Transfer Opportunities

The Marketing degree transfers in its entirety to many four-year colleges and universities. Southern New Hampshire University accepts 90 credits from MCC and awards scholarships to MCC marketing graduates based on academic performance.

Plymouth State University, UNH-Manchester and Franklin Pierce University are other local colleges that accept marketing graduates. Additionally, credits transfer to ACBSP-accredited colleges throughout the U.S.

Employment Opportunities

Graduates of the Marketing program are ready for positions such as marketing coordinator, marketing assistant, account executive, retail associate, sales assistant, event planner, as well as many other dynamic and rewarding marketing-related careers.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
ACCT113M	Accounting and Financial Reporting I	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
ENGL110M	College Composition I	4	0	4
MATH145M	Topics in Applied College Mathematics	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**17**	**2**	**18**

First Year	Spring Semester	TH	LAB	CR
ACCT123M	Accounting and Financial Reporting II	3	0	3
BUS212M	Business Law I	3	0	3
ECON134M	Macroeconomics	3	0	3
MATH202M	Probability and Statistics	4	0	4
	Science Elective	3	0	3
	Total	**16**	**0**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
MKTG210M	Advertising	3	0	3
BUS155M	Retail Management	3	0	3
GDES110M	Page Layout and Design	2	3	3
ECON135M	Microeconomics	3	0	3
ENGL113M	Introduction to Public Speaking	3	0	3
	Total	**14**	**3**	**15**

Second Year	Spring Semester	TH	LAB	CR
MKTG135M	Global Consumer Behavior	3	0	3
MKTG205M	International Marketing	3	0	3
MKTG224M	Sales and Sales Management	3	0	3
MKTG282M	Marketing Research	3	0	3
BUS210M	Organizational Communications	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**18**	**0**	**18**

Total Credits - 67

MARKETING CERTIFICATE

		TH	LAB	CR
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
MKTG135M	Global Consumer Behavior	3	0	3
MKTG205M	International Marketing	3	0	3
MKTG210M	Advertising	3	0	3
MKTG224M	Sales and Sales Management	3	0	3
MKTG282M	Marketing Research	3	0	3
ACCT113M	Accounting and Financial Reporting I	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
	Business Elective - *(ACCT, BUS, FIN, MKTG)*	3	0	3

Total Credits - 27

MATHEMATICS ASSOCIATE OF SCIENCE

Program Goal

The Mathematics Degree is designed for students who are planning to pursue a four-year degree in Mathematics. The curriculum includes both the general education and mathematics courses typically required in the first two years of a bachelor's concentration in Mathematics. This degree is also excellent preparation for students who wish to pursue a bachelor's degree in mathematics education, engineering and related disciplines.

Program Outcomes

Students who graduate from this program will be able to:

- Demonstrate applicable problem solving ability in completing mathematical practices
- Apply mathematical principles to other disciplines including physical and life sciences, technologies, social sciences and business
- Communicate in the language of mathematics effectively using appropriate mathematical terminology both verbally and written
- Use logical reasoning in understanding mathematical proofs

Program Purpose Statement

Labor market trends indicate a growing need for professionals in the STEM disciplines in New Hampshire, as well as across the country. The Mathematics degree is designed for students planning to transfer to four-year degree concentrations leading to STEM careers in mathematics, research and data analysis. In addition the Mathematics degree supports pathways for students who want to work in areas such as business, finance, strategic planning, or quality improvement.

A degree in Mathematics is the beginning of a pathway that leads to careers such as: Engineer, Data Analyst, Research Technician, Survey Technician, Educator, City Planning Aide, Business/Finance Analyst, Strategic Planning, Insurance Analyst or Quality Improvement Assistant.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
MATH204M	Calculus I	4	0	4
PHYS210M	University Physics I	3	3	4
ENGL110M	College Composition I	4	0	4
	Liberal Arts and Science Elective	3	0	3
FYE100M	First Year Cornerstone	1	0	1
	Total	**15**	**3**	**16**

First Year	Spring Semester	TH	LAB	CR
MATH214M	Calculus II	4	0	4
MATH215M	Mathematical Proofs	4	0	4
PHYS220M	University Physics II	3	3	4
	Foreign Language Elective (ASL, FREN, SPAN)	4	0	4
	Total	**15**	**3**	**16**

Degree Program - Second Year

Second Year	Spring Semester	TH	LAB	CR
MATH218M	Linear Algebra	4	0	4
MATH220M	Differential Equations	3	2	4
	Elective - *Choose one: (PSYC110M, SOCI109M, SOCI110M)*	3	0	3
	English Elective	3	0	3
CIS122M	C++ Programming	2	2	3
	Total	**15**	**4**	**17**

Second Year	Spring Semester	TH	LAB	CR
MATH222M	Multidimensional Calculus	3	2	4
MATH299M	Mathematics Capstone	4	0	4
	Elective - *Choose one: (POLS110M, HIST202M, HIST204M)*	3	0	3
	Lab Science Elective *Choose one: (BIOL, CHEM)*	3	3	4
	Total	**13**	**5**	**15**

Total Credits - 64

Students must have a minimum of three (3) 200 level courses in Mathematics taken at MCC.

APPLIED DATA ANALYTICS CERTIFICATE

Program Goal

Data is an increasingly important part of our lives; from business operations and processes to environmental systems, social sciences, genetics, and health care, data allows us to gain important insights and make useful predictions. Data Analytics comprises all the academic disciplines related to managing data as a resource; such as visualization, machine learning, statistical applications, data mining, predictive analytics, and database management. Upon completion, the student will have foundational understanding of and competency with many facets of effective communication with data.

		TH	LAB	CR
MATH202M	Probability & Statistics I	4	0	4
MATH212M	Probability & Statistics II	4	0	4
DATA210M	Introduction to Data Mining	3	2	4
DATA215M	Applied Data Analytics	3	2	4
	Elective - *Choose one: (CIS113M, CIS220M, CIS233M, MATH218M)*	2/3	2/3	3/4

Total Credits - 19/20

MEDICAL ASSISTANT ASSOCIATE OF SCIENCE

Program Goal

The program's goal is to prepare competent entry-level medical assistants in the cognitive *(knowledge)*, psychomotor *(skills)* and affective *(behavior)* learning domains, incorporating values, ethics and professionalism. The program promotes an interdisciplinary approach to the study of medical office administration, clinical procedures and the ethics and values associated with such a career. The program's foundation provides a basis for analytical skills leading to national certification, life-long learning and a successful career.

Program Outcomes

Students who graduate from this program will be able to:

- Be eligible to sit for the national certification exam for medical assistants *(CMA-AAMA)*
- Demonstrate proficiency in administrative medical office procedures, such as processing insurance claims, scheduling appointments and completing referrals
- Demonstrate proficiency in clinical procedures such as patient intake, taking vital signs, giving injections, administering EKGs, drawing blood and assisting with patient exams, clinical procedures and office surgeries
- Demonstrate proficiency in electronic medical records management

Program Purpose Statement

Medical assistants are multi-skilled health professionals educated to work in ambulatory settings performing administrative and clinical duties. The practice of medical assisting requires mastery of a complex body of knowledge and specialized skills requiring both formal education and practical experience that serve as standards for entry into the profession. Our nationally accredited Medical Assistant *(MA)* programs emphasize the skills and knowledge needed for employment in doctors' offices, clinics, insurance companies and other medical facilities.

Admissions Requirements

- In addition to college-wide admission requirements, applicants must interview with a member of the full-time faculty to determine appropriateness for admission to the program.
- Placement into ENGL110M - College Composition I as a result of Accuplacer Placement Test. Sufficient speech and language ability to express, comprehend and exchange information and ideas in English verbally, non-verbally and to interact clearly and logically with patients, family members, physicians, peers and other ancillary medical personnel. Potential MA students will be assessed by the program director at the time of their interview. Those not meeting program standards may be referred to classes to improve their diction, vocabulary, and/or writing skills.
- Submit a report of a current physical exam including all required health screening and immunizations *(as indicated on physical exam form)*.

Program Policies

Students must abide by the following policies in order to be accepted and stay in the Medical Assistant Program.

- Students must place into College Composition I based on Accuplacer scores before registering for any AHLT or MEDA courses.
- A grade of "C" or better is required in all AHLT, MEDA and BIOL106M/107M courses to continue in the program. Students may retake a course once if the minimum grade is not earned.
- All MEDA, AHLT and BIOL106M/107M courses must be taken within three years of Practicum.
- Students will be required to repeat a course if they do not demonstrate sufficient maturity to conduct themselves in a professional manner in the performance of clinical procedures.
- Students must demonstrate the emotional intelligence to exhibit empathy and compassion, to maintain productive relationships in the classroom and clinical settings and to integrate direction, instruction and constructive criticism into behavior.
- Criminal background checks and drug screenings are required of all students prior to practicum placement. No students will be exempt from either process. Any student found to be chemically impaired at any time will be dismissed from the program. National certification boards, practicum sites and/or medical facilities may restrict candidates from the certification or practicum, if involved in civil or criminal legal proceedings.
- Students must possess and maintain both personal health insurance and professional liability insurance while enrolled in MEDA125M, MEDA218M, and MEDA223M. This professional liability insurance coverage is purchased through MCC's Bursar's office.
- Students must acquire and maintain CPR for the Healthcare Provider while enrolled in MEDA125M, MEDA218M and MEDA223M. Students must provide proof of CPR/AED and First Aid certification prior to starting MEDA125M Clinical Lab Procedures I.
- Students who place into MATH090M based on the Accuplacer Test must successfully complete MATH090M and successfully pass a basic mathematics test prior to registration for AHLT123M or MEDA125M.
- Students enrolled in MEDA125M Clinical Lab Procedures I, must purchase required scrubs, shoes, stethoscope, blood pressure cuff and watch. *(Consult faculty for more information)*.
- Students must enroll in MEDA218M immediately following MEDA125M or the student may be required to repeat MEDA125M. MEDA223M must immediately follow MEDA218M.

Transfer Credit Policy

Students transferring from another college or from another program within MCC must have a 2.0 CGPA to be accepted into the Medical Assistant program. This includes developmental courses.

Transfer courses must have been taken within the past five years for AHLT110M, BIOL106M, BIOL107M, MEDA122M, MEDA123M, MEDA124M and MEDA126M. Exceptions may be made for those with continuous work in the medical field. Transfer credit will not be given for MEDA125M, MEDA218M, or MEDA223M.

Technical Standards

MCC must ensure that patients/clients are not placed in jeopardy by students during learning experiences. Therefore, students in practicum must demonstrate sufficient emotional stability to withstand the stresses, uncertainties and changing circumstances that characterize patient/client care responsibilities. Furthermore, the student is expected to have the emotional stability required to exercise sound judgment, accept direction and guidance from a supervisor or faculty member and establish rapport and maintain sensitive interpersonal relationships with employees, patients/clients and their families.

- Applicants must be in good physical and mental health. Standards have been established to provide guidance to students as to skills and abilities required to function successfully in the profession.
- Applicants who think they may not be able to meet one or more of the technical standards should contact the department chairperson or faculty to discuss individual cases.
- Good manual dexterity and sufficient tactile ability to assess pressure temperature, position, vibration and movement.
- Sufficient hearing to assess patient needs and to understand instructions, identify emergency signals and engage in telephone conversations.
- Sufficient visual acuity to observe patients, manipulate equipment and interpret data; visual acuity sufficient to ensure a safe environment, identify color changes, read fine print/writing and calculate fine calibrations.
- Sufficient strength to perform CPR and the ability to stand for extended periods of time.

Accreditations

MCC's MA programs are accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Medical Assisting Education Review Board *(MAERB)*: Commission on Accreditation of Allied Health Education Programs (CAAHEP) 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL 33763, (727) 210-2350

Employment Opportunities

According to the U.S. Department of Labor Bureau of Labor Statistics, "employment of medical assistants is expected to grow 34 percent over the 2008 – 2018 decade, much faster than average for all occupations particularly for those with formal training or experience and certification." MCC's programs are competency-based; graduates are comprehensively prepared to enter any medical office with confidence.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
MEDA110M	Introduction to Medical Assisting	3	0	3
ADMN122M	Executive Keyboarding	2	2	3
AHLT110M	Medical Terminology	3	0	3
BIOL106M	Human Body	3	0	3
BIOL107M	Human Body Lab	0	3	1
MATH145M	Topics in Applied College Math	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**16**	**5**	**18**

First Year	Spring Semester	TH	LAB	CR
MEDA125M	Clinical Lab Procedures I	3	3	4
MEDA128M	Administrative Medical Assisting	3	2	4
ENGL110M	College Composition I	4	0	4
BIOL150M	Nutrition Theory	3	0	3
BIOL151M	Nutrition Lab	0	3	1
	Total	**13**	**8**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
MEDA218M	Clinical Lab Procedures II	2	3	3
AHLT200M	Transcultural Healthcare	3	0	3
AHLT205M	Medical Ethics and Law	3	0	3
AHLT123M	Introduction to Pharmacology	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
	Total	**14**	**3**	**15**

Second Year	Spring Semester	TH	LAB	CR
MEDA223M	Medical Assistant Practicum	0	15	5
MEDA225M	Medical Assistant Practicum Seminar	1	0	1
AHLT115M	Phlebotomy	3	0	3
	English Elective	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**10**	**15**	**15**

Total Credits - 64

ADMINISTRATIVE MEDICAL ASSISTANT CERTIFICATE

Administrative medical assistants perform a variety of tasks necessary to make an office operate smoothly. They are responsible for scheduling patient appointments, completing referrals for inpatient/outpatient procedures, keeping patient charts updated, accepting and documenting payments, processing insurance claims, typing correspondence and interacting with healthcare facilities on a routine basis. This certificate program provides the essentials needed to work in a medical office. Students will build a strong foundation of medical terminology, human anatomy and prescription drugs before continuing on to courses requiring their application. Computer courses/ applications will prepare graduates to feel comfortable with all types of clerical duties associated with a doctor's office, hospital or insurance company.

		TH	LAB	CR
ADMN122M	Executive Keyboarding	2	2	3
BIOL106M	Human Body	3	0	3
ENGL110M	College Composition I	4	0	4
CIS110M	Microsoft® Computer Applications I	2	2	3
AHLT110M	Medical Terminology	3	0	3
AHLT123M	Introduction to Pharmacology	3	0	3
AHLT205M	Medical Ethics and Law	3	0	3
MEDA128M	Administrative Medical Assisting	3	2	4

Total Credits - 26

PHLEBOTOMY CERTIFICATE

Phlebotomists *(PBT)* are essential members of the healthcare delivery team who are primarily responsible for collecting blood specimens from patients for laboratory testing. Qualified phlebotomists may be employed in hospital laboratories, private laboratories, doctors' offices, clinics, emergency rooms or blood donor centers.

Classroom learning is combined with a 120-hour internship that is performed in a clinical laboratory or other healthcare facility to provide the skills required of a certified PBT. **Internships are limited and offered as sites become available.**

Fine motor skills are required to successfully perform in most clinical facilities: drawing patient's blood in the inpatient and outpatient settings, processing specimens including operating mechanical and computerized equipment and performing clinical duties. Good communication skills are critical in dealing with patients, clients, physicians, nurses and other healthcare workers.

Students must have complete documentation of physical exam, immunization records, TB testing, health insurance coverage and liability insurance in effect **prior** to registering for AHLT135M. Students who participate in the internship must be available on a full-time basis for three 40-hour weeks. There are no evening or weekend internships. **Only the Phlebotomy Coordinator may register students for AHLT135M, Phlebotomy Internship.**

Students who successfully complete this program are qualified for immediate employment at independent labs, hospitals, clinics and are eligible to sit for a national certification examination offered by several professional organizations.

National certification boards, internship sites and employers may restrict candidates who have been involved in civil and legal proceedings.

Admission Requirements

Applicants must satisfy the general requirements for admission to the college in addition to program requirements.

- Students must have college assessment results that indicate placement into College Composition I (ENGL110M).
- Students must demonstrate reading and listening comprehension competencies in the English language, as well as the ability to speak English clearly and correctly. Applicants whose first language is not English must submit official scores for the Test of English as a Foreign Language *(TOEFL)*. A minimum score of 62 *(internet-based),* 173 *(computer-based)* or 500 *(paper-based)* is required before taking AHLT115M.
- Students must have sufficient speech and language ability to express, comprehend and exchange information and ideas in English verbally and non-verbally and to interact clearly and logically with patients, family members, physicians, peers and other medical personnel.
- Those not meeting program standards may be referred to classes to improve their diction and vocabulary skills.
- Submit a report of current physical status, including immunization against measles, mumps, rubella, *(MMR),* varicella and hepatitis B *(at least 2 of the required 3-shot series must be completed);* up-to-date tetanus booster; negative TB test within one year or negative chest x-ray with physician's clearance and varicella vaccine.
- Based on the physical exam required for entry into the program, students must:
    a. Have sufficient hearing to assess patient needs and to understand instructions and identify emergency signals.
    b. Have sufficient visual acuity to observe patients and interpret data; visual acuity sufficient to ensure a safe environment, identify color changes, read fine print/writing and calculate fine calibrations.
    c. Be able to stand for long periods of time.
- Possess and maintain personal health insurance for both AHLT115M and AHLT135M
- Possess and maintain professional liability insurance for both AHLT115M and AHLT135M. This professional liability insurance coverage is purchased through MCC's Bursar's office.
- Criminal background checks and drug screenings are required of all students prior to Internship placement. No students will be exempt from either process. Any student found chemically impaired at any time will be dismissed from the program. National certification boards, internship sites and employers may restrict candidates from the certification or practicum if involved in civil or criminal legal proceedings.
- As skills and knowledge must be current for an internship, if more than one year lapses before a student seeks an internship, AHLT115M must be repeated.

Transfer Credit Policy

Transfer credit for AHLT115M will not be granted.

Health and Character Standards

MCC must ensure that patients/clients are not placed in jeopardy by students during learning experiences. Therefore, students in internships must demonstrate sufficient emotional stability to withstand the stresses, uncertainties and changing circumstances that characterize patient/client care responsibilities. Furthermore, the student is expected to have the emotional stability to exercise sound judgment, accept direction and guidance from a supervisor or faculty member and establish rapport and maintain sensitive interpersonal relationships with employees, patients/clients and their families.

MCC believes patient and student safety is of utmost importance. Therefore, if the instructor believes that actions demonstrated by a student in class or on internship jeopardize either the student's own safety or patient safety, that student will be dismissed from the class/program.

Applicants must be in good physical and mental health to qualify for positions in the healthcare field. Standards have been established to provide guidance to students as to skills and abilities required to function successfully in the program and ultimately in the phlebotomy profession. Applicants who think they may not be able to meet one or more of these health, character or technical standards should contact the department head or faculty to discuss individual cases. Applicants should have sufficient emotional intelligence to exhibit empathy and compassion to maintain productive relationships in the classroom and clinical settings.

		TH	LAB	CR
AHLT115M	Phlebotomy	3	0	3
AHLT135M	Phlebotomy Internship	0	9	3
			Total Credits - 6	

NURSING
ASSOCIATE OF SCIENCE

Program Goal

The mission of the nursing program is to provide high-quality education and clinical evidence-based practice which enables students to achieve career and life goals through the application of knowledge, judgment and skills necessary to practice as a registered nurse.

Program Outcomes

Students who graduate from this program will be able to:

- Utilize knowledge, judgment and skills to practice nursing safely and competently
- Utilize intellectual, interpersonal and psychomotor competence when providing patient care
- Utilize the nursing process to assist patients to attain, maintain and retain health
- Collaborate as a member of the healthcare team
- Practice nursing within a legal and ethical framework

Program Purpose Statement

The Nursing Program prepares students to provide direct care to patients in acute care, long term care and other structured settings. The program consists of science, general education and nursing courses. Nursing courses include classroom, simulation lab and clinical experiences. Learning experiences and clinical practical may vary in time and in location and may include days, evenings, and/or weekends.

The program may be completed on a full-time or part-time basis. Classroom and clinical components of the nursing courses must be completed concurrently. All nursing courses must be completed within four years from the date of entry into the first nursing course.

Students admitted into the Nursing program must take nursing courses in sequence and must achieve a minimum grade of "C" *(73.33)* in all major theory and science courses *(Nursing, Anatomy & Physiology I & II and Microbiology)* and a grade of *"Pass"* in clinical courses in order to continue in the program.

Admissions Requirements

In an effort to provide you with the most current and comprehensive information about our programs, prospective nursing students **must** attend a Nursing Information Session as part of application requirements. Applicants who attend receive specific nursing application packets and step by step submission instructions for priority processing. Dates and times for info sessions can be found online at www.mccnh.edu/admissions/information-sessions

Completed nursing program applications must be submitted by February 1st to be considered for acceptance in the fall class.

Submission of a competed application packet is the responsibility of the nursing candidate. Incomplete applications will not be considered. Candidates must complete the college admission requirements and provide documentation of the following criteria for admission consideration:

- Attend a mandatory Nursing Information Session
- Complete application for the program.
- Proof of satisfactory completion of high school algebra, biology and chemistry with grades no lower than a C. If transcript indicates a numerical grade point average with no grade equivalent, a minimum of 73.33 is required.
- Two professional references, work or education-related. *(Forms provided by college)*.

Complete the Test of Essential Academic Skills (TEAS) of Assessment Technologies Institute (ATI) with an Adjusted Individual Score of the following: Reading:73.80%, MATH:70%, Science:52.10%, English:63.30%. Applicants are permitted to take this test three times in a calendar year; no sooner than six weeks between attempts. Test scores are valid for a period of two years.

- The TEAS Test evaluates the academic ability of prospective RN students. See www.atitesting.com for information about preparing for the test. For additional information or to register for the TEAS see www.mccnh.edu/academics/programs/nursing.

Applicants who have been former nursing students please note that the Director of the Department of Nursing will contact the former nursing program to verify that the student left in good standing.

Selection Criteria

Admission to the nursing program is very competitive. Selection is determined by a cumulative point system that is based on applicable college courses and grades, the ATI TEAS scores and references. Special consideration points are given to applicants who have completed Human Anatomy and Physiology I and II prior to the February 1st deadline with a grade of "C" or better within the past eight years from the time of acceptance.

Qualified students who are not accepted in the selection process may be assigned to a prioritized waiting list-based on the above criteria. They may be subsequently admitted if an opening becomes available prior to the beginning of the fall semester. The waiting list will be discarded once classes begin. Students still desiring admission must reapply for the following year.

Upon Acceptance

It is understood that acceptance is conditional upon submission of satisfactory evidence in the form of the following documents no later than four weeks prior to the beginning of the semester.

- Submit a report of a current (within 1 year prior to beginning first Nursing course) physical examination, including all required health screening and immunizations/ titers *(as indicated on the physical examination form)*.
- Possess and maintain personal health insurance. When enrolled in the nursing program, students must notify the Director of any changes with healthcare coverage.
- Possess and maintain professional liability insurance. This professional liability insurance coverage is purchased through MCC's Bursar's office.
- Acquire and maintain certification in BLS for Healthcare Providers.
- Complete a criminal background check (through college's approved vendor) with satisfactory results *(cost to be incurred by student)*. MCC's background check is due within 21 days after attending the mandatory nursing program orientation. Students will repeat the NH State Police criminal background check prior to their senior year.
- Complete drug testing through college's approved vendor-.Students may also be required to provide an additional criminal background check and drug testing throughout the course of the program based on clinical facility requirements.

Pathway for NH Future Nurses Program

This partnership between MCC and Franklin Pierce University (FPU) allows students to earn a Bachelor Degree in Nursing from FPU in one year after completion of their Associate Degree in Nursing from MCC. Students accepted into the Pathway Program will take courses that meet the requirements of both colleges during their first three years at MCC, receive their ADN and be eligible to take the RN state board exam (NCLEX-RN). During their fourth year they will complete their Bachelor Degree in Nursing at FPU. To learn more, students must attend a Pathway for NH's Future Nurses Information Session. Dates and times can be found at www.mccnh.edu.

Advanced Placement for LPNs Into Hybrid NURS112M

Prospective students must attend an LPN-RN Nursing info session. A & P II, Human Growth and Development and Microbiology must be completed by May 31st. Applicants must be a currently NH licensed LPN and successfully complete the ATI PN Comprehensive Predictor exam with an individual score of 68% or greater. Test scores are valid for a period of 12 months prior to application deadline. Applications and required documents must be completed by December 31st to be considered for acceptance in the Hybrid course, so an interview can be arranged with the Director of Nursing.

Transfer Into NURS112M

Transfer into NURS112M is an option only if there is space available in the program. In order to be considered for transfer from another nursing program, students must: have permission of the Director of Nursing, have successfully completed *(a minimum course grade C)* a Nursing Fundamentals course within the past 2 years

and successfully complete the following: Excelsior College examination; #403: Fundamentals of Nursing with a grade of "C" or better.

Advanced placement and transfer students accepted into NURS112M must attend Nursing Process Seminar prior to the start of NURS112M and must have completed all prerequisite coursework by examination or transfer credit.

Transfer Credit Policy

In addition to specific nursing course transfer policies noted above and other MCC transfer credit policies, Human Anatomy & Physiology I and II and Microbiology must be taken within an eight-year period from the time of acceptance into the Nursing program.

Readmission Policy

Students matriculated in the Nursing program who withdraw or do not achieve the required minimum grade in the Nursing or science courses and are not able to continue in the Nursing program may be eligible for readmission consideration. A student may be readmitted to the Nursing program one time only. Readmissions are contingent upon space availability. The student applying for readmission will be required to meet the curriculum requirements in effect at the time of readmission. In order to be reconsidered for admission, the student must:

- Meet with the Director of the Department of Nursing.
- Submit a written, dated letter requesting readmission to the Director of the Department of Nursing. In this letter, briefly outline the reason(s) you were previously unable to continue in the program, identify which Nursing course you are requesting readmission and your plan for successful completion of the program.

Students who have requested readmission will be ranked according to their Nursing cumulative course grade average and clinical standing. As space availability is determined, students will be readmitted based on their ranking order. Students will then be notified of the status of their request in writing by the Director of the Department of Nursing. Students will have to successfully complete course content, competency testing and other requirements determined by faculty once they have been notified of their readmission status.

Students who have failed a Nursing course because of unsafe practice involving actions or non-actions are not eligible for readmission to the Nursing program.

Accreditation

The Nursing Program is accredited by the Accreditation Commission for Education in Nursing, Inc. (ACEN) - formerly NLNAC, National League for Nursing Accrediting Commission and approved by the New Hampshire Board of Nursing *(NHBON)*. Upon satisfactory completion of the program, the graduate is eligible to apply to the NHBON for the National Council Licensing Examination for Registered Nurses *(NCLEX-RN)*. MCC's NCLEX pass rates can be viewed at www.nh.gov/nursing. The NHBON's licensing regulations may restrict candidates who have been involved in civil or criminal legal proceedings. Questions about licensing restrictions should be addressed to the NH Board of Nursing, 121 South Fruit Street, Concord, NH 03301, (603) 271-2323. Questions about the status of accreditation for the Nursing program should be addressed to the Accreditation Commission for Education in Nursing, Inc. (ACEN) - formerly NLNAC, 3343 Peachtree Road NE, Suite 850, Atlantic, GA 30326, (404) 975-5000, www.acenursing.org

Employment /Transfer Opportunities

Prior to meeting all program course requirements, matriculated nursing students may be eligible to apply to the NHBON for additional licensure after successful completion *(defined as achieving a minimum course grade of "C")* of the following nursing courses:

- Nursing I - Licensed Nursing Assistant *(LNA)*
- Nursing III - Licensed Practical Nurse *(LPN)*

The nursing program maintains articulation agreements with Emmanuel College, Endicott College, Granite State College, New England College, Rivier University, St. Anselm College, St. Joseph's College of Maine, Walden University and articulation and dual admission with Franklin Pierce University and Southern New Hampshire University. Further information on application for dual admission can be obtained from the Director of Nursing at MCC.

Technical Standards

MCC must ensure that patient safety is not compromised by students during learning experiences. Therefore, the student is expected to demonstrate emotional stability and exercise sound judgment, accept direction and guidance from a supervisor or faculty member and establish rapport and appropriate interpersonal relationships with peers, staff and patients and their families.

The following technical standards have been established to provide guidance to students as to skills and abilities required to function successfully in the program and ultimately in the profession of nursing. Applicants who think they may not be able to meet one or more of the technical standards must contact the Director of Nursing to discuss individual cases.

- Sufficient hearing to assess patient needs and to understand instructions, emergency signals and telephone conversations.
- Sufficient visual acuity to observe patients, manipulate equipment and interpret data; visual acuity sufficient to ensure a safe environment, identify color changes, read fine print/writing and calibrations.
- Sufficient speech and language ability to express, comprehend and exchange information and ideas verbally and non-verbally and to interact clearly and logically with patients, family members, physicians, peers and other medical personnel.
- Ability to work with frequent interruptions, respond appropriately in emergencies or unexpected situations and to cope with variations in workload and stress levels.
- Sufficient strength and motor coordination to perform the following physical activities: manual dexterity to operate and handle equipment, moving and transfer of patients; and performing CPR.
- Travel Policy: Transportation to and from the clinical site is the responsibility of the student.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
NURS111M	Nursing I	6	12	10
BIOL110M	Human Anatomy and Physiology I	3	3	4
PSYC110M	Introduction to Psychology	3	0	3
FYE100M	First Year Cornerstone	1	0	1
	Total	**13**	**15**	**18**

First Year	Spring Semester	TH	LAB	CR
NURS112M	Nursing II	4	15	9
BIOL120M	Human Anatomy and Physiology II	3	3	4
PSYC210M	Human Growth and Development	3	0	3
	Total	**10**	**18**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
NURS211M	Nursing III	4	15	9
BIOL210M	Microbiology	3	3	4
ENGL110M	College Composition I	4	0	4
	Total	**11**	**18**	**17**

Second Year	Spring Semester	TH	LAB	CR
NURS212M	Nursing IV	3	18	9
	Mathematics Elective *Choose One: (MATH145M, MATH202M*)*	4	0	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	English Elective	3	0	3
	Total	**13**	**18**	**19**
				Total Credits - 70

*Students who wish to continue their education toward the Bachelor or Master of Science in Nursing degrees are encouraged to complete MATH202M as the mathematics requirement.

TEACHER EDUCATION ASSOCIATE OF ARTS

Program Goal

The mission of the Teacher Education Program is to provide students with the foundation to become effective educators. Students will gain a firm understanding of schools and their functions, the teaching process, effective techniques and the art of reflection in order to meet the needs of all children. Students will be able to experience elementary, middle and high school levels. The program is aligned with national standards and four-year colleges with education degrees.

Program Outcomes

Students who graduate from this program will be able to:

- Develop an appreciation for the act of reflective practice and recognize the impact of ongoing reflection in order to become an effective educator
- Be exposed to elementary, middle and secondary school systems while developing an understanding of the importance of meeting the individual needs of all children
- Acquire an understanding of various educational theories and their application to the real-world classroom
- Be exposed to a variety of teaching techniques used in today's classrooms to meet the individual needs of all children

Program Purpose Statement

Certification to teach in the public schools requires a four-year degree. This degree program is designed to prepare students to transfer to four-year institutions with a Teacher Education degree and also meets the needs of paraprofessionals seeking to fulfill national and state requirements. The program provides introductory experiences at the elementary, middle, and/or high school level. Students should be aware that most four-year colleges require the successful completion of the Praxis I examination as well as a minimum grade point average, usually 2.5 or better, as a condition of admission. The student works closely with an academic advisor to choose the electives and sequence of courses that best meet the specific requirements of their chosen teaching fields and transfer institution.

Students are advised that anyone working in a public school must be free of criminal convictions as required by the NH Department of Education. Some schools may require a background check prior to observing or volunteering. The student may incur fees in meeting this requirement.

Admission Requirements

Students interested in applying for the Teacher Education are required to attend an informational session before acceptance into the program. Transfer students from other degree programs or colleges must have a 2.5 GPA for admission to this program.

Transfer Credit Policy

In addition to MCC transfer credit policies, appropriate education courses will be accepted if taken within a five-year period. Exceptions to this policy, based on professional experience, may be granted at the discretion of the Department Chair. Proper documentation will be required to initiate this process.

Technical Standards

- Students must maintain a 2.5 GPA to remain in the program.
- Individuals expecting to pursue their teacher certification and/or seek employment in the educational system are required to undergo criminal backgrounds checks and fingerprinting.
- Students who expect to transfer to a four-year degree program must take the Praxis I exam for admission to the college and pass the test for approval for student teaching.
- Students seeking employment as a "highly qualified" paraprofessional or teacher assistant must pass the Praxis I exam. MCC has an online tutoring program to prepare students for the Praxis I.
- Students seeking a career in education should be physically and mentally fit to withstand a physically active work environment and the stress of ever-changing circumstances and have the ability to respond quickly and appropriately when events require.

Students are also expected to have the maturity to accept direction and guidance, exercise sound judgment, maintain confidentiality and maintain sensitive interpersonal relationships with teachers, fellow students, children and their families.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
TCHE100M	Child and Adolescent Development	3	0	3
TCHE104M	Foundations of Education	3	0	3
ENGL110M	College Composition I	4	0	4
PSYC110M	Introduction to Psychology	3	0	3
FYE100M	First Year Cornerstone	1	0	1
	*Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**17**	**0**	**17**

First Year	Spring Semester	TH	LAB	CR
TCHE101M	Introduction to Exceptionalities	3	0	3
TCHE205M	Technology in Education	2	2	3
	Social Science Elective *Choose one: (PSYC210M, PSYC220M)*	3	0	3
	Mathematics Elective *Choose one: (MATH145M, MATH151M)*	4	0	4
	*Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**16**	**0**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
TCHE215M	Classroom Management and Behavioral Guidance Strategies	3	0	3
	Education Elective - *Choose one: (TCHE110M, TCHE206M, TCHE211M, TCHE220M, TCHE225M)*	3	0	3
	Lab Science Elective - *Choose one: (BIOL101M, BIOL102M, ESCI110M, ENVS125M, PHYS110M, PHYS120M)*	3	3	4
	English Literature Elective - *Choose One: (ENGL200M, ENGL202M, ENGL218M, ENGL225M)*	3	0	3
	Social Science Elective - *Choose one: (ANTH101M, PSYC230M, SOCI109M,SOCI110M, SOCI250M)*	3	0	3
	Open Elective	3	0	3
	Total	**17**	**5**	**19**

Second Year	Spring Semester	TH	LAB	CR
TCHE201M	Teaching and Learning	3	0	3
	History/American Government Elective - *Choose one: (HIST202M, HIST203M, HIST204M, POLS110M)*	3	0	3
	Mathematics Elective - *Choose one: (MATH171M, MATH200M, MATH202M)*	4	0	4
	Lab Science Elective - *Choose one: (BIOL101M, BIOL102M, ESCI110M, ENVS125M, PHYS110M, PHYS120M)*	3	3	4
	Philosophy Elective - *Choose one: (PHIL110M, PHIL240M)*	3	0	3
	Total	**16**	**3**	**17**

Total Credits - 69

***Foreign Language/Humanities/Fine Arts Elective:** *Choose one: (ARTS117M, ARTS130M, ARTS217M, HIST120M, HIST130M, HUMA105M, HUMA106M, HUMA126M, HUMA200M, ENGL113M, ASL, FREN, SPAN)*

SCHOOL AGE PROVIDER AND YOUTH COORDINATOR CERTIFICATE

This certificate is designed for individuals working with children K-12 in before-and-after school care and individuals working in programs designed for serving youths such as camps, recreational & sports programs, youth leadership programs, scouting, etc. This certificate will meet the core knowledge requirements for the NH Childcare Credentialing System, Afterschool Direct Service credential as well as meeting the NH Childcare Licensing Regulations for lead teacher in a before/after school program. Program content is designed to also meet the professional standards developed by the National After School Association (www.naaweb.org).

		TH	LAB	CR
TCHE100M	Child and Adolescent Development	3	0	3
TCHE101M	Introduction to Exceptionalities	3	0	3
TCHE110M	Introduction to School Age Programming	3	0	3
TCHE211M	School Age Curriculum & Environments	3	0	3
TCHE215M	Classroom Management & Behavioral Guidance Strategies	3	0	3
TCHE220M	Family, Professional, & Community Relations in Education	3	0	3
			Total Credits - 18	

SCHOOL AGE SPECIAL EDUCATION CERTIFICATE

May be earned independently or as part of the education degree and includes three courses that fulfill the requirements of the Education Focus Transfer electives. Students completing the certificate may be eligible for employment as paraprofessionals for children with special needs.

		TH	LAB	CR
TCHE100M	Child and Adolescent Development	3	0	3
TCHE101M	Introduction to Exceptionalities	3	0	3
TCHE104M	Foundations of Education	3	0	3
TCHE201M	Teaching & Learning	3	0	3
TCHE215M	Classroom Management & Behavioral Guidance Strategies	3	0	3
TCHE220M	Family, Professional & Community Relations in Education	3	0	3
TCHE225M	Curriculum Planning & Implementation for Children with Unique Learning Characteristics	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
			Total Credits - 24	

TECHNICAL STUDIES ASSOCIATE OF SCIENCE

Program Goal

The goal of the Technical Studies program is to offer a flexible curriculum tailored to the students' professional needs and to provide avenues for credit for prior learning experiences.

Program Outcomes

Students who graduate from this program will be able to:

- Complete a specialized degree program
- Complement their work experiences, training experiences and certifications with academic coursework

Program Purpose Statement

The Technical Studies program is designed to support the diverse needs of skilled workers in our community to obtain an associate degree by offering credit for recognized technical experience, certifications and training. With consultation from a faculty advisor from diverse technical backgrounds, the program allows students to build on the success of their individual area of technical expertise by choosing technical electives to complement their Technical Specialty area. The Technical Studies degree is intended to be a program of study in an area other than the current degree programs of the college.

Students coming from recognized apprenticeship programs or students with certifications in a technical field (in an area that we do not offer an Associate Degree) may receive credits toward an associate's degree in Technical Studies for industry training and/or certifications. Documented certification exams and/or military experience may also be reviewed for credit.

Admissions Requirements

In addition to college-wide admissions requirements, students must participate in a personal interview with the Associate Vice President of Academic Affairs.

Employment Opportunities

Due to the nature of this degree, the vast majority of students are already employed when they are accepted into the program. In many fields, a degree is required for advancement in that field and the Technical Studies degree affords students that opportunity.

Degree Program

Technical Specialty/Core **up to 20 credits**

Awarded for demonstrated knowledge through Prior Learning Assessment, completed industry training/certification; US Department of Labor Apprenticeships; CCSNH Certificate programs which are not in an area that the college offers an associate degree, documented certification exams, military training, etc. All training/certification materials must show hours of training, document type of training received and have grades (or other form of assessment). MCC coursework can also be used to satisfy the Technical Specialty/Core requirements

Related Technical Support **16 credits**

Students take a minimum of 16 credits of MCC coursework related to their individual technical specialty/core. Course selections must follow program and course prerequisites. At least 8 credits must be in upper level (200 level) courses in order to meet MCC residency requirements.

Required Courses

GA101M	Assessment of Prior Learning	1 credit
FYE100M	First Year Cornerstone	1 credit
	Total	**2 credits**

Liberal Arts Core Courses

ENGL110M	College Composition I	4 credits
	English Elective	3 credits
	Mathematics Elective	4 credits
	Lab Science Elective	4 credits
	Social Science Elective	3 credits
	Foreign Language/Humanities/Fine Arts Elective	3 credits
	Liberal Arts & Sciences Elective	6 credits
	Open Elective	3 credits
	Total	**30 credits**

Total Credits - 68

WELDING TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Program Goal

Graduates of this program will be prepared with marketable skills in a variety of welding processes for entry into the workforce.

Program Outcomes

Students who graduate from this program will be able to:

- Possess basic competency in the four major welding processes
- Demonstrate basic concepts and practices of technical drawing and blueprint reading in accordance with industry standards
- Articulate safety guidelines and use of machine tools
- Produce drawings using Computer Aided Drafting *(CAD)* software
- Refine skills to meet code requirements for heavy plate and pipe welding
- Demonstrate knowledge of materials structures; heat treatment processes; the composition of ferrous and non-ferrous alloys; and the effects of heat-treatments on metals
- Articulate industrial quality control procedures
- Demonstrate fabrication techniques and cost estimation and principles of applied statics and strength of materials

Program Purpose Statement

MCC offers an Associate of Applied Science Degree *(A.A.S.)* and a

Professional Certificate in Welding Technology. Students in the A.A.S. Welding Technology program develop a variety of technical skills and knowledge of industry norms that are informed by theory and built on an academic foundation that includes mathematics and communication. The Professional Certificate in Welding Technology meets entry-level employment objectives for non-code welding and includes the courses required for the first year of the A.A.S. degree.

Admissions Requirements

In addition to college-wide requirements, students must place into MATH111M, Numerical Geometry and ENGL110M, College Composition I.

Employment Opportunities

The need for trained welders has grown consistently and will continue to do so until 2016. Based on this trend, it is anticipated that the need will continue to grow beyond 2016. The NH Employment Security Economic and Labor Market Information Bureau reports the need for welders, cutters, solderers and brazers, machine setters, operators and tenders.

A predicted wave of retirements nationwide will create a shortage of approximately 20,000 qualified welders in 2014. Graduates are prepared for welder qualification testing which is used throughout the industry.

Technical Standards

- Normal vision for reading instructions and for performing tasks *(adaptive equipment acceptable)*.
- Manual dexterity with both hands; good hand and eye coordination.
- Ability to visualize and portray ideas graphically.

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
WELD111M	Gas/Arc Welding Lab	0	12	4
WELD112M	Gas/Arc Welding Theory	3	0	3
WELD113M	Technical Blueprint Reading	0	3	1
CIS110M	Microsoft® Computer Applications I	2	2	3
ENGL110M	College Composition I	4	0	4
FYE100M	First Year Cornerstone	1	0	1
	Total	**10**	**17**	**16**

First Year	Spring Semester	TH	LAB	CR
WELD121M	MIG/TIG Welding Lab	0	12	4
WELD122M	MIG/MIG Welding Theory	3	0	3
WELD125M	Manufacturing and Repair Technology	0	3	1
WELD186M	Blueprint Reading for Welders	3	0	3
CAD113M	Applied CAD for Industry	1	3	2
MATH111M	Numerical Geometry	3	0	3
	Total	**10**	**18**	**16**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
WELD211M	Structural Code Welding Lab	0	12	4
WELD212M	Code Welding Theory	3	0	3
WELD213M	Metallurgy	2	2	3
MATH135M	Numerical Algebra and Trigonometry	3	0	3
	English Elective	3	0	3
	Social Science Elective	3	0	3
	Total	**14**	**14**	**19**

Second Year	Spring Semester	TH	LAB	CR
WELD220M	Fabrication Techniques and Estimating	2	2	3
WELD221M	Pipe Code Welding Lab	0	12	4
WELD223M	Statistics and Strength of Materials	2	2	3
PHYS100M	Introductory Physics	2	2	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**9**	**18**	**16**

Total Credits - 67

WELDING TECHNOLOGY PROFESSIONAL CERTIFICATE

(Days only)

		TH	LAB	CR
WELD111M	Gas/Arc Welding Lab	0	12	4
WELD112M	Gas/Arc Welding Theory	3	0	3
WELD113M	Technical Blueprint Reading	0	3	1
WELD121M	MIG/TIG Welding Lab	0	12	4
WELD122M	MIG/TIG Welding Theory	3	0	3
WELD125M	Manufacturing and Repair Technology	0	3	1
WELD186M	Blueprint Reading for Welders	3	0	3
CAD113M	Applied CAD for Industry	1	3	2
ENGL110M	College Composition I	4	0	4
MATH111M	Numerical Geometry	3	0	3
FYE100M	First Year Cornerstone	1	0	1
CIS110M	Microsoft® Computer Applications I	2	2	3

Total Credits - 32

WELDING TECHNOLOGY CERTIFICATE

(Evenings only)

Successful completion of this program gives you the necessary welding skills required for employment as a combination welder, including SMAW pipe. AWS 3/8" Plate Bend test skills are required to enter the Weld III Advanced Pipe/Plate course.

		TH	LAB	CR
WELD113M	Technical Blueprint Reading	0	3	1
WELD180M	Basic Arc and Gas Welding	1	3	2
WELD181M	Intermediate Arc and Gas Welding	1	3	2
WELD182M	Welder Qualifications and Testing	1	3	2
WELD183M	Advanced *(SMAW)* Pipe/Plate Welding	1	3	2
WELD184M	Gas Tungsten Arc Welding *(TIG)*	1	3	2
WELD185M	Gas Metal Arc Welding *(MIG)*	1	3	2
WELD186M	Blueprint Reading for Welders	3	0	3
MATH111M	Numerical Geometry	3	0	3
			Total Credits -	**19**

All credit and non-credit courses at Manchester Community College are assigned a course number. Course numbers begin with a letter code designating the course's academic area. The following course descriptions are arranged alphabetically, by academic code, beginning with "ACCT" (Accounting) and ending with "WELD" (Welding). Courses with numbers between "0 - 99" are considered developmental and any credit awarded cannot be used toward graduation requirements. Courses with numbers between "100 - 199" are considered beginning level courses and courses with numbers between "200 -299" are considered upper-level courses.

Prerequisites for courses are identified after each description and may be waived only by the instructor. A Prerequisite Waiver Form must be completed prior to registration. These forms can be obtained in the Registrar's Office. Generally, upper-level courses have prerequisites. The college reserves the right to review and modify this information throughout the year.

ACADEMIC PLACEMENT POLICIES

Student Success Placement Policy

FYE100M First Year Cornerstone	The First Year Cornerstone course must be taken in the students' first semester of attendance.

English Placement Policy

Before students may register for college-level English courses, they must demonstrate mastery of English at the high school level. Placements are determined as follows:

English Placement Guidelines

Accuplacer English placements evaluates students' reading and writing skills. English course placement is based on the results of a written essay (Writeplacer-WP) and Sentence Skills (SS) and Reading Comprehension (RC). Foundational work in reading and writing is required for WP scores below 5 and Sentence Skills scores less than 70 and Reading Comprehension scores of less than 70.

Writing Course Placement	Course Placement
WP (Writeplacer) score of 2 or 3 and SS (Sentence Skills) of greater than or equal to 40 and RC (Reading) of greater than or equal to 40	ENGL093M
WP (Writeplacer) score of 4 and SS (Sentence Skills) of greater than or equal to 50 and RC (Reading Comprehension) of greater than or equal to 55	ENGL095M
WP (Writeplacer) score of 5 or above and SS (Sentence Skills) of greater than or equal to 70 RC (Reading Comprehension) of greater than or equal to 70	ENGL110M

Mathematics Placement Policy

(**MUST** be taken in the **first semester of attendance)**. students may register for college-level mathematics courses, they must demonstrate mastery of mathematics at the high school level. Placements are determined as follows:

Accuplacer Placement Criteria	Course Placement
AR ≤ 32 and EA ≤ 62	MATH090M
AR ≥ 63 and EA ≤ 78	MATH111M
EA ≥ 63 and ≤ 78	MATH132M
EA ≥ 63 and ≤ 78	MATH145M

Accuplacer codes: AR-Arithmetic; **EA-**Elementary Algebra
Accuplacer may place students in higher levels of mathematics. Please see the Academic Success Center for that information. Courses with numbers between "0-99" are considered developmental and cannot be used toward graduation requirements. Courses with numbers between "100-199" are considered beginning level courses.

Students placing below a score of 31 in the Arithmetic portion of the Mathematics Accuplacer Test will be referred to the Academic Success Center to work on essential skills so that they may re-test into the proper preparatory class.

ELECTIVE COURSE INFORMATION

In addition to the required courses in a student's program, students are given the choice to select from a variety of elective courses. Each program offers a different set of electives, so please refer to each individual program for specific options. The following information will assist students with the variety of elective categories and the selection of elective courses. All academic subject codes and course numbers refer only to MCC courses.

English Elective: any course with the academic subject code of ENGL and a course number of at least 100.

Social Science Elective: any of these designations: ANTH, ECON, GEOG, HIST, POLS, PSYC, SOCI.

Foreign Language/Humanities Elective/Fine Arts Elective:

- Fine Arts Elective: any course with the academic subject code of ARTS
- Foreign Language Elective: ASL110M, FREN110M, SPAN110M
- Humanities Elective: includes any course with the academic subject code of HUMA or PHIL as well as the following: HIST120M, HIST130M, ENGL113M, ENGL120M, ENGL200M, ENGL201M, ENGL202M, ENGL207M, ENGL213M, ENGL214M, ENGL218M, ENGL223M, ENGL224M, ENGL225M, ENGL230M, ENGL235M

Mathematics Elective: any course with the academic subject code of MATH and a course number of at least 100.

Science Elective: any course with the academic subject code of BIOL, CHEM, ESCI, PHYS and a course number of at least 100.

Business Elective: any course with the academic subject code of ACCT, BUS, FIN, MKTG and a course number of at least 100.

Liberal Arts Elective: any course listed under the categories of English elective, Social Science elective, Foreign Language/Humanities/Fine Arts Elective: Mathematics elective or Science elective with a course number of at least 100.

Open Elective: any course that the college offers with a course number of at least 100. ESOL courses are not considered open electives and cannot be counted toward graduation requirements.

ACCT100M Bookkeeping for Small Business 2-2-3
This hands-on class teaches the bookkeeping required for a small business. Basic accounting is taught using QuickBooks™ software. A semester-long practice case gives students the opportunity to input routine transactions and prepare monthly financials for a small business. Topics covered are sales, receivables, uncollectible accounts, payables, inventory, payroll, general ledger, depreciation, cash management, monthly bank reconciliations and financial-statement reporting. Students learn how to compute payroll, prepare payroll checks and prepare federal and state payroll reports. Students also learn how to start up a business, file the necessary paperwork at the federal and state levels and obtain a general knowledge of a Schedule C for individual tax reporting purposes. Different forms of businesses are reviewed, with emphasis on bookkeeping for a sole proprietorship. Proper insurance coverage is also reviewed to include business liability and workers' compensation insurance. Note: This class cannot be taken by accounting majors as part of their Accounting degree or Accounting certificate program.

ACCT113M Introduction to Accounting & Financial Reporting I 3-0-3
Introduces accounting as the language of business and the need for accounting in the business world. Students develop an understanding of the concepts and usage of assets, liabilities, equity, revenue and expense accounts and are introduced to accounting procedures necessary to prepare a financial statement utilizing current concepts and accounting principles. Topics covered include journalizing transactions, trial balance, adjustments, closing entries, accounts receivable and payable, inventory, bank reconciliations, special journals, cash receipts, disbursements and banking procedures.

ACCT123M Introduction to Accounting & Financial Reporting II 3-0-3
A continuation of the concepts covered in Accounting and Financial Reporting I. Emphasis is on the analysis of balance sheet accounts including accounts receivable, notes receivable, property, plant and equipment, short-term and long-term liabilities, bonds, investments, stock transactions, retained earnings, cash flows, ratio computation and analysis and partnerships. This course also compares and contrasts basic accounting methods of accounting for sole-proprietorships, partnerships and corporations. Prerequisite: ACCT113M.

ACCT210M Managerial Accounting 3-0-3
This managerial accounting course explores the financial impact of various business decisions and the financial benefits for business practices. Upon completion of this course, the student will understand how accounting, capital budgeting tools, cost classification and other productivity information can be used to assess the past performance and improve the future performance of a business by giving managers the essential information they need to make better decisions. Topics covered include financial statement analysis, cash flow statements, master and operational budgets, cost-classification methods and allocation methods, break-even analysis, incremental analysis, standard costing, variance analysis and capital budgeting tools. Prerequisite: ACCT123M.

ACCT213M Cost Accounting I 3-0-3
The cost accounting student will study how accounting data is used within an organization for planning operations, controlling activities and for decision-making. The student will examine and analyze cost flow, cost of goods sold, job order and process costing, cost-volume-profit relationships, equivalent units of production, variable costing, planning and budgeting and cost behavior patterns. Prerequisite: ACCT123M.

ACCT215M Cost Accounting II 3-0-3
This course is designed as a continuation of the concepts covered in Cost Accounting I. The student will examine and analyze service department costs, joint cost allocation, management control systems, activity-based costing, capital budgeting, transfer pricing, standard cost systems, variance analysis, investment center performance, relevant costs for decision making, ratio analysis and absorption versus variable costing. Prerequisite ACCT213M.

ACCT216M Software System Applications 2-2-3
An introduction to an integrated accounting software package, this course includes evaluation of common software characteristics and features, a review of internal controls for computerized accounting systems. The student will become proficient in processing transactions in a computerized accounting environment using a popular software package in general ledger, financial statement preparation, accounts receivable, accounts payable, payroll, inventory, time and billing, fixed assets and depreciation, cost control, budgeting and reporting. Prerequisite: ACCT123M, CIS110M or higher.

ACCT220M Intermediate Accounting I 3-0-3
This first of three classes in intermediate accounting is an extension of topics covered in Accounting & Financial Reporting I and II, with further emphasis on the study and application of generally accepted accounting principles. The student will encounter an in-depth study of accounting concepts and will accurately prepare complex balance sheets, income statements and retained earnings statements including required financial disclosures. Discussions include accounting ethical practices, fair earnings management, the Sarbanes-Oxley Act and international accounting standards. A review of the accounting cycle will cover monthly transaction entries and complex adjusting, correcting, reversing and closing entries. Also includes an in-depth analysis of cash, receivables, inventory valuation and time value of money. Integrated within this class is exposure to sample CPA exam questions and the use of EDGAR or similar databases for conducting accounting research. Prerequisite: ACCT123M.

ACCT221M Intermediate Accounting II 3-0-3
The second of three classes for Intermediate Accounting, this course continues the intensive study begun in Intermediate Accounting I. Students will study the recording and disclosure requirements for acquisition and disposition of long-term assets, depreciation and impairment of assets, intangible assets, current liabilities, contingencies, contract accounting, long and short-term debt, estimated liabilities, investments, shareholders' equity transactions, stock issuance and retirement, revenue recognition, dilutive securities and earnings per share. Integrated within this class is exposure to sample CPA exam questions and the use of EDGAR or similar databases for conducting accounting research. Prerequisite: ACCT220M.

ACCT222M Intermediate Accounting III 3-0-3
The final of three classes for Intermediate Accounting continues the intensive study begun in Intermediate Accounting I. Topics include the complex reporting and disclosure requirements for the Statement of Cash Flows, income taxes for financial statement presentation, pension plans and post-retirement benefit accounting, leases, accounting changes and error analysis, full disclosure requirements in financial reporting, partnership accounting and SEC reporting requirements. Integrated within this class is exposure to sample CPA exam questions and the use of EDGAR or similar databases for conducting accounting research. Prerequisite: ACCT220M.

ACCT243M Federal Income Taxes – Individuals 3-0-3
A detailed presentation of Federal Income Tax Laws focusing on Internal Revenue Service procedures and court rulings related to individuals as well as sole proprietorships. Applicable tax forms are prepared in conjunction with rules and regulations. Prerequisite: ACCT123M.

ACCT244M Federal Income Taxes – Corporations and Partnerships 3-0-3
The student will be exposed to a detailed presentation of the theories and practice of Federal Income Tax Laws for C and S Corporations and Partnerships. Applicable tax forms will be studied in conjunction with rules and regulations. Prerequisite: ACCT243M.

ACSP101M Payroll Fundamentals-Entry Level 3-0-3
This course will be a hands-on approach to learning the payroll cycle through the completion of a semester-long practice case. Topics covered include the logical process of work within the payroll department; the fundamentals of laws and regulations that govern the payroll function; internal control procedures; various payroll fringe benefits. Upon successful completion of the course, the student will be ready for an entry-level position as a payroll professional and will be prepared to test for the American Payroll Association's Fundamental Payroll Certification Examination.

ACSP103M Accounts Payable-Entry Level 2-.5-2
This hands-on class will teach the student the accounts payable department functions, from the receipt of a purchase order through the completed payment of the invoice using a QuickBooks™ software package. Topics covered include the logical process of work within the accounts payable department, the interaction and flow of information throughout the organization, internal controls, processing of paperwork for the invoice packet, disbursement of funds, updating the vendor master file, preparation of 1099 reports and vendor statement reconciliation. Upon successful completion of the course, the student will be ready for an entry-level position in accounts payables.

ACSP110M Bookkeeping Internal Controls and Advanced Topics 2-0-2
Covers more advanced topics in bookkeeping, including the reconciliation of depreciation for book versus taxes, depreciation methods for GAAP (*General Accepted Accounting Principles)*, depreciation methods for Federal Income Tax, depreciation of vehicles for tax purposes, merchandise inventory using the perpetual and the periodic systems, inventory computation methods and lower of cost or market. Topics covered for internal controls include employee theft and how to prevent it, prevention of check and credit card fraud, prevention of vendor cheating and how to avoid various con schemes and scams. This class is designed to prepare the student for the workforce as a bookkeeper and to prepare for part 2/test 2 and parts 3 and 4 of the National Certified Bookkeeper exam administered by the American Institute of Professional Bookkeepers. Prerequisite: ACCT113M with a grade of "C" or better.

ACSP111M Advanced Bookkeeping Applications 3-0-3
The Capstone course in the Bookkeeping Certificate program. Topics extensively covered include daily transaction entries, monthly and year-end adjusting entries, locating errors, error-correction entries, bank reconciliations, preparation of worksheets and creation of computerized financial statements. The student will complete a practice case that applies the knowledge learned to a real-life case. This class is designed to prepare the student for work as a bookkeeper and for part 1 of the National Certified Bookkeeper examination administered by the American Institute of Professional Bookkeepers.

ADMN122M Executive Keyboarding **2-2-3**
Introduction to touch-typing or keyboarding skills improvement. Students learn basic word processing function as they format personal letters, business letters, envelopes, reports and tabulations. Formatting rules pertaining to margins, tabs and spacing will be enforced. Once the above is mastered, the students will increase speed and accuracy. Students will develop skill in complex business documents that require advanced software features. Documents included may be: multipage reports, business letters, and letters with special notations, and minutes of meetings, reports, itineraries, resumes, agendas, legal and medical documents, and tables.

ADMT112M Introduction to Engineering Design and Solid Modeling **3-3-4**
This problem based learning course covers the knowledge and skills needed to explore the engineering design process. Individual projects, team projects and laboratory exercises will be used to continually hone the student's interpersonal skills, creative abilities and understanding of the design process. Everyday products will be examined for historical, societal, design, safety, and manufacturing perspectives. Topics include ideation, sketching, design constraints, solid modeling, decision making, statistical quality control, manufacturing methods, and engineering analysis. Students will develop an appreciation for good design and the ability to communicate design ideas via 3D modelling, written and oral reports. There are lectures, demonstrations, and a series of lab exercises designed to reinforce what the student has learned. This course uses the latest version of the Solidworks design software. Prerequisites: MATH090M with a grade of "C" or better.

ADMT110M Manufacturing Processes **2-3-3**
Students will explore the manufacturing process not only as a sequence of material manipulation but also as a product of management. Current managerial philosophies and their effects on every phase of manufacturing will be examined. This information will be synthesized and applied to a manufacturing model, which will give students an opportunity to test their theories on managing a manufacturing facility with limited resources. Throughout the course, emphasis will be placed on effective workplace skills including teamwork, integrity and dependability. Prerequisite: MATH090M with a grade of "C" or better.

ADMT115M Engineering Print Reading **2-3-3**
This course provides the basic concepts and practices of blueprint reading and technical drawing. Other topics of discussion will include sketching, dimensioning, tolerances, as well as Geometric Dimensioning & Tolerancing (GDT) and other information needed to read and interpret engineering drawings. Emphasis will be placed on using reading and interpreting drawings to understand the conventions for interpreting engineering drawings for Design and Manufacturing and other Engineer disciplines. Prerequisite: MATH090M with a grade of "C" or better

ADMT118M Electrical Fundamentals for Manufacturing **3-3-4**
This course provides an introduction to basic electrical concepts, practices, and procedures. The material presented includes electrical safety, basic AC/DC electrical theory, magnetic theory, electrical formulas and calculations, test equipment, testing procedures, and electrical diagrams. Laboratory work will provide reinforcement and application of theoretical concepts. Prerequisite: MATH090M with a grade of "C" or better.

ADMT120M Motor Controls and PLCs for Manufacturing **3-3-4**
This course will provide basic coverage of the theory and operation of AC and DC motor and generator controls and control systems. Subject matter will include generator and alternator starting, stopping and synchronization controls as well as motor starting, reversing, braking and speed controls. Solid-state theory will be introduced. Theory and applications for electronic devices and control systems, motor drives and programmable logic controllers *(PLCs)* will be covered in the classroom and lab. Laboratory work will reinforce and promote the application of theoretical concepts. Prerequisite: ADMT118M.

ADMT135M Basic Machining Practices **1-5-3**
An introductory course in machine shop practices introducing students to the basic machines used in industry relating to Advanced Manufacturing. This course is intended to provide the basic concepts of machine tool operation on lathes, millers, power saws, drill presses, hand grinders and part finishing processes. Course will include part layout, bench work, some simple CNC programming and processes for producing products using measuring instruments for quality control. Emphasis is placed on shop safety, housekeeping and preventive maintenance. Prerequisite: ADMT115M. Corequisite: ADMT110M.

ADMT210M Manufacturing Systems I **2-3-3**
Students will explore fluid power controls, manufacturing component capacities and functions for automated manufacturing. This will include the logic controls and setups for creating systems needed in the manufacturing production line. Discussion will include the development of individual mechanical component setups to arrive at the desired output of the mechanisms in the system. Learning activities will include the use of computer simulation and hands-on applications of an operational production component. Each mechanism will be studied as to the specifications, functions and safe operation. Throughout the course, emphasis will be placed on effective workplace skills including teamwork, integrity and dependability. Prerequisites: ETEC110M, ADMT120M.

ADMT220M Material Science **2-3-3**
This course will introduce the student to the principles of Material Science as the subject relates to the selection and testing of ferrous and non ferrous metals, thermosetting and thermoplastic polymers and ceramics. Emphasis will also be placed upon physical and mechanical properties of metals as well as heat treatment. Prerequisites: MATH155M, ENGL110M.

ADMT230M CAD/CAM for Manufacturing **2-3-3**
A course in 2D/3D model construction using AutoCAD software. Topics include creating wireframe working drawing/models *(details & assemblies)* in model space with paper space layouts for plotting, using tiled and non-tiled viewports. Operational aspects of the software will be addressed for processing engineering drawings efficiently. Emphasis will be on the creation of drawings to be transferred into CAM software for manufacturing purposes. Prerequisite: ADMT115M.

ADMT240M Manufacturing Systems II **3-6-5**
Students will explore the mechanical aspects of machines and the associated fluid power components working together as needed for automated manufacturing. This will include drive mechanisms for feeds, speeds and power utilization for each component in the manufacturing line such as conveyors, robots, machine tools and workstations. This course will incorporate the variability in products to be manufactured in relationship to the equipment capacities. Learning will include the use of computer simulation and hands-on production set-ups. Each mechanism will apply the learned aspects as to the specifications, functions and safe operation. Throughout the course, emphasis will be placed on effective workplace skills including teamwork, integrity and dependability. Prerequisite: ADMT210M.

ADMT245M Advanced Manufacturing Internship **3-3-4**
This program requirement reflects a student's integrated understanding of overall program and project management practices and techniques. The course will follow the Internship Course Guidelines for the Internship. Students formulate, develop, and personalize an individual interdisciplinary research topic/project related to their professional interests. The individualized project will require students to include research, critical thinking, and reflection of the core competencies of advanced manufacturing: design and function; fit and total quality management; planning and project management; communication; and cost control. Prerequisites: WELD223M; ADMT240M.

ADMT299M Advanced Manufacturing Capstone **3-2-4**
This seminar reflects a student's integrated understanding of overall program and project management practices and techniques. Students formulate, develop and personalize an individual interdisciplinary research topic/project related to their professional interests. The individualized project will require students to include research, critical thinking and reflection of the core competencies of advanced manufacturing: design and function; fit and total quality management; planning and project management; communication and cost control. Corequisite: ADMT240M, WELD223M.

AHLT110M Medical Terminology **3-0-3**
Provides the ability to communicate in a professional, effective manner in a variety of healthcare settings. Through a realistic approach, students learn the rules for building and defining medical terms, the correct pronunciation and spelling of medical terms and the application of medical terminology as it relates to each body system. Introduces various types of medical records and reports and provides the skills to read and interpret them. A variety of activities guide the student in the application of medical terminology as it relates to the clinical world. Prerequisite: Placement into ENGL110M.

AHLT115M Phlebotomy **3-0-3**
Provides the theoretical and introductory technical skills of a phlebotomist. Discussions include anatomy and physiology of the circulatory system, medical terminology, structures of the healthcare system and laboratory safety, types of laboratory analyses, specimen collection including techniques, equipment, sources of error and medico-legal issues surrounding the practice of phlebotomy. Prerequisite: Placement into ENGL110M.

AHLT123M Introduction to Pharmacology **3-0-3**
Provides the allied health professional with the fundamental knowledge necessary for a basic understanding of the principles and practice of pharmacology. Emphasis is on the safe preparation and administration of medications to patients of various age groups. Simulated problems and case scenarios are based upon situations that the allied health professional may encounter in a general medical office or clinic setting. Students must have an understanding of basic mathematical processes in order to perform practice problems with accuracy. Prerequisites: AHLT110M and BIOL106M and MATH090M with a grade of "C" or better and a score of 85% or better on PMEX *(Pharmacology Math Placement Exam)* and placement into ENGL110M. Note: A grade of "C" or better is required to pass this course for the Medical Assistant majors.

AHLT135M Phlebotomy Internship **0-9-3**
After successful completion of AHLT115M Phlebotomy, the student will spend 120 hours in a clinical environment becoming proficient with the responsibilities and skills of a phlebotomist. Students receive hands-on experience with venipuncture and capillary punctures. In addition, the ability to follow protocol for the collection of blood specimens is stressed, all while under the supervision of qualified personnel in an accredited clinical laboratory. Requires program matriculation and immunization documentation. Prerequisites: A grade of "C" or better in AHLT115M and signed permission of Phlebotomy Coordinator. Note: Only full-time, daytime internships available. No evening or weekends.

AHLT200M Transcultural Healthcare **3-0-3**
Healthcare professionals support the concept of holistic care and recognize the need to understand the client's background in order to provide comprehensive care that respects personal values and individuality. Transcultural Healthcare provides a framework for all Healthcare providers to learn inherent concepts and characteristics of culture and provide the background necessary to interact knowledgeably and competently with ethnic populations. Prerequisites: AHLT110M, BIOL106M or BIOL110M. Corequisite: AHLT123M.

AHLT205M Medical Ethics and Law **3-0-3**
Ethics and law play a critical role in effective healthcare practice. This course provides essential legal principles related to healthcare delivery, a framework for decision-making grounded in ethical standards, and a foundation in the inter-related dynamics of medical ethics and law for students studying nursing and allied health professions. The course will emphasize the necessary steps for ethical analysis and decision-making, together with the healthcare provider's legal responsibilities in providing care. We will review major ethical questions confronting healthcare providers and medical institutions, as well as applying methods of ethical analysis to ethical dilemmas. Pre-requisites: ENLG110M, BIOL106M and BIOL107M or BIOL110M and BIOL120M with grades of "C" or better.

ANTH101M Introduction to Anthropology **3-0-3**
Introduces students primarily to cultural anthropology, its key concepts, terminology, theories and research. Some aspects of physical anthropology and linguistics are also covered. Topics include culture, ethnocentrism, cultural aspects of language and communication, economic patterns, kinship, sex and marriage, socialization, social control, political organization, class and caste, ethnicity, gender, religion, beliefs and cultural change. *(Fulfills Social Science requirement).*

ANTH102M Introduction to Archaeology **3-0-3**
For more than 100 years, archaeology has fascinated scholars and the public, from studies of our earliest ancestors to Howard Carter's discovery of King Tut's tomb to Indiana Jones. This introductory course surveys the rise of human civilization from the first apes to walk on two legs over 2.5 million years ago to the development of complex societies. This course will cover the shift from hunters and foragers to the development of food production and how the shift in the environment allowed humans to develop to today's level of complexity. Prerequisite: Placement into ENGL110M. *(Fulfills Social Science requirement).*

ARTS106M 2D Character Design Using Photoshop® **2-3-3**
Through theory and practice, students learn to hand-draw original characters, then digitize and apply special effects using a variety of Photoshop® tools and techniques. Topics will include: sources of inspiration, basics of two-dimensional design and color, setting moods and creating environments for visual story development. *(Fulfills Fine Arts requirement).*

ARTS110M Welding for the Artist **1-4-3**
An introduction to welding for the artist. Students develop structurally and aesthetically sound welding techniques in arc and gas welding to create two- and three-dimensional artwork. Emphasis is on safety, hands-on practice, equipment and process selection, joint design and filler metal characteristics. Students learn to safely flame cut mild steel as well as bend metal using torch heat. Braze welding is discussed and practiced. Includes demonstrations in other welding processes more suitable to welding aluminum and stainless steel. Also covers the art of blacksmithing, an introduction to the history of sculpture and examples of sculptors and their work. *(Fulfills Fine Arts requirement).*

ARTS111M Woodworking for the Artist **2-2-3**
This course will expose the student to using wood as a medium for artistic expression in an introductory manner. The goal is for the student to develop structurally and aesthetic joinery techniques for both mechanical and glue up assembly. Emphasis will also be placed upon safety, hands-on practice, equipment and process selection, joint design and fit characteristics. Students will also learn how to safely use and sharpen hand tools as well as safely operate power equipment specifically for woodworking. Demonstrations on additional techniques will be woven into the fabric of the course. The art of veneering will also be introduced. *(Fulfills Fine Arts requirement).*

ARTS117M Art History I **3-0-3**
Surveys the history of art and design in Western and non-Western traditions from prehistoric to the Baroque period or 17th century. The course emphasizes the connections among historical, political, social, religious and artistic developments, showing how artists and designers are influenced by their culture and time. *(Fulfills Fine Arts requirement).*

ARTS120M Digital Photography **2-3-3**
Provides basic skills and develops skills in pixel-based photographic design and printing. Using simple digital equipment, students will shoot an image, import to their computer, manipulate using photo editing software and produce a print without traditional silver-based materials. Students use Adobe Photoshop® as the primary image-editing tool. Using camera software, students save photos as JPEG files *(on blank CD-Rom Disks, Memory Flash Card or other means of saving and copying edited files)* and bring to the classroom for manipulation in Photoshop® . Students acquire a working knowledge of the skills involved in digital printing and other available resources. The lab component includes both in-class and off-campus lab time. *(Fulfills Fine Arts requirement).*

ARTS123M Drawing I **2-3-3**
Explores various drawing media and techniques. Assignments are designed to build drawing observation skills necessary for visual communications. *(Fulfills Fine Arts requirement).*

ARTS125M Watercolors I **2-3-3**
Students will acquire basic watercolor painting skills and explore painting techniques, different papers and watercolor mediums. Experimental techniques and effects along with tools and various watercolor mediums are demonstrated; students will use skills they have acquired in assigned class projects. Prerequisite: ARTS123M. *(Fulfills Fine Arts requirement).*

ARTS130M Introduction to Art **3-0-3**
Surveys and compares works of visual art and design from Western and non-Western traditions, with an emphasis on the relationship among themes, techniques and periods. Using video/DVDs, students learn how certain artists produce their art from start to finish. Students will explore how various artists use the critical thinking process of questioning, exploration, trial and error and discovery. (*Fulfills Fine Arts requirement).*

ARTS210M Painting I **2-3-3**
Students will acquire painting skills. There will be experimentation with several painting mediums, including watercolor, gouache, acrylics and oils. Tools and techniques will be demonstrated, examined and used. Some basic drawing abilities are helpful but not required. *(Fulfills Fine Arts requirement).*

ARTS212M Painting II **2-3-3**
Students will enhance painting skills with the knowledge already established in Drawing I and Painting I. Where Painting I began with experimentation of several painting mediums, Painting II involves more advanced painting techniques. The major concentration will involve portrait and figure studies, still life and "plein-air" outdoor paint tints. Prerequisites: ARTS123M, ARTS210M. (Fulfills Fine Arts requirement).

ARTS217M Art History II **3-0-3**
Surveys the history of art and design in Western and non-Western traditions from the 18th through the 20th century, emphasizing the connections among historical, political, social, religious and artistic developments, showing how artists and designers are influenced by the culture and time in which they live. *(Fulfills Fine Arts requirement).*

ARTS220M Watercolors II **2-3-3**
Students will acquire more advanced watercolor painting skills including exploring more complex and unconventional painting techniques, mixed media with watercolors, high key and low key paintings, non-traditional tools, "natural dyes", portrait and figure studies. Prerequisites: ARTS123M, ARTS125M. *(Fulfills Fine Arts requirement).*

ARTS223M Drawing II **2-3-3**
Students will continue developing drawing skills based on the knowledge and training acquired in Drawing I. More complex still-life, portrait and life figure drawings will be created in class. Further investigation of drawing materials and an introduction to more mediums are also covered. Prerequisite: ARTS123M. *(Fulfills Fine Arts requirement).*

ARTS226M Portfolio Prep for Fine Arts **2-3-3**
Students collect projects from all of their Fine Arts and produce an academic portfolio which represents the best examples of their creative and technical skill sets. Additional artwork may need to be created and/or produced for admission requirements into certain four-year colleges. Students will learn to scan, photograph and print their portfolio pieces. They will also electronically reproduce a CD format portfolio. Students will produce a resume, business card and letterhead. They will also research colleges and their application processes. Preparation for interviews and practice interviews will also be included. Prerequisites: All ARTS courses prior to fourth semester.

ASL110M American Sign Language I **3-0-3**
An introductory course that provides non-native signers with the opportunity to study American Sign Language. Emphasis is on the development of visual receptive and expressive skills necessary for effective communication with deaf and hard-of-hearing individuals. Through a

variety of classroom experiences, students will learn to recognize and produce both manual and non-manual behaviors that reflect an understanding of the language's grammatical, semantic, spatial and cultural frameworks. *(Fulfills Foreign Language requirement).*

AUTO101M Introduction to Service & Maintenance **1-6-3**
Introduces automobile service and repair including shop safety, service department operations, safety inspection and techniques for proper use of hand, power tools and equipment. Using the various skills learned, students perform basic service and repairs on today's automobiles. Prerequisites: Accuplacer assessment test which indicates placement into ENGL110M and any 100M or 200M level MATH course; developmental coursework may be taken concurrently.

AUTO102M Suspension & Steering Systems **2-3-3**
An in-depth study of steering and suspension systems, alignment geometry and procedures including the service of these systems. Introduces automatic ride control suspension, four-wheel steering and active suspension. Wheel balance and balancing, wheel and tire diagnosis and repair are also covered. Corequisite: AUTO101M.

AUTO103M Basic Electrical **3-3-4**
A comprehensive study of the theory and diagnosis of electrical systems. Topics include: basic theory and systems; magnetism; induction; batteries; semiconductors; automotive wiring circuits; electrical circuit repair and diagnosis techniques; and the fundamentals of electronics. Corequisite: AUTO101M.

AUTO104M Automotive Brakes **2-3-3**
An extensive study of the construction, operation and diagnosis of modern brake systems. Topics include: the fundamentals of hydraulics; components and diagnosis; disc and drum brake operation and diagnosis; parking brake systems; power assist brakes; and disc and drum machining. Prerequisite: AUTO101M with a grade of "C-" or better.

AUTO105M Automotive Engines **2-3-3**
A comprehensive study of the theory, diagnosis and overhaul of gasoline-fueled internal combustion engines. This course provides a means of gaining knowledge and skills to diagnose and service today's complex engines and systems. Covers the principles of four-stroke cycle engine operation; identification of engine systems and components; cylinder head and valve train diagnosis and service; engine noise diagnosis; basics of diesel operation; and turbocharger/supercharger principles. Prerequisite: AUTO101M with a grade of "C-" or better.

AUTO106M Electronic Systems **2-3-3**
A continuation of AUTO103 that expands knowledge of electronic systems and electrical circuits. Provides an in-depth study of electronic control system input sensors, output devices and microprocessor control systems. Sensors and output device operation and oscilloscope analysis are also covered. Prerequisite: AUTO103M with a grade of "C-" or better.

AUTO107M Automotive Climate Control **2-3-3**
A comprehensive course covering the theory and operation of air conditioning systems, air management and electronic climate control systems. Also included are the service, maintenance and diagnosis of climate control systems. Prerequisite: AUTO103M with a grade of "C-" or better.

AUTO108M Automotive Co-Op **0-15-1**
The Automotive Co-op provides an opportunity for practical experience at an approved site. It is a required component of the certificate program. Students are required to work a minimum of 240 hours. A log of all work will be completed for review by the faculty member and their site supervisor. Periodic evaluations based on performance and other issues related to successful employment will be completed and reviewed by the co-op coordinator and site supervisor and will be the basis for the final grade. Prerequisite: AUTO101M with a grade of "C-" or better.

AUTO111M Introduction to Automotive Service **1-6-3**
Introduces service and repair including shop safety, service department operations, safety inspectionM and techniques for proper use of hand, power tools and equipment. Using the various skills learned, students perform basic service and repairs on today's automobiles.

AUTO112M Steering, Suspension & Alignment **2-4-4**
An in-depth study of steering and suspension systems, alignment geometry and procedures including the service of these systems. An introduction to automatic ride control suspension, 4-wheel steering and active suspension. Wheel balance and balancing, wheel and tire diagnosis and repair are also covered. Corequisite: AUTO111M.

AUTO113M Electrical Systems **3-3-4**
A comprehensive study of the theory and diagnosis of electrical systems. Topics include: basic electricity theory and systems, magnetism, induction, batteries, semiconductors, automotive wiring circuits, electrical circuit repair and diagnosis techniques and the fundamentals of electronics. Corequisite: AUTO111M.

AUTO121M Brake Systems **2-3-3**
An extensive study of the construction, operation and diagnosis of modern brake systems. Topics include: the fundamentals of hydraulics, components and diagnosis; disc and drum brake operation and diagnosis, parking brake systems, power assist brakes and disc and drum machining. Prerequisite: AUTO111M with a grade of "C-" or better.

AUTO122M Engine Theory, Diagnosis & Repair **2-3-3**
Through a comprehensive study of the theory, diagnosis and overhaul of gasoline fueled internal combustion engines, students gain the knowledge and skills to diagnose and service today's complex engines and systems. The principles of four-stroke cycle engine operation, identification of engine systems and components, cylinder head and valve train diagnosis and service, engine noise diagnosis, basics of diesel operation and turbo-charger/supercharger principles are covered. Prerequisite: AUTO111M with a "C-" or better.

AUTO123M Electronics I **2-3-3**
A continuation of AUTO113M that expands the student's knowledge of electronic systems and electrical circuits. The course consists of an in-depth study of electronic control system input sensors, output devices and microprocessor control systems. Sensors and output device operation and oscilloscope analysis are also covered. Prerequisite: AUTO113M with a grade of "C-" or better.

AUTO124M Automotive Co-op I **0-15-1**
The Automotive Co-op provides practical experience at an approved site. Students are required to work a minimum of 320 hours. A log of all work will be completed for review by the faculty member and their site supervisor. Periodic evaluations based on performance and other issues related to successful employment will be completed and reviewed by the faculty member and site supervisor and will be the basis for the final grade. Prerequisites: AUTO121M, AUTO122, AUTO123M all with a grade of "C-" or better.

AUTO131M Climate Control Systems **2-3-3**
A comprehensive course covering the theory and operation of air conditioning systems, air management and electronic climate control systems. Also included in this course are the service, maintenance and diagnosis of climate control systems. Prerequisite: AUTO113M with a grade of "C-" or better and AUTO124M.

AUTO132M Electronics II **2-3-3**
A continuation of the freshman electrical, electronics and mechanical courses. Covers vehicle systems that have integrated electronic controls. Students examine the theory of operation, diagnostic techniques and service procedures for these systems. Prerequisite: AUTO123M with a grade of "C-" or better. and AUTO124M.

AUTO133M Customer Service **1-0-1**
Evaluates the student's internship progress and experiences and discusses issues related to becoming a successful technician or manager. Focus will be on issues of ethics, professionalism, quality and customer satisfaction. Guest speakers, consumers and others may be invited to participate in open discussions of issues related to the automotive service industry. Prerequisites: AUTO111M with a grade of "C-" or better and AUTO124M.

AUTO134M Automotive Co-op II **0-15-1**
The co-op provides practical experience at an approved site and is a required component of the certificate program. Students must work a minimum of 240 hours and log all work for review by the faculty member and their site supervisor. Periodic evaluations based on performance and other issues related to successful employment will be completed and reviewed by the faculty member and supervisor and will be the basis for the final grade. Prerequisites: AUTO131M, AUTO132M, AUTO133M with a grade of "C-" or better.

AUTO211M Manual Transmissions & Transaxles **2-4-4**
Covers theory and operation of manual transmissions and transaxles, including drive axles, drive shafts, clutches, as well as diagnostic procedures and techniques. Disassembly, overhaul procedures, repair and reassembly of transmission/transaxles, differentials and clutches will be performed. Prerequisites: AUTO111M with a grade of "C-" or better and AUTO134M.

AUTO214M Powertrain & Emission Controls **2-3-3**
Provides an in-depth study of powertrain control systems and emission control systems with emphasis on operating strategies. This course focuses on the theory and operation of the systems and how they react to different operating conditions. This course lays the foundation for the driveability and performance diagnostic course that follows. Prerequisites: AUTO132M with a grade of "C-" or better and AUTO134M.

AUTO215M Advanced Vehicle Systems **3-0-3**
Introduces the students to new technology. This course focuses on the latest vehicle systems and technology that may not yet be in production. This course is designed to explore the future of technology in the automobile and to help prepare students for what is ahead. Prerequisites: AUTO132M with a grade of "C-" or better and AUTO134M.

AUTO220M Automotive Co-op III **0-15-1**
The Automotive Co-op provides practical experience at an approved site. It is a required component of the certificate program. Students are required to work a minimum of 320 hours. A log of all work will be completed for review by the faculty member and their site supervisor. Periodic evaluations based on performance and other issues related to successful employment will be completed and reviewed by the faculty member and site supervisor and will be the basis for the final grade. Prerequisites: AUTO211M, AUTO214M, AUTO215M with a grade of "C-" or better.

AUTO221M Automatic Transmission Hydraulic & Mechanical Systems **2-3-3**
Covers automatic transmission hydraulic and mechanical system operation, diagnosis and repair. Students participate in the complete disassembly, inspection and overhaul procedures of different types of automatic transmissions. Students will examine the principles of torque converter operation, hydraulics, power-flow, planetary gear sets and diagnosis. Prerequisites: AUTO211M with a grade of "C-" or better and AUTO220M.

AUTO223M Driveability & Performance **2-3-3**
A comprehensive course in vehicle performance diagnosis with a focus on identifying driveability concerns and diagnostic methods used in solving performance problems. Using actual driveability problems, students will have the opportunity to learn diagnostic techniques. The goal is to learn to solve performance problems in a logical and complete manner and to identify the root cause. Prerequisites: AUTO214M with a grade of "C-" or better and AUTO220M.

AUTO224M Automatic Transmission Electronics **2-3-3**
Provides a thorough study of automatic transmission electronic control system operation, diagnosis and repair. Students participate in the inspection and diagnosis of electronic controls of automatic transmissions. An in-depth analysis of electronic transmission control system strategies and diagnosis will also be part of the course. Prerequisites: AUTO132M, AUTO211M, AUTO220M.

BIOL090M Chemistry Review for Health Sciences **1-0-1**
A quick review of chemistry and biochemistry to prepare students for health science courses at MCC. The course includes general vocabulary and concepts in chemistry appropriate to the health sciences; specific topics may be covered in more depth as appropriate for preparation for Anatomy and Physiology I. This course fulfills no requirements for any program, and is aimed at students who have had high school biology and chemistry but want a refresher in the chemistry appropriate for health sciences. It will be offered during the two weeks before the beginning of both the fall and spring semesters. Prerequisite: High school-level biology and chemistry with a grade of "C" or better.

BIOL099M Foundations in Biology **2-2-3**
This course will cover the main points of high school-level biology. It is meant to strengthen students' background in biology and to prepare students for college-level life science courses. The course will give an overview of cell biology, the biology of organisms and the biology of populations. A lab component will strengthen the theory information. These credits are institutional and are not applied toward graduation.

BIOL101M General Concepts in Biology **3-3-4**
A one semester college-level biology course that deals with important concepts surrounding biology. It will cover some basic chemistry, the cell structures and their functions, cell division, cellular respiration, photosynthesis, DNA and RNA and some basic genetics. This study is based on the ongoing evolution of species. Prerequisite: High school biology *(or equivalent)* with a grade of "C" or better and placement into ENGL110M. *(Fulfills lab science elective).*

BIOL102M Introduction to Botany **3-3-4**
Covers the basic form of plants including roots, stems, leaves, flowers and the different modes of reproduction and plant responses. Cellular structures and functions will also be explored as will the scope of the many types of plants and their adaptations to various environments. These topics will be linked to the study of evolution and how this process occurs in plants. Prerequisites: High school biology with a grade of "C" or better, or permission of the instructor and placement into ENGL110M. *(Fulfills lab science elective).*

BIOL106M Human Body **3-0-3**
Introduces the structure and function of the human body, which includes the anatomy and physiology of each of the organ systems of the human body and practical discussions of disease and health. Prerequisite: placement into ENGL110M. *(Fulfills lab science elective when taken with BIOL107M).* Offered every semester.

BIOL107M Human Body Lab **0-3-1**
A series of laboratory experiences designed to enhance and reinforce the concepts studied in BIOL106M. *(Medical Assistant students must take BIOL 106M concurrently).* Prerequisites: Placement into ENGL110M or permission of the instructor *(Fulfills lab science elective when taken with BIOL106M).* Offered every semester.

BIOL108M College Biology I **3-3-4**
An in-depth college-level course designed for students who intend to continue studying life science as their major area of study. Covers the chemistry of cells including cellular respiration, photosynthesis, DNA, RNA, protein synthesis and enzymes. Also includes the study of the cell, its components, mitosis and meiosis, Mendelian and molecular genetics. Prerequisites: High school biology and chemistry with a grade of "C" or better and placement into ENGL110M, or permission of the instructor. *(Fulfills lab science elective).*

BIOL109M College Biology II **3-3-4**
This intense college-level biology class is the continuation of BIOL108M. Covers evolutionary biology, classification, organisms and populations and ecology and emphasizes science as a process, scientific inquiry and critical thinking. Prerequisites: High School Biology and Chemistry with a grade of "C" or better and BIOL108M with a grade of "C" or better and placement into ENGL110M, or permission of the instructor *(Fulfills lab science elective).*

BIOL110M Human Anatomy and Physiology I **3-3-4**
A comprehensive course in the anatomy and physiology of the human body that presents current in-depth information in basic molecular and cell biology as well as human cells, tissues and organ systems. This first of two courses includes molecular biology which covers DNA and RNA structure and the formation of proteins, as well as basic cellular respiration. It also covers the integumentary, skeletal, muscular, nervous and sensory systems. Laboratory work augments lectures and includes the study of fresh and preserved specimens, microscopy and human physiology. Prerequisites: Successful completion of high school-level biology and chemistry with a grade of "C" or better. *(Fulfills lab science elective).* Offered every semester.

BIOL111M Anatomy & Physiology of Domestic Animals I **3-3-4**
Introduces the comparative anatomy of the mammalian body that will include domestic animals and man. Emphasizes normal anatomy and physiology with references made to deviation from the norm which might constitute a disease state. This is the first semester of a two-semester course and covers basic organization, cells and tissues, along with the integument, skeletal, muscular and nervous systems. Lab work augments lectures and includes the study of histology as well as preserved specimens and models. Prerequisite: Successful completion of high school level biology and chemistry with a grade of "C" or better, or permission of the instructor and placement into ENGL110M. *(Fulfills lab science elective).*

BIOL112M Human Diseases **3-0-3**
Provides an understanding of disease processes. Common disorders of major body systems are discussed relative to the mechanisms by which they develop and their effects on homeostasis. Prerequisite of BIOL106M with a grade of "C" or better, or permission of the instructor. *(Does not fulfill lab science elective).*

BIOL120M Human Anatomy & Physiology II **3-3-4**
A continuation of BIOL110M, this course includes current, in-depth information of the structure and function of the endocrine, digestive, respiratory, blood, cardiovascular, lymphatic, urinary and reproductive systems. Lab work augments lectures and includes exercises in microscopy, the study of fresh and preserved specimens and physiological measurements of the human body. Prerequisite: BIOL110M with a grade of "C" or better, or permission of the instructor. *(Fulfills lab science elective).*

BIOL121M Anatomy & Physiology of Domestic Animals II **3-3-4**
A continuation of BIOL111M, this course includes current in-depth information of the structure and function of the endocrine, digestive, respiratory, blood, cardiovascular, lymphatic, immune, urinary and reproductive systems. Lab work augments lectures and includes the study of histology, preserved specimens and models. Prerequisite: A grade of "C" or better in BIOL111M, or permission of the instructor. *(Fulfills lab science elective).*

BIOL150M Nutrition **3-0-3**
A study of normal and medical nutritional therapy, including the digestion, absorption, transport and metabolism of the macro and micro nutrients throughout the life cycle. Covers nutritional assessment and care plan processes for various medical nutritional therapies, including cardiac, diabetes, stress disorders, various feeding routes and energy and weight management. *(Fulfills lab science elective when taken with BIOL151M).* Offered every semester

BIOL151M Nutrition Lab **0-3-1**
A series of laboratory experiences designed to enhance and reinforce the concepts studied in the Nutrition course *(BIOL150M). (Students must take, or have taken BIOL150M concurrently/previously. Fulfills lab science elective when taken with BIOL151M).* Co-requisite: BIOL150M.

BIOL201M Principles of Genetics **3-3-4**
This course covers fundamentals of classical, molecular, and population genetics. The cellular and molecular mechanisms of inheritance, gene expression and regulation, and influences on evolution are included. Laboratory exercises are designed to reinforce the theoretical concepts with a focus on techniques in molecular genetics. Prerequisite: Completion of BIOL108M or BIOL110M with a grade of "C" or better, and placement into ENGL110M and MATH145M, or permission of the instructor.

BIOL205M General Ecology **3-3-4**
Ecology is the scientific study of the interrelationships between organisms and their biotic and abiotic environment. Students will investigate the effects of physical and biological factors on the distribution, abundance, and adaption of living organisms. This course will emphasize scientific thinking and problem solving. Prerequisite: Completion of BIOL109M with a C or better, and placement into ENGL110M and MATH145M, or permission of the instructor.

BIOL210M Microbiology: Principles and Practices **3-3-4**
Introduces the principles and practices of medical microbiology. Topics include: the nature and behavior of microorganisms; principles of growth and reproduction of micro organisms; identification of microorganisms using staining, pure culture, biochemical and antigenic techniques; and the epidemiology, clinical features, laboratory diagnosis and control measures for microbial diseases caused by viruses, bacteria, fungi, protozoa and helminthes. Students are required to have protective eye wear *(available in the bookstore)* and lab coats for the first lab session. Prerequisite: BIOL110M with a grade of "C" or better. *(Fulfills lab science elective)*. Offered every semester

BIOL220M Pathophysiology **3-0-3**
Focuses on the clinical pathogenesis of human diseases as a consequence of abnormalities and alterations of normal physiologic function. Lectures will cover topics in general pathology as well as in-depth information in system pathology and will focus on the most common diseases, which are either frequently encountered or illustrate an important principle. Prerequisites: Successful completion *(grade of "C" or better)* of BIOL110M and BIOL120M or BIOL111M and BIOL121M and placement into ENGL110M or permission of the instructor. *(Does not fulfill lab science elective)*.

BLDG214M Sustainable Building Practices **3-0-3**
Introduces the principles, practices and materials in energy-efficient building construction. Covers: heat transport, insulation, air movement and indoor air quality; vapor diffusion and air barriers; moisture and condensation; sound transmission and absorption; solar energy, lighting, space and domestic hot water heating. A heat audit is performed and the state energy code is examined.

BLDG225M Blueprint Reading/Estimating **3-3-4**
Students learn to comprehend and use blueprints typically used in light residential construction. Two-and three-dimensional drawings are analyzed and common methods of estimating labor and materials practiced. An understanding of residential construction is suggested.

BUS110M Introduction to Business **3-0-3**
Introduces a basic understanding of the structures and operations of business and an awareness of social and ethical responsibility as it relates to the environment, consumers, employees and investors. An appreciation of the global economy will also be explored. Prerequisite: Placement into ENGL095M

BUS114M Management **3-0-3**
Introduces the principles and techniques underlying the successful organization and management of business activities. The course combines the traditional analysis of management principles with the behavioral approach using case studies. Areas of study include the management functions of planning, organization, leadership, staffing control and the decision-making process. Prerequisite: Placement into ENGL095M

BUS120M Introduction to Communications Media **3-0-3**
Provides an introduction to communications media by studying the nature and history of mass communications, as well as examining the various media available to marketers within the communication process. Some of the specific media topics discussed include newspapers, magazines, radio, television and the Internet. An emphasis is placed on professions within the communications media industry, regulation of the mass media and the impact of the media on society and the global marketplace.

BUS124M Small Business Management **3-0-3**
Provides comprehensive knowledge in the development and management of small businesses. Sales, production, personnel management and finance are examined from the point of view of the small business entrepreneur or manager. Using case studies, students are introduced to effective techniques for starting businesses, getting loans, hiring and supervising employees, marketing products and services and dealing with legal issues and regulations. Using concepts and techniques learned from the course, students will also prepare a business plan for a real or fictitious organization of their choice.

BUS155M Retail Management **3-0-3**
Examines contemporary management issues in the retail environment, with a focus on theoretical principles, problem-solving techniques and decision-making processes. Students will discuss a range of retail management topics, including inventory planning and control, location assessment and store design, merchandising and retail promotion, product and brand management, human resources administration, legal and ethical concerns, information technology resources, financial and accounting needs and sales and trend forecasting. Prerequisite or Corequisite: MKTG125M.

BUS200M Team Building **3-0-3**
Introduces and expands upon the basic principles and concepts of team building and self-directed work teams as they pertain to the workplace environment. The key concepts of how teamwork can influence and benefit the workplace are explored through lectures, interactive discussions, workshop-type group exercises, videos and guest speakers.

BUS205M Leadership **3-0-3**
In this course, students will examine the skills and behavior essential to successful leadership in today's ever-changing managerial landscape. Topics include leadership theory, motivation, productivity, group dynamics, communication, management, as well as organizational culture and ethics. Students will develop an inter-personal approach to the leadership style that works for them, while maintaining an appreciation for how well-developed leadership skills impact organizational success. Prerequisite: BUS114M.

BUS210M Organizational Communications **3-0-3**
Effective communication is the lifeblood of the organization and the foundation of a successful business career. The potential business professional must master the methods and techniques necessary to utilize facts, make inferences, understand communication strategies, create logical presentations and develop critical skills in listening, speaking and writing. The potential business professional must also understand nonverbal, visual and mass communication. This course helps students polish their business communication skills by teaching them how to create an error-free electronic portfolio, which will provide students with a job-search tool. The course emphasizes proper business formatting, along with other communication activities and the communication process as it relates to business. Prerequisite: ENGL110M with a grade of "C" or better.

BUS212M Business Law I **3-0-3**
Covers some of the common topics in criminal, civil and business law. Topics include the criminal, civil and business law justice systems including: constitutional law for business and online commerce; torts and privacy; business and cyber crimes; ethics and social responsibility; contracts and warranties.

BUS213M Business Law II **3-0-3**
Continues the study of the common topics in criminal, civil and business law. Topics include: e-commerce contracts; negotiable instruments and digital banking; credit, secured transactions and bankruptcy; sole proprietorships; partnerships and limited liability companies; corporations; investor protection and online securities transactions; agency and employment; equal opportunity in employment; antitrust laws and intellectual property and internet law.

BUS216M Organizational Behavior **3-0-3**
This course develops and expands on the basic understanding of organizational behavior. The human relations approach is stressed, including: management philosophy: the organizational climate; supervision, communication, group participation and factors in the work environment. The foundations of group behavior are explored and applied to real-world situations, case studies and a capstone project.

BUS220M Operations Management **3-0-3**
Focuses on the relationship of the production and operations functions of delivering products or services to the achievement of an organization's strategic plan and linking the organization to its customers. Students integrate forecasting, materials management, planning, scheduling, process, operations control skills and techniques with approaches and tools such as Total Quality, Statistical Process Control, Continuous Improvement, Demand Flow and Just-In-Time production systems.

BUS221M Business Finance **3-0-3**
Surveys the corporate finance discipline to examine the financial management of corporations, to develop skills necessary for financial decision-making, financial forecasting, ratio evaluation and to acquaint students with money, capital markets and institutions. Prerequisite: ACCT123M.

BUS224M Human Resource Management **3-0-3**
Provides a fundamental presentation of the dynamics of human resource management. Emphasis is placed on job design and development, employment training, benefits administration, compensation and employee relations and the laws relating to human resource management. Course concepts will be solidified through the use of case studies and real-world applications. Prerequisite: BUS110M or BUS114M.

BUS225M Effective Human Relations **3-0-3**
Designed to teach students the human relations skills they will need to become successful managers in today's workplace. Students learn factors that influence employee behavior and contribute to organizational productivity. Practical applications are investigated as they relate to successful companies. Emphasis is placed on the major themes – communication, self-awareness, self-acceptance, motivation, trust, self-disclosure and conflict resolution – of effective human relations. Prerequisite: BUS224M.

BUS226M Employment & Labor Law **3-0-3**
Provides students with a conceptual legal framework for the major steps of the employment process from hiring to managing to terminating employees. The course addresses the human resource practices associated with each stage of employment and places a strong emphasis on the application of legal concepts to business situations. Important employment law topics such as discrimination, affirmative action, harassment and workplace privacy will also be covered. Prerequisite: BUS224M.

BUS227M Training and Development **3-0-3**
Provides students with a solid background in the fundamentals of training and development such as needs assessment, transfer of training, learning environment design, methods and evaluation. Traditional training and development techniques are presented, as are contemporary issues in training and development such as e-learning, the use of technology in training, managing diversity, succession planning and cross-cultural preparation. Training and development challenges in career management and the future of training and development are also covered. Prerequisite: BUS224M.

BUS228M Seminar in Strategic Human Resource Management **3-0-3**
Examines the human resource functional areas from an innovative and strategic standpoint. Students will learn about the context of strategic human resource management as it relates to the organization, as well as develop, apply and implement strategic human resource management initiatives to real-world examples. They will engage in interactive discussions of current issues, practices and theories relative to the strategic human resource management approach. Prerequisite: BUS224M.

BUS231M Self Assessment **1-0-1**
A seminar meeting one period per week will discuss issues related to successful employment. Discussion topics will include job search, resume, cover letter, interviewing. This seminar will be taken in the final semester.

BUS291M Internship **0-9-3**
Designed to provide comprehensive experience in application of knowledge learned in previous coursework. Students will research and select an internship site and work as a supervised intern. Prerequisite or Corequisite: MKTG282M or ACCT233M.

CAD110M CAD I Fundamentals **2-2-3**
Introduces computer aided design for 2D drawings. Students will use AutoCAD®, one of the most popular computer aided design programs. Integrated CAD competencies include: model and layout space environments, prototype drawing use, coordinate input systems, 2D engineering geometry construction in model space, geometry editing and paper space drawing layout. Objects drawn are Mechanical and Architectural.

CAD113M Applied CAD for Industry **1-3-2**
An introduction to the basic concepts and practices of producing drawings by computer-aided drafting using AutoCAD® software. Covers setting up for electronic drawing, drawing accurately, controlling the graphic display, basic drawing techniques, graphic entities and an introduction to editing. Prerequisite: WELD113M or permission of the instructor.

CAD120M CAD II Intermediate **2-2-3**
A continuation of CAD110 to reinforce skills and learn more in-depth command operations for drawing and editing 3D wireframe models. Students will study the engineering graphics language necessary to communicate technical ideas and solve engineering problems with AutoCAD® . Objects drawn are Mechanical and Architectural. Prerequisite: CAD110M

CAD210M CAD III Advanced **2-2-3**
Students will apply the standards, conventional drafting practices and problem-solution methods learned in CAD110M and CAD120M using AutoCAD® . Students will construct sets of working drawings *(details & assemblies)* in 3D, engineering solid model formats and finalize paper space drawing formats. This course will continue with concepts and commands to enhance increased productivity. Complete mechanical and architectural projects will be created. Prerequisite: CAD120M.

CAD220M Inventor® Fundamentals **2-3-3**
This course is an introduction to Autodesk Inventor, solid modeling and parametric modeling. The course uses an exercise intensive approach to all the important parametric modeling techniques and concepts. The lessons provide the student the basic concepts of constructing shapes to creating perceptive designs, multi-view drawings and assembly models. Other topics included are sheet metal design, motion analysis, collision and contact and stress analysis. Prerequisite: CAD110M with grade of "C" or better or permission of the instructor.

CAD225M Design Project for Rapid Prototyping **2-6-4**
This course introduces the design process through virtual and physical prototyping. Participants will study topics fundamental to rapid prototyping and automated fabrication, including the generation of suitable CAD models, current rapid prototyping fabrication technologies, their underlying material science, the use of secondary processing and the impact of these technologies on society. The class will cover the design process, problem solving methods, interdisciplinary team work, current industrial practice and manufacturing process capabilities. The course emphasizes hands-on learning using the rapid prototyping process by the actual design and fabrication of a part. Prerequisite: CAD210M or CAD220M.

CE110M National Electric Code Update Non-credit
Covers in detail the 2008 changes to the National Electrical Code. It is presented in four sessions of 3 ¾ hours each. The course is designed to meet the requirements of the State Electricians Board for re-licensing of electricians.

CHEM090M Foundations of Chemistry 2-2-3
This high school level course in chemistry examines the structure of matter and the nature of chemical reactions. Lab activities will be included to help reinforce theory classes. The course helps to prepare students for college-level sciences. These credits are institutional only and do not count toward graduation.

CHEM115M General Chemistry I **3-3-4**
Provides a sound foundation in the basic principles of chemistry. Covers structure of matter, stoichiometry, chemical reactions, quantum theory and atomic structure, chemical periodicity, chemical bonding, gases and their properties. Laboratories reinforce the principles and concepts presented in lectures and develop critical thinking and scientific writing. Prerequisites: High school chemistry and biology with a grade of "C" or better, high school Algebra I or MATH145M. *(Fulfills lab science elective).*

CHEM116M General Chemistry II **3-3-4**
The course will include topics such as intermolecular forces, solutions and their properties, kinetics of reactions, chemical equilibrium, acid-base equilibrium, equilibrium of solutions and oxido-reduction reactions. Laboratories are used to reinforce the principles and concepts presented in lectures and to develop critical thinking and scientific writing. Prerequisites: CHEM115M with a grade of "C" or better, high school algebra II and trigonometry with a grade of "C" or better and placement into ENGL110M. *(Fulfills lab science elective).*

CIS097M Computer Fundamentals **0-2-1**
Designed for students with little or no computer skill or those interested in refreshing their computer knowledge. Students will identify the major hardware and software components of a computer, gain proficiency in the Windows® operating system and learn to manage files and folders. Students will also gain knowledge of current trends and topics in computer technology and learn the terms and skills needed in today's computer literate society. This course may not be applied to meet certificate or degree requirements.

CIS102M A+ Prep/Hardware **2-2-3**
The A+ Preparation class is the starting point for a career in IT. It covers maintenance of PCs, mobile devices, laptops, operating systems and printers and prepares students for CompTIA's A+ hardware exam.

CIS103M A+ Prep/Software **2-2-3**
The A+ Preparation classes are the starting point for a career in IT. The class covers maintenance of PCs, mobile devices, laptops, operating systems and printers, this class prepares students for CompTIA's A+ software including additional materials for the Cyber Investigator.

CIS105M Introduction to Computer Science **2-2-3**
Introduction to Computer Science uses broad coverage and clear exposition to present a complete picture of the dynamic computer science field. Accessible to students from all backgrounds, and encourages the development of a practical, realistic understanding of the field. An overview of each of the important areas of Computer Science provides students with a general level of proficiency for future courses.

CIS107M Introduction to Android Apps Development **2-2-3**
This class will introduce students to Computer Science providing a solid foundation of common Computer Science concepts and practices. Students will learn various techniques used in Android development. The main technologies associated with the deployment of Android Apps will be presented. Corequisite: CIS105M

CIS108M Introduction to Windows Apps Development **2-2-3**
This class will introduce students to Computer Science providing a solid foundation of common Computer Science concepts and practices. Students will learn various techniques used in Windows development. The main technologies associated with the deployment of Windows Apps will be presented. Corequisite: CIS105M.

CIS109M Operating Systems and Desktop Problems Resolution **2-2-3**
Emphasizes the MS Operating Systems, the most common in the workplace. Covers boot partitions, hardware requirements, software installation, terminology, skills necessary for desktop support, user accounts and privileges, driver signing, the Device Manager, file encryption and recovery, file and folder types, extensions and attributes, configuring addresses, installation of network printers. Computer Science majors cannot take CIS109M for credit. Prerequisite: CIS097M or passing of in-class evaluation test or permission of the instructor.

CIS110M Microsoft® Computer Applications I **2-2-3**
This is a one semester course that introduces the student to the world of MS Applications Office Suite. Topics will include the use of Microsoft Internet Explorer as a research tool and MS Applications Office Suite *(the most current version the college is licensed for)*. This grouping of programs includes MS Word, MS Excel and MS Power Point. This is not a course for a student with no computer skills and should not be considered as such; it is an intense and rapid instruction in the use of the most common MS Applications programs. Students will be issued a computer competency examination on the first day of class. Students who do not successfully complete the in-class competency examination will not be allowed to remain in CIS110M, rather, they must register for CIS097M - Computer Fundamentals. *(This course cannot be used toward graduation requirements for Computer Science majors).*

CIS113M Database Design & Management Using SQL **3-3-4**
This is a foundation course in the construction of a Database. Topics to be discussed include the types of databases, their advantages and frailties; a major focus will be on the construction of a working database using Native SQL *(Structured Query Language)* as a tool. The student can expect to learn how to plan and build a relational database using a current industry-standard relational database such as Oracle. Prerequisite: CIS107M or CIS108M

CIS116M Network + Preparation **3-3-4**
Introduces the fundamental concepts and principles that underlie computer network technologies, installation and configuration, media and topologies, management and security. This class prepares students for CompTIA's Network + Exam.

CIS117M Introduction to iOS Application Development **2-2-3**
This class is for anyone that would like to learn how to build an application for their iPhone, iPad or iPod. This class provides theoretical and practical knowledge to design and build iOS based solutions on the Apple products. It will teach the students techniques in iOS development using the Objective-C programming language and the SDK *(System Development Kit)* and provide an understanding of the main technologies associated with the deployment of developed applications. Prerequisite: CIS107M or CIS108M.

CIS118M Introduction to Programming using VB.NET **2-2-3**
This course will provide students with an understanding of structured, procedural, and event-driven programming. Students will develop techniques for problem solving through the application of programming methods and will gain experience in the nuts and bolts of program design as they complete lab work and assignments. Students will learn to use the Visual Basic language and programming environment. Corequisite: CIS107M or CIS108M.

CIS120M Microsoft® Computer Applications II **2-2-3**
Introduces Microsoft® Office Suite programs that have not been presented through other classes, including Project, Access, Publisher and Outlook. Students learn to track and manage tasks with MS Project, create business-oriented publications in Publisher, set up and manage a small database in Access and manipulate the default settings in Outlook to maximize its utility. Prerequisite: CIS110M with a grade of "C" or better, or the permission of the instructor. *(CIS120M cannot be used toward graduation requirements for Computer Science majors).*

CIS122M C++ Programming I **2-2-3**
This course introduces students to the fundamentals of structured programming and to the procedural aspects of the C++ programming language. Students will create programs to demonstrate the topics of program control, functions, arrays, and pointers. Microsoft's Visual C++ will be used as the primary development tool; however, other environments may also be used. Emphasis will be placed on the creation of platform-independent applications in order to allow students to become familiar with the core features of the C++ language. Prerequisite: CIS107M or CIS108M.

CIS123M Microsoft Access® **2-2-3**
Introduces the world's most popular database, MS Access. Topics covered include the MS Access Development Environment, defining objects and relationships, data types, databases, how to work with templates and tables, record and table manipulation, creation of forms and reports, control features, queries and the table analyzer. Upon successful completion of this class the student will be able to set up and run an Access Database. Open to all majors, this course provides the skills necessary to build and run a database without requiring an in-depth understanding of database theory and construction. Although database fundamentals will be taught, this class is primarily a hands-on Access class. Prerequisite: CIS110M or CIS111M with a grade of "C" or better, or permission of the instructor.

CIS124M Web Programming I **2-2-3**
This course will provide students with the basic XHTML skills necessary to construct a web site. Students will acquire a working knowledge of all aspects of XHTML construction. CSS construction and design is a fundamental part of this course. This course emphasizes the programming, as opposed to the design, aspect of web development. Students will use text editors to complete all tasks.

CIS126M Introduction to Python **2-2-3**
Python is an object-oriented programming language that is simplistic yet has great capabilities. This class will focus on instructing students to harness the full power of Python to write exceptionally robust, efficient, maintainable, and well-performing code.

CIS129M Network Security **2-2-3**
Provides a solid foundation in different security concepts, functions and applications. The course will map the CompTIA Security+ objectives including security concepts, communication and infrastructure security, basics of cryptography and operations/ organizational security. Upon successful completion of this course, the students will be prepared to take the CompTIA Security+ exam. Prerequisite: CIS116M with a grade of "C" or better, or permission of the instructor.

CIS146M Linux I **2-2-3**
Provides the fundamental skills needed to work in a Linux environment. A recent version of uBuntu, Linux operating system, is used as a vehicle for course delivery. Topics to be covered include, but are not limited to, basic installation and usage of Linux, Shells, Terminals, Kernel, Text editors, File and Directory Permissions, Apache, MySQL, PHP and File system Management & Administration. Installing Joomla!, an open source content management system, is also covered.

CIS148M Introduction to Programming using JAVA **2-2-3**
This course will provide students with an understanding of structured, procedural, and event-driven programming. Students will develop techniques for problem solving through the application of programming methods and will gain experience in the nuts and bolts of program design as they complete lab work and assignments. Students will learn to use the JAVA language and programming environment.

CIS158M Introduction to Programming using C# **2-2-3**
This course will provide the student with an initial understanding of how to work with the C# Programming Language. Major topics covered in detail will be the C# Integrated Development Environment; the C# Lexicon and syntax style; simple algorithm designs; understanding pseudo conversational programming style for construction of command line interfaces, Data types *(both elementary and advanced user defined data types)*, basic concepts of Object Oriented Programming, a good understanding of the library structure for C# , development and construction of a "Code ToolBox", and the ability to "Develop here and deploy anywhere". Students for this class will need to procure a 250 GB or larger drive to act as a "Code ToolBox". Corequisite: CIS107M or CIS108M.

CIS207M Windows® Server **2-2-3**
Prepares the student to install, configure, manage and troubleshoot network servers using the latest version of Microsoft® Windows® Server operating system. Topics include upgrading, installing, troubleshooting, administration of resource responsibilities, installing drivers, configuring user and group accounts and managing security features. Prerequisite: CIS116M with a grade of "C" or better, or permission of the instructor.

CIS210M Data Structures and Elementary Algorithms **3-3-4**
This is an advanced, language-independent programming course. Students will master the skills necessary to develop and work with common programming Data Structures. Such topics as Arrays, Stacks, Queue, Linked Lists, Binary Trees, Hash Tables, Heap Concepts, and Graphs will be emphasized. The programming language used will be the students' choice of Java, VB.Net, or C#. Each student will be required to work in a team environment. Prerequisite: CIS117M or CIS118M or CIS122M or CIS126M or CIS148M or CIS158M.

CIS220M Object-Oriented Programming **2-2-3**
An advanced, language-independent programming course. Students will master the Object Oriented skills necessary for success in the modern IT workplace. Emphasizes Unified Modeling Language, Encapsulation, Data Abstraction, Modularity, Polymorphism, Inheritance, good programming techniques and debugging skills. The programming languages used will be the students' choice of Java, VB.Net, Or C#. Prerequisite: CIS107M or CIS108M or permission of the instructor.

CIS221M Advanced Word® **2-2-3**
Covers the intermediate and advanced features, commands and functions of the most current version of Microsoft Word® to help users enhance productivity and develop more vibrant documents. The course will prepare students to produce more complicated word documents and templates. Prerequisite: CIS110M with a grade of "C" or better. *(Cannot be used toward graduation requirements for Computer Science majors).*

CIS224M Web Programming II **2-2-3**
This course will enable students to create dynamically built websites using JavaScript and other client-side scripting languages. Students will gain advanced XHTML and CSS skills and will gain familiarity with programming concepts and terminology common to many web scripting languages. Prerequisite: CIS124M.

CIS230M Embedded Database Programming **2-2-3**
An advanced, language-independent programming course. Students will master the skills necessary to construct Embedded SQL Programming in the modern IT workplace. Such topics as Database Connectivity Scripts, Embedding SQL in a programming language,

Report Generation, HTML Interfaces, ASP or JSP concepts and good programming techniques and debugging skills will be emphasized. The programming languages used will be the student's choice of Java, VB.Net, or C#. Prerequisites: CIS210M and CIS113M or permission of the instructor.

CIS231M Advanced Worksheets **3-3-4**
Provides an expanded understanding of the intermediate to advanced features of Microsoft Excel®. Students apply problem-solving and critical-thinking skills while mastering advanced spreadsheet application techniques using the latest version of Excel. Topics include development of more complex formulas by combining and nesting formulas, database formulas and functions, complex charting, forecasting and trend analysis, statistical analysis and business *"What- If"* data analysis techniques. Prerequisites: CIS110M with a grade of "C" or better and placement into MATH145M. *(Cannot be used toward graduation requirements for Computer Science majors).*

CIS233M Oracle® Database Administration I **2-2-3**
A foundations course in Oracle®, a major player in the database world. Topics covered are found under the umbrella known as Oracle® Administration 1. The course is designed to prep the student to take this exam for a current version of Oracle®. This course is for the serious database person; it will teach concepts that play a key role in the creation and management of a successful database product. While Oracle® is the vehicle used to pass the information on, most of the skills learned are transferable to other relational databases with minimal difficulty. Students who successfully complete this class will have learned the skills necessary to sit for the Oracle® Database 10g: Database Administration I exam. Prerequisite: CIS113M or permission of the instructor.

CIS234M PHP & MySQL Web Development **2-2-3**
Building upon the skills taught in CIS124M and CIS224M, introduces the world of Embedded PHP programming and MySQL database management. These open source entities are the tools of choice for small retail web entrepreneurs. Students focus on the structure of PHP, learn to embed the code in a standard HTML format, create a MySQL database and perform the administrative tasks associated with such a database. Also covers working in all the data types, coding functions, Object-Oriented concepts and error handling in a PHP application. Students are required to set up a small online store to establish their skill in working with PHP and MySQL and to create an online presence for this store. Prerequisites: CIS124M and CIS224M with a grade of "C" or better, or permission of the instructor.

CIS240M Computer Science Internship **1-8-3**
This course involves a cooperative intern program of no less than 120 hours of work experience in the field relating to the student's selected field of study within the Computer Science Department. The college coordinator and the organization's work supervisor evaluate students' work experience and achievements. Students meet to prepare a resume and cover letter and to discuss and analyze their experiences. Prerequisite: Any one of the following: CIS117M, CIS118M, CIS122M, CIS148M, CIS158M.

CIS243M Oracle® Database Administration II **2-2-3**
An advanced course in Oracle® database administration intended for serious database students. Topics covered are under the umbrella known as Oracle® Administration 2 and this will prep students to take the exam for a current version of Oracle®. Covers concepts that are little known and yet are key to the creation and management of a successful database product. While Oracle® is the vehicle used to pass the information on, most of the skills are transferable to other relational databases with minimal difficulty. This course will also allow students to learn skills necessary to sit for the Oracle® Database 10g: Database Administration II examination. Prerequisite: CIS233M or permission of the instructor.

CIS274M XML Programming I **2-2-3**
This class will focus on XML fundamentals, first answering the question 'just what is XML'. The course teaches students the place XML occupies in the IT world, how to create, modify and output XML using a programming language and to use XML utilities, XSL, DTD's, XML Schema structures and XSLT's. Prerequisite: CIS117M or CIS118M or CIS122M or CIS126M or CIS148M or CIS158M.

CIS291M Capstone Senior Seminar **2-2-3**
Required for all AS Degree candidates. Students will develop a semester-long project in an area of their interest, complete the project and assess their progress. Examples might include development of a computer program in the language of the student's concentration; construction of a complex database; creation of a Web 2.0 enabled web site; construction, configuration and administration of a complex network; or a portfolio of graphics and animations representing complex work. Prerequisite: completion of course work for the first three semesters of the student's program of study. Prerequisite: CIS210M or CYBD110M.

CSCN210M Computer Science in Action I - Technology Innovation **3-3-4**
Students will determine the need, plausibility and target market for a computer program, app or computer enabled device for a non-traditional computer application to be used on a mobile platform or other emerging technology. Student groups will design various product concepts selecting a single approach and develop a working product demo or application. Prerequisite: CIS117M or CIS118M or CIS122M or CIS126M or CIS148M or CIS158M.

CSCN220M Entrepreneurship in Computer Science **3-3-4**
This course instructs and educates students on the business principles of founding a computer software start-up. It teaches the fundamental skills needed to be a successful technology startup. Topics like idea brainstorming, pitch formulation, specification building and managing an engineering team will be covered in the interactive sessions. All topics relate strictly to computer science, computer software development and emerging computer related technologies. Prerequisite: CSCN210M.

CSCN225M Computer Science in Action II - Quality Assurance and Security **3-3-4**
The Software Quality Assurance course defines SQA and teaches students how and why it is necessary in today's programming environment. Students will learn how to develop differing types of test plans, learn differences between manual and automated testing and learn to create secure code on several platforms. Students will learn by doing, testing and securing code they themselves have written in previous classes. Prerequisite: CIS117M or CIS118M or CIS122M or CIS126M or CIS148M or CIS158M and CIS220M.

CSCN290M Computer Science and Innovation Internship **1-8-3**
This course involves a cooperative intern program of no less than 120 hours of work experience in the field relating to the student's selected field of study within the Computer Science Department. The college coordinator and the organization's work supervisor evaluate students' work experience and achievements. Students meet to prepare a resume and cover letter and to discuss and analyze their experiences. Prerequisite: CIS117M or CIS118M or CIS126M or CIS148M or CIS158M.

CYBD100M Introduction to Computer Forensics **2-2-3**
This class is an introduction to the concepts, terminology and management in the fastest growing areas in forensic science, digital evidence network intrusion and information security. The class introduces students to the methods used to acquire and analyze digital evidence, learn the fundamentals of the forensic process, including documentation and presentation of information collected during analysis, how to maintain and document the chain of custody and methods of analysis and procedures. The class also contains an overview of intrusion detection, live acquisitions and live acquisition tools, as well as an overview of forensic hardware solutions including but not limited to forensic computers, hardware write blocking tools and dedicated analytical equipment. Using recovered digital artifacts students will reconstruct activities from digital devices to create forensic examination reports based on the information recovered.

CYBD110M Investigations and Evidence Recovery **3-3-4**
This course introduces students to different types of digital investigations and the similarities and differences between them. Students will learn how to seize and properly document evidence while maintaining a verifiable chain of custody. Prerequisite: CYBD100M. Corequisite: CIS102M, CIS103M.

CYBD200M Certified Ethical Hacker **3-3-4**
This class will teach students competence across a spectrum of skills that include Intrusion Detection, Policy Creation, Social Engineering, DDoS Attacks, Buffer Overflows and Virus Creation and more. Prerequisite: CIS116M with a grade of "C" or better.

CYBD210M Operating System Artifacts **3-3-4**
This course explores advanced topics and forensic analysis of the various File System artifacts which could provide useful information leading toward malware detection and presentation of digital evidence for the court of law. Since file systems record every event of a system, forensic tools may be used to process information related to user environment, buffer overflows, trace conditions, network stack, etc. Prerequisites: CYBD100M, CIS102M, CIS103M.

CYBD215M PC Forensics **3-3-4**
This course explores advanced topics and methodologies for examining digital evidence. Topics taught in this class include File System Forensics, Computer Operating System Forensics and Large System Forensics. Students are challenged to work individually and in groups to examine and prepare detailed reports showing the relevance of digital evidence to mock cases. This course presents a higher level of technical detail and will balance theory and hands-on aspects for conducting digital forensic examinations. Prerequisites: CYBD100M, CIS102M, CIS103M. Corequisite: CYBD210M.

CYBD220M Security + Preparation **3-3-4**
This course provides students with the knowledge of security concepts, tools and procedures that will enable them to react to security incidents, allow them to create procedures ensuring security personnel can anticipate computer and computer network related security risks and guard against them. Potential roles include security architect, security engineer, security consultant/specialist, information assurance technician, security administrator, systems administrator and network administrator. Prerequisite: CIS116M

CYBD225M Cybersecurity Internship **1-8-3**
This course involves a cooperative intern program of no less than 120 hours of work experience in the field relating to the student's selected field of study within the Computer Science Department. The college coordinator and the organization's work supervisor

evaluate students' work experience and achievements. Students meet to prepare a resume and cover letter and to discuss and analyze their experiences. Prerequisite: CYBD200M or CYBD220M.

CYBD230M Mobile and Emerging Device Analysis 3-3-4
This course explores Mobile Device Analysis where students learn methodologies for extraction of date stored on mobile devices. Students are challenged to work individually and in groups to examine and prepare detailed reports showing the relevance of digital evidence to mock cases. This course presents a higher level of technical detail and will balance theory and hands-on aspects for conducting the analysis of mobile devices. Upon completion of the course, students will understand how and where different platforms stores their data and the techniques to understand how the tools available differ in the amount and types information they will extract from mobile devices. The course employs hands-on real world practical scenarios; students will have the opportunity to perform extractions and analysis on mobile devices. Prerequisites: CYBD100M, CYBD110M, CIS102M, CIS103M.

CYBD235M Network Intrusions 3-3-4
This course is the culmination of the knowledge gained throughout the Cybersecurity Investigations program tying together all aspects of the program while introducing methods of remote monitoring and information gathering. Prerequisites: CYBD200M or CYBD210M, or CYBD215M or CYBD220M.

DATA210M Introduction to Data Mining 3-2-4
Data mining is the process of discovering meaningful new correlations, patterns, and trends by sifting through large amounts of data stored in data warehouses, using pattern recognition technologies as well as statistical techniques. This course is the foundation for introducing students to key topics in data acquisition/preparation, programming language, exploratory data analysis, reporting and visualization of data. Students will learn the elements of a database, understanding file structures, working with multiple files, checking, modern data formats, editing and cleaning data. Prerequisite: MATH212M with a grade of "C" or better.

DATA215M Applied Data Analytics 3-2-4
Data analysis is a process for obtaining raw data and converting it into information useful for decision-making by users. This course is an introduction to the tools and techniques required to enter the growing field of analytics. Major topics include R programming language concepts, modeling and algorithms, techniques for analyzing quantitative data, and barriers to effective analysis. Emphasis is placed on applications of data analysis and decision-making. Prerequisites: DATA210M with a grade of "C" or better.

ECE100M Early Childhood Growth and Development 3-0-3
The course provides an in-depth study of normal growth and development from conception through early childhood with an emphasis on the needs and characteristics of each developmental level. Prominent theories of child psychology will also be introduced such as Piaget, Erikson, Maslow and behaviorism. Observation of children will be required as part of the course requirements. Students will be required to complete 15 hours of observation in a child care setting. Students are required to purchase a Taskstream electronic portfolio subscription.

ECE104M Foundations of Early Childhood Education 3-0-3
Foundations of Early Childhood Education serves as an introductory course which is heavily focused on Developmentally Appropriate Practice as outlined by the National Association for the Education of Young Children (NAEYC). This course takes an in-depth look at the 5 guidelines of Developmentally Appropriate Practice with a strong emphasis on play as the foundation of learning. The field of Early Childhood Education is studied and includes the history, current trends, and the future of the education field. Through two required classroom observations and the study of program models and theories, students will develop their own professional philosophy of early childhood education. Students are required to purchase a Taskstream electronic portfolio subscription.

ECE105M Creative Activities & Curriculum for Early Childhood 3-0-3
Focuses on nurturing creativity in young children through developmentally appropriate activities in the areas of art, music, dramatic play and movement. The various methods and materials used to stimulate a young child's creative impulses are explored. Students are required to purchase a Taskstream electronic portfolio subscription. Prerequisite: ECE100M, ECE104M, or permission of the instructor.

ECE110M Children's Literature and Language Arts 3-0-3
Provides an overview of developmentally- and interest-appropriate literature for young children. Students explore the various genres, recognize the value of literature to children's development, become familiar with exemplary authors and illustrators of children's literature and learn ways to extend and enhance literature for young children. The components of a language-rich environment, language arts curriculum and the whole language approach to reading and writing are explored. Students are required to purchase a Taskstream electronic portfolio subscription. Prerequisites: ECE100M, ECE104M, or permission of the instructor.

ECE111M Infant/Toddler Practicum: Nurturing Environments 2-3-3
Focuses on the manner in which a "prepared environment" leads to play while stimulating the development and educational growth of children from birth to 36 months. Students observe the effects of space, equipment, materials and relationships upon play, learning and discovery and plan developmentally appropriate learning activities. Incorporating and documenting routine care as an integral part of the curriculum will be emphasized. Students will attend a weekly three-hour infant/toddler practicum internship placement at an approved site. Students must complete a health form and criminal records check as required by the NH Childcare Licensing Bureau before beginning this practicum. Students are required to purchase a Taskstream electronic portfolio subscription. Offered fall semester.

ECE112M Preschool Practicum: Learning Environments 2-3-3
Emphasizes the environment as the Early Childhood curriculum. The manner in which a "prepared environment" leads to play while stimulating the development and educational growth of children is the focus of the course. Students observe the effects of space, equipment, materials and relationships upon play, learning and discovery. Students will plan developmentally appropriate activities. Students will attend a weekly three-hour preschool practicum internship placement at an approved site. Students are required to purchase a Taskstream electronic portfolio subscription Offered spring semester *(and summer with permission for those working in the field only)*.

ECE116M Child Health, Safety and Nutrition 3-0-3
This course will provide the student with a variety of health, safety and nutrition concepts. These concepts will enable the individual to implement preventive health and safety practices based on NH Childcare Licensing Regulations. Students will be able to develop menus for meals and snacks which are nutritious, appealing and age appropriate for the young child. Recognition and treatment of child abuse victims will be addressed. It should be noted that CPR and First Aid information is covered in this course; however, certification is NOT part of the course. Students are required to purchase a Taskstream electronic portfolio subscription.

ECE200M Math and Science for Young Children 3-0-3
Provides the theoretical and developmental knowledge necessary to effectively teach the basic concepts of math and science to young children. Students will develop their skills in preparing developmentally appropriate activities that promote inquisitiveness, problem-solving and exploration. The interrelationship between math and science and other areas of the curriculum is explored. Students will need access to young children to complete course requirements. Students are required to purchase a Taskstream electronic portfolio subscription Prerequisite: ECE100M, ECE104M, or permission of the instructor.

ECE201M Children's Individualized and Special Needs 3-0-3
Focuses on the unique characteristics and needs of young children with communication disorders, sensory impairments, physical and health-related disabilities, child abuse and giftedness, as well as those living with stress. Room arrangement plans, accommodations and modifications based on learning characteristics will be explored. Screening, assessment, early intervention, individualized education plans, inclusive education, community resources and family issues will be presented and discussed. Students are required to purchase a Taskstream electronic portfolio subscription Prerequisites: ECE100M, ECE104M, or permission of the instructor.

ECE202M Student Teaching Practicum 1-9-4
The Student Teaching Practicum requires that students spend a minimum of 117 hours in a college – approved early childhood facility under guided supervision of the classroom teacher. Students will bridge the gap between theory and practice by applying theoretical knowledge and developmentally appropriate methodology in their work with young children. Students will assume increasing responsibility for teaching and classroom management throughout the semester, culminating in a week-long experience in which the student takes the role of the lead teacher in planning and implementing the curriculum and will be formally observed by the college instructor at least 3 times. Weekly seminars are scheduled to discuss issues of appropriate practice, discipline, lesson plans, observations and other concerns. Students are required to experience two different age groups *(e.g. infant/toddler, preschool/kindergarten, or primary aged children)* in the two senior level practicum courses *(ECE202M & ECE212M)*. Taskstream electronic portfolio subscription is required. Prerequisites: ECE100M, ECE104M and a grade of "C" or better in ECE111M or ECE112M.

ECE204M Developmentally Appropriate Curriculum for Infants and Toddlers 3-0-3
Covers the normal growth and development of the child from birth through toddlerhood with an emphasis on the interrelationship of emotional, social, cognitive, physical and language development patterns of infants and toddlers. The student will learn to plan a developmentally appropriate curriculum based upon standards of NAEYC and NH Bureau of Child Care Licensing. The sequential and effective use of play materials are presented as essential to an infant and toddler curriculum. Community Service is part of the course where students will be required to volunteer and observe eight hours in an infant and/or toddler program. Students are required to purchase a Taskstream electronic portfolio subscription. Prerequisite: ECE100M, ECE104M, or permission of the instructor.

ECE210M Child, Family & Community Relations **3-0-3**
Covers the young child in relation to the family, school/center and community. Students explore the societal changes affecting the contemporary American family and subsequent impact upon children. The role of the community and its impact on the family functioning and child development is discussed. Interpersonal and family dynamics and its impact on family functioning and relationships are analyzed. Focuses on the importance of the parent-teacher relationship and communication between teachers and parents. A community service project is required. Students are required to purchase a Taskstream electronic portfolio subscription. Prerequisites: ECE100M, ECE104M.

ECE212M Professional Development Practicum: ECE Capstone **1-9-4**
Typically taken during the student's last semester, this course will provide students with an opportunity to synthesize the knowledge gained in their previous coursework and practica, bridging the gap between theory and practice in Early Childhood Education. Students will complete a minimum of 117 hours of teaching in a college-approved early childhood setting, working with a different age group than in ECE202M. Weekly seminars are scheduled to discuss a variety of issues related to the early childhood profession, including but not limited to the code of ethics, professional organizations and current events. Students will create & present a professional portfolio which includes a research-based philosophy paper as their culminating project. This portfolio project will require students to demonstrate proficiency in research, critical thinking and communication as well as an awareness of global perspectives. Students are required to purchase a Taskstream electronic portfolio subscription. Prerequisites: Completion of a minimum of 48 college credits with at least 31 credits in ECE, including ECE105M, ECE110M, ECE116M, ECE200M, ECE201M, ECE214M and a grade of "C" or better in ECE202M and ENGL110M.

ECE214M Developmentally Appropriate Guidance & Discipline for Young Children **3-0-3**
Emphasizes the role of positive child guidance in preparing young children to become competent, confident and cooperative individuals. Developmentally appropriate methods of guiding children will be shared along with effective strategies for preventing disruptive behaviors in the classroom. A recurring theme is the impact of positive discipline on self-esteem. Also covers the influence of developmental, environmental and health factors and theories behind the approaches and techniques of discipline and guidance issues. Students are required to purchase a Taskstream electronic portfolio subscription Prerequisites: ECE100M, ECE104M.

ECE250M Childcare Administration and Management **3-0-3**
Provides information on administering an early childhood education program. Students explore diverse programs available to the community and examine state and federal licensing regulations and national accreditation standards. Students analyze how financial issues of marketing, accounting and funding affect the management of a center or family childcare home and the components of a healthy organization that manages people and resources in a positive, supportive manner. Course is required by NH State licensing rules for center directors. Students are required to purchase a Taskstream electronic portfolio subscription Prerequisite: Permission of the instructor. Offered online only.

ECON134M Macroeconomics **3-0-3**
Macroeconomics analyzes the determinants of aggregate economic activity and the effects of government policy intended to achieve full employment, price stability and economic growth. Course examines the standard formulas to measure the nation's production and income and spending; analyzes unemployment and inflation, aggregate demand and supply, fiscal policies, investment and financial markets, money and banking and the Federal Reserve and monetary policies. *(Fulfills Social Science requirement).*

ECON135M Microeconomics **3-0-3**
Microeconomics equips the student with an understanding of fundamental economic principles and tools. It presents economic analysis with respect to demand and supply, consumer utility theory, elasticity, costs of production, perfect and imperfect competition and resource markets. Prerequisite: ECON134M. *(Fulfills Social Science Requirement).*

ECON136M International Economics **3-0-3**
Examines the international economy and globalization, international trade relations and international monetary relations. Topics of discussion include: sources of comparative advantage, tariffs and nontariff trade barriers, trade regulations and industrial policies, trade policies for developing nations and regional trading agreements. In addition, foreign exchange, macroeconomic policy in an open market and international banking are discussed. Prerequisite: ECON134M. *(Fulfills Social Science Requirement).*

ENGL093M Reading and Writing I **4-0-4**
This course is designed for students with Accuplacer placement scores of 40-54 in reading, greater than or equal to 50 in sentence skills, and 2-3 on the writing sample. Students will develop proficiency in fundamental reading and writing skills. The course emphasizes comprehending main ideas and details, making inferences, developing vocabulary, understanding the logical relationship among the parts of paragraphs, and applying study skills as they relate to textbook comprehension. Students will also build corollary skills necessary for effective written communication including sound mechanics (spelling, punctuation, and grammar), improved vocabulary and diction (word choice), varied sentence structure, tense agreement, use of topic sentences and supporting details, and overall development of one singular thesis. This course may not be applied to certificate or degree requirements. Upon completion of the course students must demonstrate the acquisition. A grade of " C" or better is required to advance to ENGL095M. Prerequisite: Qualifying Accuplacer placement score. (See p. 58 for details.)

ENGL095M Reading and Writing II **4-0-4**
This course is designed for students with Accuplacer placement scores of 55-69 in reading, greater than or equal to 60 in sentence skills, and a 4 on the writing sample OR as the continuation course for students who achieve a "C" or better in Reading and Writing I. Students will develop proficiency in intermediate reading and writing skills. The course emphasizes more advanced skills in reading such as identifying main ideas in long works and across chapters, applying concrete connections to and among abstract passages or ideas, and performing close, critical readings of texts supported by evidence. The course further exposes students to research articles, scholarly texts, and models of persuasive writing in order to prepare them for the research and argument skills necessary for Composition I. Students will be expected to reach proficiency in effective written communication including sound mechanics (spelling, punctuation, and grammar), improved vocabulary and diction (word choice), varied sentence structure, tense agreement, use of topic sentences and supporting details, and overall development of one singular thesis. Students will also begin to practice information literacy through research exercises and a penultimate annotated bibliography project. This course may not be applied to certificate or degree requirements. Upon completion of the course students must demonstrate the acquisition of these intermediate skills through a final assessment in both reading and writing. Prerequisite: Qualifying Accuplacer placement score (see p. 58 for details) or a grade of "C" or better in ENGL093M. A grade of "C" or better is required to advance to ENGL110M.

ENGL110M College Composition I **4-0-4**
Using the rhetorical modes of discourse, students learn to write clearly and effectively for defined audiences. Emphasis is on the writing process, from pre-writing and drafting to revising and editing. This course places reading at the core of the writing curriculum, exposing students to a variety of texts not only as writing models but also for analysis, interpretation, idea development, and research. Prerequisite: Qualifying Accuplacer placement score (see p. 58 for details) or ENGL095M with grade of "C" or better.

ENGL113M Introduction to Public Speaking **3-0-3**
This course prepares students to effectively communicate with audiences in academic, workplace and community settings by providing instruction and experience in formal speech preparation and delivery. Students will learn to analyze speaking situations and adapt messages for audience, purpose, and context. Topic selection, relevant sources of support, structure, organization, and delivery are emphasized. *(Fulfills English or Humanities requirement.)*

ENGL120M College Composition II **4-0-4**
The continuation of College Composition I this course builds on the composition and research foundation acquired in ENGL110M and concentrates centrally on argumentative writing and advanced research methods. Students are instructed in analytical reading techniques, critical research methods, information literacy standards and current documentation procedures in preparation for the culminating research thesis. The Composition II research thesis demonstrates fluency in argumentative and research strategies as well as competency in information literacy skills. Prerequisite: A grade of "C" or better in ENGL110M or equivalent, or permission of the instructor. *(Fulfills English or Humanities requirement)*

ENGL200M Topics in Literature **3-0-3**
Covers selected literary themes such as gothic, science fiction, or women's literature. Students apply critical contexts and practice various theoretical approaches to the readings. Prerequisites: A grade of "C" or better in ENGL110M or equivalent, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL201M Survey of Poetry **3-0-3**
Along with studying the formal elements of poetry *(rhythm, rhyme, figurative language)*, students learn to identify genre, incorporate critical contexts and practice various theoretical approaches to the readings. Prerequisites: A grade of "C" or better in ENGL110M or equivalent, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL202M Introduction to Drama **3-0-3**
Presents drama as a major literary form, through reading, discussing and writing about a representative selection of English and American plays as well as plays in translation. A variety of genres and time periods are studied. Written texts are supplemented by filmed adaptations and/or live performances. Prerequisite: A grade of "C" or better in ENGL110M or equivalent, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL203M Introduction to Journalism **3-0-3**
Introduces the basic principles of journalism including researching, writing, editing and reporting news for publication in print and electronic media. Students gain practice in

producing assignments under deadline that meet the "ABC" standard *(accuracy, brevity, clarity)* and conform to general guidelines of the Associated Press. Prerequisite: A grade of "C" or better in ENGL110M or equivalent, or permission of the instructor. *(Fulfills English elective requirement).*

ENGL206M Professional Communication 3-0-3
Building on skills developed in College Composition I, this course introduces students to the basic principles of professional written and oral communication. Using an audience-centered approach, students practice presenting information such as instructions, proposals, reports, electronic communication and product/service information in clear, concise and understandable terms. Document design and formatting are also covered. Frequent oral presentations are required. Prerequisite: A grade of "C" or better in ENGL110M or equivalent, or permission of the instructor. *(Fulfills English elective requirement).*

ENGL207M Introduction to Literary Analysis 3-0-3
In this course students read, analyze, interpret and respond critically to notable works of fiction, poetry and drama. Emphasis is placed on learning critical reading strategies. The formal elements of literature and the major principles of literary criticism are introduced. Writing intensive. Prerequisite: ENGL110M or equivalent with a grade of "C" or better, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL213M Creative Writing 3-0-3
Students learn and practice the techniques of creative writing using a combination of lecture, writing exercises and workshops. Using the writing process, students produce finished works of fiction and poetry, exploring and incorporating elements such as point of view, dialog, characterization, setting, imagery and poetic form and structure. Course readings are used for discussion, inspiration and idea development. Peer review and instructor feedback constitute a significant component of the course. Prerequisites: A grade of "C" or better in ENGL110M or equivalent, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL214M Creative Nonfiction 3-0-3
In this course students are introduced to the fourth genre of writing, creative nonfiction. Students learn to incorporate the techniques of fiction such as scenes, dialog, descriptions and conflict/resolution into original pieces of nonfiction. Drawing on course readings for essay models and idea development, students produce creative nonfiction works such as the personal essay, the memoir, nature and science writing and literary journalism. Peer review and instructor feedback constitute a significant component of the course. Prerequisite: Grade of "C" or better in ENGL110M or equivalent, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL218M Short Story 3-0-3
In this course, students study the short story as a major literary genre, reading, interpreting and analyzing a representative selection of texts. Students apply critical contexts and practice various theoretical approaches to the readings. Prerequisites: A grade of "C" or better in ENGL110M or equivalent, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL223M British Literature I 3-0-3
A survey of the major works of British literature from its Anglo-Saxon origins to 1800 in their cultural, social, historical, political and literary contexts. Formal literary criticism is included as well as analysis of structure. Writing intensive. Prerequisite: ENGL110M or equivalent with a grade of "C" or better, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL224M British Literature II 3-0-3
A survey of the major works of British literature from 1800 to the present in their cultural, social, historical, political and literary contexts. Formal literary criticism is included as well as analysis of structure. Writing intensive. Prerequisite: ENGL110M or equivalent with a grade of "C" or better, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL225M Shakespeare 3-0-3
In this course, students study the works of Shakespeare, with emphasis on the plays. In particular, students read, interpret and analyze no fewer than seven of Shakespeare's plays, including the four major genres: comedy, romance, history and tragedy. Moreover, students apply critical contexts and practice various theoretical approaches to the readings. Prerequisites: A grade of "C" or better in ENGL110M or equivalent, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL230M American Literature I 3-0-3
This course samples American Literature from its beginnings to the Civil War, emphasizing themes that have left their mark on American consciousness. Formal literary criticism is included as well as analysis of structure. Writing intensive. Prerequisite: ENGL110M or equivalent with a grade of "C" or better, or permission of the instructor. *(Fulfills English or Humanities requirement).*

ENGL235M American Literature II 3-0-3
This course samples American literature from the Civil War to the present day, emphasizing themes that have left their mark on American consciousness. Formal literary criticism is included as well as analysis of structure. Writing intensive. Prerequisite: ENGL110M or equivalent with a grade of "C" or better, or permission of the instructor. *(Fulfills English or Humanities requirement)*

ENVS115M Current Issues in Environment 3-0-3
Covers basic ecological concepts, the interrelationships of these concepts and their ultimate connections within the natural world. Global issues include climate change, loss of species diversity, waste management and pollution. In addition to the writing assignments, students participate in activities, discussions and presentations of lecture material. Prerequisite: Placement into ENGL110M. High school biology recommended. *(Does not fulfill lab science elective).* Offered every fall semester.

ENVS125M Introduction to Environmental Science 3-3-4
A lab course that introduces ecology, environmental studies and sustainability while stressing a scientific approach toward understanding real world issues in relation to natural systems. Local, regional and global case studies challenge students to think critically about human impacts with complex issues, gaining insight toward the world's need for sustainability. Field trips to local sites are part of the course. Prerequisites: High school biology with a grade of "C" or better, Placement in ENGL110M. *(Fulfills lab science elective).* Offered every spring semester.

ESCI110M Earth Science 3-3-4
Explores the basics of Earth Science including geology, meteorology and astronomy. The geology section includes the many Earth processes that change the face of the planet such as plate tectonics and erosion. In meteorology, the students will study how weather is created and its effects both globally and locally. The study of astronomy will include our solar system, stars and galaxies. Also covered will be possible origins of the universe and our place in it. Prerequisite: placement into ENGL110M or permission of the instructor. *(Fulfills lab science elective).* Offered every semester.

ESL033M Level 7A - Academic Writing & Vocabulary - Intermediate Non-credit
This is an intermediate course which teaches students to produce well-organized, adequately developed paragraphs and essays. Students will focus on their grammar, writing process and vocabulary. Students will understand capitalization rules, sentence and paragraph structure and increase vocabulary.

ESL034M Level 7B - Academic Writing & Vocabulary - Intermediate Non-credit
An intermediate course is a continuation of the Level 7 A. It teaches students to produce well-organized, adequately developed paragraphs and essays. Students will focus on their grammar, writing process and vocabulary, learn to organize paragraphs, write opinion essays and increase vocabulary.

ESL038M Level 8A - Academic Writing & Vocabulary - High Intermediate Non-credit
This high intermediate class teaches writing in a straightforward manner, using a step-by-step approach. Students will learn to create unity and coherence in their writing and write using a variety of strategies in their essays. Students will focus on their grammar, writing, reading and vocabulary. Students will learn the difference between facts and opinions, learn the dangers of plagiarism and how to properly cite sources, learn to write a thesis statement and apply to an essay format and understand the qualities of cause and effect, contrast and comparison and argumentative essays.

ESL039M Level 8B - Academic Writing & Vocabulary - High Intermediate Non-credit
This high intermediate class teaches writing in a straightforward manner, using a step-by-step approach. Students will delve deeper into grammar and creating sound sentence structures. Students will focus on their grammar, writing, reading and vocabulary. Students will understand types of sentences, understand clauses (noun, adverb and adjective) and understand participial phrases.

ESL050M ESL Listening, Speaking and Pronunciation Non-credit
In this high-beginner/low-intermediate course, students receive instruction and extensive practice in speaking, listening and pronunciation. Grammar is taught in the content of speaking and of reading materials. The overall objective is for students to improve communication for work, school and daily situations. Prerequisite: a qualifying score on the ESL Placement Test, or ESL070M ESL Beginning I with a passing grade.

ETEC110M Electrical Fundamentals I 3-3-4
Introduces basic electrical concepts, practices and procedures. Topics include electrical safety, an introduction to the National Electrical Code, basic DC electrical theory, magnetic theory, electrical formulas and calculations, test equipment, testing procedures and electrical diagrams. The material presented satisfies NH Electrical Apprentice training requirements. Laboratory work provides reinforcement and application of theoretical concepts. **Prerequisite: Placement into MATH135M.**

ETEC120M Electrical Fundamentals II **3-3-4**
This course is a continuance of Electrical Fundamentals I. The material presented includes AC theory, electrical distribution, wiring methods and requirements, branch circuits and feeders, grounding and bonding and overcurrent protection. The material presented in this course satisfies NH Electrical Apprentice training requirements. Laboratory work provides for reinforcement and application of theoretical concepts. Prerequisites: ETEC110M and placement into MATH135M.

ETEC150M Power, Transformers and Rotating Machinery **3-3-4**
This course presents information on the theory of operation, application and installation practices pertaining to equipment that provides for electrical power generation, transmission and use. The course covers energy and power conversion, AC and DC power systems, power quality considerations, AC and DC generators, transformers and AC and DC motors. The National Electrical Code will be referenced throughout this course as it applies to the subject matter. The material presented in this course satisfies NH Electrical Apprentice training requirements. Laboratory work will reinforce and promote the application of theoretical concepts. Prerequisites: ETEC120M or permission of the Program Coordinator. Corequisite: MATH155M.

ETEC160 Residential, Commercial and Industrial Wiring **3-3-4**
This course presents comprehensive coverage of the requirements and methods for wiring residential, commercial and industrial installations. The subject matter will include interpretation and analysis of electrical schematics, load calculations, equipment types and applications, special occupancies, special equipment and special conditions as they relate to the three installation types. The National Electrical Code will be an integral part of this course. The material presented in this course satisfies NH Electrical Apprentice training requirements. Laboratory work will reinforce and promote the application of theoretical concepts. Prerequisites: ETEC120M or permission of Program Coordinator. Corequisite: MATH155M.

ETEC210M Electrical & Electronic Motor Controls **3-3-4**
This course will provide in-depth coverage of the theory and operation of AC and DC motor and generator controls and control systems. Subject matter will include generator starting and stopping and synchronization controls. Motor starting, reversing and braking controls as well as motor drive systems will also be covered. Solid-state theory will be introduced. Theory and applications for electronic devices and control systems will be presented in the classroom and lab. The material presented in this course satisfies NH Electrical Apprentice training requirements. Laboratory work will reinforce and promote the application of theoretical concepts. Prerequisites: ETEC120M and MATH155M, or permission of Program Coordinator.

ETEC220M Commercial & Low Voltage Building Systems **3-3-4**
This course presents information on the theory of operation, applications and installation practices for low voltage and communications systems typically installed in buildings. These include audio, video, security, telephone, fire alarm, computer networking and wireless systems. The National Electrical Code will be referenced throughout this course as it applies to the subject matter. The material presented in this course satisfies NH Electrical Apprentice training requirements. Laboratory work will reinforce and promote the application of theoretical concepts. Prerequisites: ETEC120M and MATH155M, or permission of Program Coordinator.

ETEC250M Advanced Control Systems I **3-3-4**
Summarizes individual areas of the electrical field that have been previously presented, adds new material and integrates this subject matter into control systems. Covers the theory of operation, installation, testing and troubleshooting of building automation and energy management systems. This is one of the fastest growing and developing areas in the electrical field and a fine example of combining older technology with the evolving technology of today. Laboratory work provides reinforcement and application of theoretical concepts. Prerequisite: ETEC210M and ETEC220M or permission of the instructor.

ETEC260M Advanced Control Systems II **3-3-4**
Covers process control systems and industrial robotics. Topics include analog and digital devices and controllers, sensors and actuators, programmable logic controllers, industrial systems, pneumatic and hydraulic concepts and robotics. Laboratory work will provide reinforcement and application of theoretical concepts. Prerequisite: ETEC250M or ETEC210M and permission of the instructor.

EXER100M ACE Personal Trainer Exam Review **1-0-1**
Designed to help prepare students to take and successfully pass the ACE Personal Trainer Certification Exam.

EXER105M Essentials of Exercise Science **3-0-3**
An introduction to the core sciences specifically tailored to the practice of being a fitness professional. These sciences include Human Anatomy, Exercise Physiology, Applied Kinesiology, Nutrition and Physiology of Training. Basic knowledge gained in this course sets the foundation for future in-depth study and prepares students for the science requirements of national certification exams. Prerequisite: Placement into ENGL095M.

EXER109M Applied Nutrition for Health Fitness Professionals **3-2-4**
This course provides the Health Fitness Professional with knowledge and skills within their scope of practice essential to educating and counseling a variety of clients regarding the relationship between nutrition and exercise. Study and analysis includes basic nutrition biochemistry, fueling for performance, weight management and exploration of medically-related nutritional issues. Through hands-on lab work, including dietary analysis, metabolic measurements and examination of ergogenic aids, students will develop practical methods to incorporate nutritional choices that effectively support an active lifestyle, as well as optimal performance.

EXER111M Introduction to Exercise Science Profession **3-0-3**
Introduces the various organizations and professions within the exercise science field. During off-campus site visits, students have the opportunity to observe and question professionals employed in several settings including personal training studios, public and private fitness centers, corporate fitness facilities, cardiac rehabilitation, physical therapy, sports medicine and health education/wellness programs. In-class lectures focus on professional responsibilities including scope of practice, communication, leadership, behavior change, legal issues and business fundamentals. Prerequisite: Placement into ENGL095M.

EXER112M Health Risk Appraisal **2-1-2**
Introduces students to the skills and responsibilities required to develop a professional relationship with prospective clients. The focus will be on building client rapport and initial information gathering through the use of various health forms and lifestyle questionnaires. Students will learn to administer health assessments such as BMI, resting heart rate, blood pressure and body composition. Corequisite: EXER111M or permission of the instructor.

EXER113M Exercise Physiology **3-2-4**
This course focuses on energy metabolism during rest and exercise and the interrelationship with the respiratory and cardiovascular systems in activity, physical fitness and performance. Hands on lab work include maximal and submaximal assessment of cardiovascular and pulmonary function as well as analysis of energy systems, lactate threshold and energy expenditure. Prerequisite: EXER105M with a grade of "C" or better. Corequisite: MATH145M.

EXER135M Functional Assessment & Programming **2-3-3**
This course introduces relevant concepts in functional assessment and training, with the focus on conducting basic postural and flexibility assessments. Students will learn to conduct effective movement screens on their clients and then designs restorative exercise programs to address existing postural compensations. Students will also gain a deeper understanding of the mechanics of movement, learn how to successfully condition the core region and train primary movement patterns of the human body. Prerequisites: EXER105M with a grade of"C"or better and EXER112M.

EXER212M Physical Activity and Aging **3-0-3**
This course is designed to prepare students to understand the aging process and how physical activity may influence it. It will integrate materials discussing matters of aging, fitness assessments and group program design. Embedded in the course is a culminating Service-Learning Project requiring students to put theory into practice. Prerequisites: BIOL110M, BIOL120M, EXER112M, EXER130M, EXER135M, EXER213M. Corequisite: EXER215M.

EXER213M Resistance Training **2-3-3**
This course will focus on the loading phase of resistance training exercise and program design. The emphasis of theory will be placed on resistance training principles, assessments, program design and implementation. In lab students will learn and teach safe and effective exercise techniques as well as progressions utilizing many different modes of resistance exercise including but not limited to free weight, cables, tubing, bands and balance oriented equipment. Prerequisites: EXER105M, EXER135M.

EXER215M Group Exercise Leadership **1-3-2**
Exposes students to the fundamentals of different modes of group exercise and enhances exercise leadership skills. Through practical lab activities and community service, students gain the ability to teach, modify exercise, communicate effectively and motivate group participants. Prerequisites: EXER105M, EXER213M, EXER135M.

EXER220M Performance Training **2-2-3**
The course focuses on the science of sports conditioning and training of energy pathways and then delivers a systematic approach to designing sports conditioning sessions and programs. It covers skill-related parameters of fitness *(i.e., balance, agility, coordination, speed, reactivity and power)*. Students will learn how to tailor sports conditioning drills for specific population groups along with progressions in intensity, complexity and movement that are suitable to their skill and conditioning level. Whether for fun or performance, the exercises, drills and movement patterns learned will add a new dimension to programming. Prerequisites: EXER105M, EXER113M, EXER135M, EXER213M.

EXER221M Professional Experience **2-4-3**
This capstone course allows students to develop hands on skills related to successful employment and business development as a health wellness professional. Students will focus on the job search process including identification of skills and interest, researching

job opportunities, resume writing, interviewing techniques and networking. Skills needed for job retention, developing and maintaining a health wellness business will also be included. Students will gain hands on experience in their area of interests through community service, projects, observations and work experiences within the MCC fitness center and local businesses. Prerequisite: Permission of instructor.

EXER230M Kinesiology **3-2-4**
Focuses on the integration of theoretical and applied aspects of human motion. Applied anatomy and analysis of exercise from a biomechanical and kinesiological perspective are the major themes. A weekly laboratory session is congruent with the theoretical component. Prerequisites: BIOL110M, EXER105M, EXER135M, EXER213M.

EXER240M Injury Prevention & Post-Rehabilitative Exercise **3-2-4**
Provides a basic background in sports medicine as it relates to the Health Fitness Instructor *(HFI)*. Primary emphasis is on the prevention of injury, mechanics of injury and post-rehabilitative exercise for common injuries. Also provides an understanding of emergency procedures and the proper care and management of injuries once they occur. Prerequisites: BIOL110M, BIOL120M, EXER213M, EXER230M.

FIN120M Personal Financial Management **3-0-3**
Provides the student with an effective learning experience in personal finance, with an emphasis on helping students make sound financial decisions in the areas of budgeting, insurance, taxes, credit, investment, real estate and retirement planning.

FMGT250M Project Management **3-0-3**
This course is a survey of the construction project management process from initial conception to completion. Topics include feasibility analysis, siting/staging issues, software application, personnel management, contractual procedures and job-site safety. Students will be introduced to basic contractor operations, project administration, job planning and scheduling. After building a conceptual base, students will apply their scheduling knowledge to simulated projects. Prerequisites: BUS114M, BUS210M, BLDG214M, INTD123M.

FMGT260M Facilities Operations Management **3-0-3**
Core operations management skills and competencies including operations planning, control, problem-solving, communication, maintenance, cost control, vendor relations, staffing and major systems management are covered. This course should be taken in the student's last semester. Prerequisites: BUS114M, BUS210M, BLDG214M, INTD123M.

FMGT299M Facilities Management Capstone Seminar **3-2-4**
This seminar reflects a student's integrated understanding of overall program and project management practices and techniques. Students formulate, develop and personalize an individual interdisciplinary research topic/project related to their professional interests. The individualized project will require students to include research, critical thinking and reflection of the core competencies of facility management: leadership and management; operation and maintenance; planning and project management; communication; finance; human and environmental factors; quality management and assessment and real estate. Prerequisites: BUS114M, BUS210M, BLDG214M, INTD123M and must be taken in the student's final semester.

FREN110M French I **3-2-4**
A fully integrated introductory French course designed for beginning French students with little or no prior knowledge of French. It is directed for students whose learning objectives and needs are in any of the following categories: for French language students, for business purposes as well as for travelers. Emphasizes proficiency in basic communicative skills concentrating on the dynamic application of the living language through dialogue, phonetics and vocabulary. Includes a strong grammar foundation and other basic language skills. Language laboratory activities reinforce class content. *(Fulfills Foreign Language requirement).*

FYE100M First Year Cornerstone **1-0-1**
This course is designed to help students explore their individual qualities, strengths and resources needed to succeed in the college environment. Students will be engaged in several academic advising sessions in both individual and group formats and will be expected to complete a Personal Learning Plan, focusing on the student's strategy toward success in their college experiences. Covered topics include but are not limited to goal setting, study strategies, self-discovery, college writing and accessing college resources. This foundational course must be taken in the student's first semester at MCC. Offered every semester.

GA101M Assessment of Prior Learning **1-0-1**
This course will assist the student in preparing a resume, a statement of career objectives, a curriculum checklist and life experience proposals. This course is required for anyone who has been accepted into the Technical Studies program.

GDES110M Page Layout & Design **2-3-3**
Introduces the principles, skills and equipment used in the electronic publishing process. Students will produce pre-designed and original publications using Adobe InDesign®.

GDES114M Graphic Design I **2-3-3**
Provides an in-depth study of the principles and elements of design in printed and online material. Design problems are solved using techniques that acquaint the student with mechanical tools and media used in the graphic arts field.

GDES115M Digital Imaging **2-3-3**
Students will produce pre-designed and original images using Adobe Photoshop®. The focus is on the principles, skills and equipment used in the electronic imaging process.

GDES122M Color Theory for Graphic Design **2-3-3**
Provides an in-depth study of the psychological and compositional effects of color in print and web design. A variety of design problems will be solved that explore the theories of color interactions and relationships.

GDES124M Typography **2-3-3**
Introduces typefaces from an aesthetic and communicative perspective. The history and background of typography is explored, as well as modern typography, to provide an understanding of the language and form of typefaces and letterforms. Weekly assignments will involve solving design problems using type.

GDES150M Digital Publishing Methods **2-3-3**
Focuses on printing terminology, methods and theories, Raster Image Processing *(RIP)*, multiple page layouts and impositions. Prepress, file preparation, workflow methods and color management will be addressed using Adobe Acrobat®. Prerequisite: GDES110M.

GDES155M Computer Illustration **2-3-3**
Focuses on the production of pre-designed and original computer illustrations using Adobe Illustrator®. Students will move from introductory vector drawing techniques to advanced, learn proper color management and file preparations to ensure that the illustration printed from the screen version is the desired result and usable in electronic design.

GDES210M History of Graphic Design **3-0-3**
Will focus on the many accomplishments of notable contributors to the development of graphic design throughout history. Major innovations and trends of visual communication will be explored through the centuries, into the present with an eye on the future. Readings, research, videos and projects, will lead students to know and appreciate notable designers and their importance to visual communication. From the birth of visual messages and early bookmaking to the printed word and multi-media/web design, the phases of visual communication history will connect the past to the present.

GDES211M Illustration I **2-3-3**
Introduces illustration with emphasis on basic ideas, techniques, media and skill development. Prerequisite: ARTS123M. Corequisite: GDES213M.

GDES213M Graphic Design II **2-3-3**
An introductory level process of researching, designing, executing, promoting and presenting for the advertising field is assessed in this course. Marketing trends, products and guidelines of the advertising and graphic arts fields are dissected and evaluated. Individual and group projects are assigned to mobilize the cognitive, creative and collaborative skills of the student. Students will put together electronic layouts that demonstrate a beginner skill in commercial design production. Prerequisites: GDES110M, GDES114M, GDES115M, GDES122M, GDES124M, GDES150M.

GDES221M Illustration II **2-3-3**
A continuation of GDES211M Illustration I, with attention given to the role of the illustration as communicator. Design problems are assigned including book and advertising illustration. Students receive advanced training in illustration techniques and mediums while creating their unique style. Prerequisites: ARTS123M, GDES211M.

GDES225M Graphic Design III **2-3-3**
Focuses on the creative process involved in research, design, promotion and presentation of print advertisements, ad campaigns and package design. Students will complete research, creative briefs and comprehensive projects that demonstrate advanced skills in graphic design. Prerequisite: GDES213M.

GDES226M Portfolio Preparation **2-3-3**
Students will modify existing project designs based on response to instructor critique These designs will be used to create three portfolios: a matted professional portfolio, a mini portfolio and an electronic portfolio. Time management skills will be stressed. Students will be required to participate in two portfolio reviews and participate in a juried exhibition. Prerequisites: All freshman GDES courses and GDES211M, GDES213M, GDES215M, GDES227M Corequisite: GDES225M, GDES228M.

GDES227M Graphic Design Internship Seminar **1-0-1**
The Internship Seminar is an opportunity for the student to prepare to work at a graphic design, printing, publishing or advertising company. This course is designed to allow the

student to further the study of graphic design through research, interviews and hands-on projects. Students will prepare for interviews and practice interviewing techniques. Prerequisites: All freshman GDES courses.

GDES228M Graphic Design Internship **0-8-2**
The graphic design internship is an opportunity for the student to experience on-the-job training at a business or professional job site. The student must complete the first three semesters of the Graphic Design program and be prepared to work at a graphic design, printing, publishing or advertising company. This course is designed to allow the student to further the study of graphic design through in-field internship. Students will also be required to attend a business luncheon seminar. Prerequisites: All freshman GDES courses and GDES211M, GDES213M, GDES215M, GDES227M.

GDES230M Animation for Web **2-3-3**
This project-based course introduces students to the creation of animated sequences and GIF animations using 2D and 3D tools for use on the web. Students will use appropriate software to create original artwork to animate in time based applications. Topics include an exploration of the drawing tools for creating graphics and symbols, optimization and animating graphics. The course also covers the use of text, buttons, actions, sounds and storyboarding to create production work.

GDES235M Web Design **2-3-3**
A project-based course that addresses the design principles of website creation. Students learn to use appropriate layouts, typography, colors, file formats and compression methods when designing for the Web. Using Adobe Photoshop® , Illustrator®, Flash® and Dreamweaver®, students design images for background, text, graphics and navigation for websites. The course also covers designing for target audiences, creating an online portfolio and preparing for the future of multi-media and web design. Prerequisites: GDES114M, GDES122M, GDES230M, CIS124M.

GEOG110M World Geography **3-0-3**
Introduces the geographic and cultural elements of the world's major regions. Demographics, origins, language, religion, geopolitics and agricultural features of the regions are covered. The importance of place *(geography)* and how it shapes the character of the neighborhood, city, country and world are emphasized as we look at key issues from a geographic perspective. *(Fulfills Social Science requirement).*

HIST120M Western Civilization to 1500 **3-0-3**
The course surveys the development of civilization in the western world from circa 3000 BCE to circa 1500 CE. This course will focus on the complex interactions of the social, religious, economic, ecological, and political factors that contributed to development of the Near Eastern, Mediterranean, and European cultures. This course will emphasize history as the record of human struggle and achievement and will explore patterns of change and continuity over time. Prerequisite: Placement into ENGL110M. *(Fulfills Social Sciences or Humanities Requirement)*

HIST130M Western Civilization - 1500 to the Present **3-0-3**
This course surveys the development of civilization in the western world from circa 1500 CE to the present. This course will focus on the complex interactions of the social, religious, economic, ecological and political factors that shaped the various eras of western history. This course will emphasize history as the record of human struggle and achievement and will explore patterns of change and continuity over time. Prerequisite: Placement into ENGL110M. (Fulfills Social Sciences or Humanities requirement)

HIST202M United States History to 1877 **3-0-3**
This course examines the political, social, and cultural development of the United States from settlement to 1877. It emphasizes political institutions, sectional rivalry and slavery, the development of nationalism, and the cultural development of the American people. The course concludes with the period of Reconstruction. Prerequisite: Placement into ENGL110M.

HIST203M Topics in History **3-0-3**
This course will vary by semester. Historical topics will be chosen to reflect faculty and/or student interest and will then focus on an in-depth coverage of that topic. All courses will focus on historical events, forces, personalities, ideas and values shaping the contemporary world. Critical thinking, speaking and writing skills will be emphasized, as well as the ability to analyze historical sources. Prerequisite: ENGL110M with a grade of "C" or better.

HIST204M United States History - 1877 to the Present **3-0-3**
Covers the political, social and cultural development of the United States from the period following Reconstruction to the present. Emphasis is on the urban industrial age, America as a world power and the challenges to and advances of human rights and cultural pluralism. Prerequisite: placement into ENGL110M.

HIST215M World Religions **3-0-3**
This course introduces the major religions of the world by surveying their origins, core beliefs, traditions and practices. The history and 'world view' of a number of religions is examined by way of themes, such as: sacred power; myths, art, and rituals; the problem of evil; and the relationship between cultures, ethics, and religions—with an emphasis toward observing the continuity and/or contrasts that exists between them. The key texts, figures, and ideas of major religions will be explored. Course prerequisite: ENGL110M with a grade of "C" or better.

HLIM100M Introduction to Health Information Management **3-0-3**
Introduces principles of Health Information Management *(HIM)* including technological trends; function, content and structure of health records; regulatory and licensing agency requirements; analyzing data and managing information along with professional, ethical and legal issues specific to HIM. Note: A grade of "C" or better is required to pass HLIM classes. Placement into ENGL110M and matriculation into HIM degree program or permission of Program Director.

HLIM115M Legal Aspects of Health Information **3-0-3**
Covers all legislative regulatory processes related to the confidentiality, privacy and security of personal health information and the policies, procedures and monitoring used to assure compliance. Students will learn legal terminology and the ethical standards of practice in regard to patient rights and advocacy related to release of information. Students will also learn how to apply confidentiality and security measures to assure the integrity and validity of the maintenance and retrieval of PHI. Prerequisites: HLIM100M and placement into ENGL110M.

HLIM120M Computers in Healthcare **2-2-3**
Teaches concepts and practical approaches to the common computer applications used for completing health information processes in the delivery of healthcare. Topics include: the fundamentals of biomedical computing; database management tools and techniques commonly used for data collection; storage and retrieval; as well as hardware, software and communication technologies. Students will also explore the relationship between departments and clinical providers within the healthcare system. Prerequisites: HLIM100M, AHLT110M.

HLIM200M Health Information Management Practicum I **1-8-3**
This 80-hour practicum is designed to give students professional practice experience in an assigned health information management department or related healthcare setting. Students will apply theory, principles and knowledge acquired in previous coursework re: provide participation in data retention; retrieval; storage assembly; deficiency analysis; physician communication and release of information following applicable laws, regulations and facility guidelines. Direct supervision is provided by the clinical professional. Prerequisites: AHLT110M, HLIM100M, HLIM120M, HILM208M, HLIM215M, MCOD100M, BIOL220M with a grade of "C" or better. Corequisite: HLIM205M.

HLIM205M Resource and Data Management **3-0-3**
This class covers the management of resources in HIM, including staffing, personnel, departmental budgets and the primary and secondary uses of healthcare data and information used to monitor these processes. A combination of theory, case studies and hands-on projects will provide an overview of the managerial functions, including: budgeting; revenue cycle monitoring; supervision; organizational planning; the maintenance of licensure and accreditation standards and monitoring compliance with coding and other organizational requirements. Prerequisites: ENGL110M, HLIM100M, HLIM215M, MATH145M. Note: A grade of "C" or better is required to pass HLIM classes.

HLIM208M Pharmacology for Health Professions **3-0-3**
This course focuses on the science of pharmacology for non-clinical healthcare professionals. An emphasis is placed on the general principles of pharmacology, the bodily systems affected by the various drug types and their classifications. Students will also explore common prescribing in various practice settings as well as the applicable U.S. laws relative to the sale, supply and administration of drugs. Prerequisites: AHLT110M and BIOL106M or BIOL110M with a grade of with a grade of "C" or better.

HLIM215M Healthcare Statistics and Performance Improvement **3-0-3**
Covers the collection, maintenance and reporting of data for clinical indices, databases and registries to meet the specific needs of a healthcare organization. Students will gain an understanding of how data is abstracted, collected, organized, reported or presented for quality and risk management processes. Students will also perform calculations for basic descriptive, institutional and healthcare-related vital statistics and learn how to analyze this data to identify trends that demonstrate the quality, safety and effectiveness of healthcare. Prerequisites: ENGL110M, MATH145M, HLIM100M with a grade of "C" or better.

HLIM216M Reimbursement Methods **3-0-3**
Focuses on understanding healthcare payment system methodologies used in relation to managed care, commercial insurance and government sponsored prospective payment systems including how reimbursement systems affect payers, consumers, providers, policy makers and information technology systems. Students will gain an in-depth understanding of the revenue cycle, regulatory compliance strategies, National Correct Coding Initiatives *(NCCI),* reporting and the role accurately coded data plays in billing policies and procedures. Prerequisites: MCOD100M, MCOD110M.

HLIM225M Health Information Management Practicum II 1-6-3
Students will gain 80 hours of professional practical experience in an assigned health information management department or related healthcare setting. Students will reinforce learning experiences obtained through classroom presentations, projects and laboratory exercises and make the transition from theory to practice. Under the supervision of experienced HIM professionals, they will observe employee relationships, interact with professionals in the healthcare field and apply the principles of Health Information Technology. Prerequisites: HLIM120M, HLIM200M, HLIM205M. Corequisite: HLIM216M.

HLTH299M Health Science Capstone 3-0-3
Taken in a student's final semester of study, the Health Science Capstone provides students with an opportunity to synthesize the knowledge gained in their previous coursework. Students develop and personalize an individual research topic/project based on an area of interest. The individualized project will require students to demonstrate proficiency in research, critical thinking and communication as well as an awareness of global perspectives. Students will be expected to consult with faculty in their area of interest in an advisory capacity. Prerequisites: Completion of a minimum of 48 credits including ENGL110,M BIOL120M, BIOL210M, BIOL220M, CHEM115M and an AHLT or HLIM elective with a grade of "C" or better.

HUMA105M Introduction to Music 3-0-3
An introduction to Western Music. Students listen to, read about and discuss the great music of the Middle Ages, Renaissance, Baroque, Classical, Romantic and Modern periods. *(Fulfills Humanities requirement).*

HUMA106M History of American Popular Music 3-0-3
Provides a historical overview of American popular music, from the mid-19th to the turn of the 21st century, including folk, jazz, ragtime, blues, swing, show music, motion picture music, country, rock & roll, soul, heavy metal, pop, grunge, rap and Latin /African music. Students will be required to listen to music associated with these styles. *(Fulfills Humanities requirement).*

HUMA126M Introduction to Film 3-0-3
Provides a historical overview of film from its inception to the present day. In addition to exploring textual elements such as narrative, characterization, plot and symbolism, film's technical elements *(mise-en-scène, cinematography, lighting, editing and sound)* are considered. Emphasis is on film as both cultural artifact and institution. Major films, developments, genres, directors and movements are studied and the technical vocabulary needed to interpret, analyze and appreciate film is developed. *(Fulfills Humanities requirement).*

HUMA200M Film and American Culture 3-0-3
This course explores the relationship between American film and American culture. The emphasis is on film as a product of a specific period of time; its potential to both reflect and challenge American ideals will be considered. Readings, film screenings and discussions will focus on genre, important films/filmmakers and key developments within the industry. Prerequisites: ENGL110M or equivalent, or permission of the instructor. *(Fulfills Humanities requirement)*

HVAC101M Introduction to HVAC Systems 3-0-3
This course introduces the fundamental concepts and principles that apply to the HVAC industry. Topics include a basic understanding of: thermodynamics, industry terminology and units of measurement; common HVAC systems and components; materials used in the installation of HVAC equipment; and methods for joining materials. Industry standards and codes are explored. Techniques for proper use of hand and power tools are presented. Safely working on HVAC systems and components is emphasized.

HVAC102M Refrigeration and Air Conditioning Systems for Non-HVAC Majors 3-0-3
This course is designed as an overview of the fundamental concepts and principles that apply to common refrigeration and a/c *(air conditioning)* systems found in the HVAC industry. Topics include a basic understanding of; thermodynamics, refrigeration and a/c industry terminology and units of measurement, common refrigeration systems and components, preventative maintenance strategies and materials and proper practices used in the installation of these systems.

HVAC103M Heating Systems for Non-HVAC Majors 3-0-3
This course is designed as an overview of the fundamental concepts and principles that apply to common heating systems found in the HVAC industry. Topics include a basic understanding of; thermodynamics, heating industry terminology and units of measurement, common heating systems and components, and materials used in the installation of heating equipment. Industry standards and codes are explored.

HVAC109M Related Electricity I Theory 3-0-3
Theory work on the principles of DC and AC electricity that are fundamental to the HVAC area. These include: Ohm's law, series circuits, parallel circuits, meters, wire gauges, magnetism, AC generation, AC calculations and basic electric motor principles. Corequisites: HVAC101M, HVAC110M.

HVAC110M Related Electricity I Lab 0-3-1
Lab work on the principles of DC and AC electricity that are fundamental to the HVAC area. These include: Ohm's law, series circuits, parallel circuits, meters, wire gauges, magnetism, AC generation, AC calculations and basic electric motor principles. Corequisites: HVAC101M, HVAC109M.

HVAC111M Fundamentals of Refrigeration I Theory 3-0-3
Introduces the principles of heat and its transfer, with emphasis on the refrigeration compression cycle and its major components. Corequisites: HVAC101M, HVAC109M, HVAC110M, HVAC112M.

HVAC112M Fundamentals of Refrigeration I Lab 0-3-1
Upon successful completion of this course, the student will be able to solder, silver braze, flare, swag and use specialized refrigeration tools. Students will receive hands-on experience with equipment using manifold gauges, reading pressure/temperature charts and learning service procedures. Corequisites: HVAC101M, HVAC109M, HVAC110M, HVAC111M.

HVAC114M Fundamentals of Heating I Theory 3-0-3
A thorough study of the residential high pressure gun type oil burner. Topics covered include: basic combustion theory, how the components of high pressure gun-type burners operate, choosing replacement parts, mechanical troubleshooting, oil tank installation, advanced combustion theory and steady state efficiency testing. Corequisites: HVAC101M, HVAC109M, HVAC110M, HVAC115M.

HVAC115M Fundamentals of Heating I Lab 0-3-1
An introduction to residential high pressure, gun-type burners which includes an in-depth, hands-on course covering the components, component testing, replacement, maintenance and burner troubleshooting and steady-state efficiency testing. Corequisites: HVAC101M, HVAC109M, HVAC110M, HVAC114M.

HVAC119M Related Electricity II Theory 3-0-3
A theory-based continuation of HVAC109M covering electrical circuit controls commonly found in air conditioning and heating systems. Prerequisites: HVAC109M, HVAC110M. Corequisite: HVAC120M.

HVAC120M Related Electricity II Lab 0-3-1
A lab-based continuation of HVAC119M covering electrical circuit controls commonly found in air conditioning and heating systems. Prerequisites: HVAC109M, HVAC110M. Corequisite: HVAC119M.

HVAC121M Fundamentals of Refrigeration II Theory 3-0-3
A continuation of Fundamentals of Refrigeration I. This course covers: electrical circuits, controls and motors necessary for operation of various residential and small commercial units; components necessary for optimum operation and efficiency; basic mechanical and electrical troubleshooting. Prerequisites: HVAC111M, HVAC112M. Corequisite: HVAC122M.

HVAC122M Fundamentals of Refrigeration II Lab 0-3-1
A continuation of Fundamentals of Refrigeration I lab. This course covers electrical meter testing of controls; motors and circuits; reading wiring diagrams; troubleshooting and repair various system problems. Prerequisites: HVAC111M, HVAC112M. Corequisite: HVAC121M.

HVAC134M Fundamentals of Gas Heating and Piping Installation Theory 3-0-3
An in-depth study of propane and natural gas piping from the point of delivery to the gas appliance or utilization equipment. Basic gas theory involving a thorough understanding of the physical properties and characteristics of propane and natural gas will be covered. Piping installation involving gas pipe sizing, material selection, proper installation and pressure and leak testing of piping is also covered. National Fuel Gas Code as it relates to the above topics is also emphasized. Corequisites: HVAC101M, HVAC135M.

HVAC135M Fundamentals of Gas Heating and Piping Installation Lab 0-3-1
An introduction to gas piping distribution systems which includes an in-depth hands-on course covering: the design, installation, component selection, methods of joining, pressure and leak testing and the ability to safely work on gas distribution systems. The student designs and installs gas piping distribution systems following relevant codes. Troubleshooting and steady state efficiency testing of gas utilization equipment is also introduced. Corequisites: HVAC101M, HVAC134M.

HVAC211M Commercial Refrigeration Theory 3-0-3
This course covers: system design and layout; selection of proper components; pipe sizing and layout; wiring, controls and troubleshooting. Prerequisites: HVAC119M, HVAC120M, HVAC121M, HVAC122M. Corequisite: HVAC212M.

HVAC212M Commercial Refrigeration Lab **0-6-2**
This lab covers the installation of complete refrigeration systems found in small stores, restaurants and supermarkets. Students develop a stock list of required electrical and mechanical components, calculate pipe and component sizes and learn charging procedures. Prerequisites: HVAC119M, HVAC120M, HVAC121M, HVAC122M. Corequisite: HVAC211M.

HVAC213M Hydronic Systems Theory **3-0-3**
Topics include: heat loss calculation; forced hot water system and steam system components; piping layout; selection of system components; and problem solving, which involves troubleshooting and replacement, as well as various methods of heating domestic hot water. Prerequisites: HVAC114M, HVAC115M, HVAC119M, HVAC120M, HVAC134M, HVAC135M. Corequisite: HVAC214M.

HVAC214M Hydronic Systems Lab **0-6-2**
This lab includes an in-depth study of residential forced hot water and steam heating systems. The student designs and installs a complete hot water system including the piping arrangement, control system and method of heating domestic hot water. Forced hot water service skills are emphasized. The student also begins a steam system installation. Prerequisites: HVAC114M, HVAC115M, HVAC119M, HVAC120M, HVAC134M, HVAC135M. Corequisite: HVAC213M.

HVAC221M Residential and Commercial Air Conditioning and Heat Pumps Theory **3-0-3**
Topics include procedures for proper installation and start-up of central air conditioning systems; troubleshooting of the electrical and mechanical aspects of systems; the proper use and understanding of the psychometric chart; heat gain calculations for residential and small commercial buildings; and special requirements and components of heat pumps. Prerequisites: HVAC119M, HVAC120M, HVAC121M, HVAC122M. Corequisite: HVAC222M.

HVAC222M Residential and Commercial Air Conditioning and Heat Pumps Lab **0-6-2**
This lab covers: the installation and start-up of central air conditioning systems and heat pumps; troubleshooting and mechanical/electrical repair of various makes and models; and pricing components and billing procedures. Prerequisites: HVAC119M, HVAC120M, HVAC121M, HVAC122M. Corequisite: HVAC221M.

HVAC223M Warm Air and Steam Systems Theory **3-0-3**
Introduces residential steam and warm air system components, along with methods of piping and duct layout. Maintenance, troubleshooting, replacement, alteration and total system designs are emphasized to help the student learn the various concepts involved.
Prerequisites: HVAC114M, HVAC115M, HVAC119M, HVAC120M, HVAC134M, HVAC135M Corequisite: HVAC224M.

HVAC224M Warm Air and Steam Systems Lab **0-6-2**
This lab is a continuation of HVAC214M that covers installation of steam and warm air systems, layout and make up of ductwork, multi-fuel units and gas heating. Prerequisites: HVAC114M, HVAC115M, HVAC119M, HVAC120M, HVAC134M, HVAC135M. Corequisite: HVAC223M.

HVAC226M Air and Water Testing & Balancing **3-0-3**
Covers the essential techniques for the testing and balancing of air and water for HVAC systems, the fundamentals of testing and balancing, including the mathematics, fan and pump characteristics and the basic electrical systems. Also covers: details of fan and pump curves; motor drives and related electrical systems; testing and balancing instruments and use, including measurements and analysis; required TAB procedures, including preliminary air and hydronic procedures; as well as the TAB required report forms, system evaluation and troubleshooting. Prerequisites: HVAC first-year courses or three years experience in the field. Prerequisites: HVAC211M, HVAC212M, HVAC213M, HVAC214M, HVAC221M, HVAC222M, HVAC223M, HVAC224M or permission of Department chair, HVAC Program Coordinator or full-time HVAC faculty.

HVAC230M Gas Equipment Installations and Service Theory **4-0-4**
An in-depth study of placing propane and natural gas utilization equipment into service while controlling gas/air mixtures for proper combustion. Gas equipment installations including: clearance to combustibles; combustion, dilution and ventilation air requirements to determine if a space is confined or unconfined. Gas equipment venting, including venting categories, vent materials, vent sizing and clearances. Troubleshooting electrical circuits and control devices while measuring electrical quantities using an electrical meter. Identifying operating characteristics and components of common sensing devices will be covered. Gas pressure measurements including supply and appliance burner pressure detection will be discussed. Ignition safety systems including the 100 percent pilot safety shut-off and other electronic safety shut-off devices will be studied. Flue gas analysis and carbon monoxide detection will be included. National Fuel Gas Code as it relates to the above topics is also emphasized. Prerequisites: HVAC134M, HVAC135M.

HVAC243M DDC and Building Automation Controls I **3-3-4**
Introduces electronic environmental and industrial control concepts and equipment to electricians, HVAC technicians and maintenance personnel. Covers basic subject matter such as: introduction to electronics; solid-state theory and devices; digital numbering systems; digital logic; and basic theory of analog and digital control devices and systems. The course then advances to: Computer System architecture; programmable logic controllers; direct digital control for total energy management systems; electronic controls for HVAC equipment; and industrial control devices and systems. Intended for students with prior training in electrical theory and practice with electrical equipment. A review of basic electrical theory precedes the other subject matter, but this review is intended as a brief refresher only and not as preparation for the course material to follow. Prerequisites: HVAC211M, HVAC212M, HVAC213M, HVAC214M, HVAC221M, HVAC222M, HVAC223M, HVAC224M or permission of Department chair, HVAC Program Coordinator or full-time HVAC faculty.

HVAC244M DDC and Building Automation Controls II **3-3-4**
An advanced control systems course for students who have taken and passed HVAC 243, this course covers commercial/industrial control systems. Pneumatic, electrical and electronic control systems are covered, as well as associated subject matter such as variable frequency motor drives, variable air volume systems and heat recovery. The course then focuses on new technology building control systems. System controller types, analog and digital sensors and actuators in system configurations, data communications and systems interfacing, DDC systems strategies and troubleshooting methods and equipment will be covered in detail. There will be a significant amount of hands-on lab work. Every attempt is made to keep the material in this course as current as possible. This is an advanced course and provides the student with the knowledge, ability and experience to work confidently with existing control technology and adapt to new technology as it develops. Prerequisite: HVAC243M with a minimum grade of "C" or better.

HVAC299M HVAC Capstone **1-0-1**
Taken in a student's final semester of study, the HVAC Capstone provides students with an opportunity to synthesize the knowledge gained in their previous coursework. Students develop and personalize an individual research topic/project based on an area of interest within the HVAC industry. The individualized project will require students to demonstrate proficiency in research, critical thinking and communication as well as demonstrate positive work traits and customer skills. Prerequisite: ENGL110M. Corequisites: HVAC211M, HVAC212M, HVAC213M, HVAC214M , HVAC221M, HVAC222M HVAC223M, HVAC224M.

INTD101M Interior Design Technology Studio I **2-3-3**
Introduces students to the fundamental principles of design for the built environment through lecture and studio project sessions. Explores the process of designing for commercial, public and residential interiors. Students will learn basic skill sets and methods for arriving at functional and creative design solutions. Using critical thinking in the design process is a major focus. Corequisite: INTD102M.

INTD102M Technical Drawing for Interiors I **2-3-3**
A basic 2D drawing course offered to provide the manual and electronic technical skills to present accurate documentation of ideas and concepts within the field of interior design. Areas of study will include hand drafting techniques and a general introduction to digital media methods using AutoCad® software. Emphasis is on instruction in the accuracy of scale and precise documentation skills. Corequisite: INTD101M.

INTD103M Visual Presentation for Interior Design **1-3-2**
Focuses on the development of artistic drawing skills by exploring the methods and techniques used to communicate design concepts for the built environment. Techniques in freehand sketching, rendered floor plans and elevations, as well as perspective drawings will be studied using various mediums. Additional topics include the composition and organizational methods for assembling presentation boards which are required in studio and related interior design courses.

INTD121M Interior Design Technology Studio II **2-3-3**
The student continues to further develop technical and creative skill sets required for the built environment. Through lecture and studio project sessions, design concepts and solutions are explored and refined. Critical thinking techniques further advance students' understanding of how to address technological and social changes placed upon the designing of interior spaces. Applications of the principles and elements of interiors are presented with an emphasis on commercial interior design. Prerequisite: INTD101M.

INTD122M Technical Drawing for Interiors II **2-3-3**
Provides intermediate AutoCad® skills for interior construction documentation activity within the built environment. Covers the preparation of drawings such as floor plans, elevations, electrical plans, reflected ceiling plans, finish schedules and furniture installation plans using AutoCad®. Prerequisite: INTD102M.

INTD123M The Built Environment: Codes and Standards **2-3-3**
Covers basic building codes, life safety and barrier-free standards for the built environment. Students study the reasoning and application for code-mandated methods of construction, material requirements, ADA guidelines and other regulations pertaining to both commercial and residential interiors.

INTD124M Architectural and Interior Design Movements: 1900 – Present 3-0-3
Provides a historical perspective of how advances in technology and society influence the built environment. Contributions of notable interior designers and architects of the 20th century and their influences in advancing and modernizing interior space and furniture are studied. Topics include interior movements from the Beaux Arts, Bauhaus, Art Deco, the Modern Movement and into the present.

INTD200M Materials and Components 3-0-3
Surveys the architectural and decorative materials used by interior designers. Presents the properties, attributes and installation characteristics of the major interior design components: paints and finishes; carpeting; floors; walls and ceilings, hardware, cabinet construction; and kitchens and bathrooms. Prerequisite: INTD101M.

INTD201M Interior Design Technology Studio III 2-3-3
Emphasizes specific intermediate-level skill sets and methods needed for effective space planning and interior solutions in both lecture and studio sessions. Presents techniques for refining research specific to designated program criteria. Stresses technical detail requirements and their importance in designing functional interior environments. Prerequisites: INTD101M, INTD121M.

INTD205M Interior Contract Documentation 2-3-3
Covers the knowledge and skill required for the preparation and format of basic construction documents for the built environment. Topics include specific documents for the fit-up of commercial and residential interior spaces such as plans, schedules, details, sections, life safety and furniture installation plans. Stresses the need for skill and accuracy in turning ideas and concepts into working drawings for project implementation. Prerequisites: INTD101M, INTD121M.

INTD212M Lighting Design 3-0-3
A comprehensive lighting course designed to provide knowledge and skill for implementing functional and creative lighting solutions for commercial and residential interior applications. Explores the principles of quality lighting through design theory and technical requirements based on specific project criteria. Topics include elements of lighting systems, human factors, color, case studies and presentation of lighting solutions. Students should possess proficiency in the design process, drafting and AutoCad®. Prerequisites: INTD101M, INTD121M.

INTD221M Interior Design Technology Studio IV 2-3-3
Advanced studio course provides the opportunity to demonstrate knowledge and skill in completing an individual interior project incorporating all design and documentation phases of the built environment. The student selects one from a variety of predetermined projects. Programming, conceptual design, plans and construction documentation along with final visual and oral presentation, will be presented to the ID faculty for critique. Individual guidance by the instructor supports the student's project work during each phase of the process. Mini lectures of current technological news and innovations affecting the built environment, along with specific workplace and lifestyle trends also provide a dynamic learning environment. Prerequisites: All INTD courses prior to 4th semester.

INTD224M Professional Practice For Interior Design Technology 3-0-3
Designed to provide a working knowledge of effective business practices and management skills for interior designers. Students become familiar with the importance of contract documents, fee structuring, project management, successful marketing techniques and ethics in providing skilled services. Prerequisites: All INTD courses prior to fourth semester.

INTD225M Interior Design Technology Internship 1-8-3
A cooperative work experience program consisting of on-site experience in business establishments including placement within interior design firms, architectural firms, facility management operations or other business establishments related to the interior design industry. The college coordinator and the organization's work supervisor evaluate students' work experience and achievements. Students meet in seminar session to discuss and analyze their experiences. Additional topics will include resume and cover letter preparation, role-playing of interview techniques, employer expectations and evaluation of career opportunities. Prerequisites: All INTD courses prior to 4th semester.

INTD226M Portfolio Preparation for Interior Design Technology 1-3-2
Students will produce an academic portfolio, as well as a professionally assembled multi-ringed portfolio which represents the best examples of their creative and technical skill-sets. Instruction includes electronically reproducing the portfolio in CD format. Preparation of appropriate marketing materials, including a business card and letterhead, are explored as a class and on an individual basis. Interview techniques and practice interviews are also included. Prerequisites: All INTD courses prior to 4th semester.

LBSC299M Liberal Arts/Behavioral Science Capstone 3-0-3
Taken in a student's final semester of study, the Liberal Arts/Behavioral Science Capstone provides students with an opportunity to synthesize the knowledge gained in their previous coursework. Students develop and personalize an individual research topic/project based on an area of interest. The individualized project will require students to demonstrate proficiency in research, critical thinking and communication as well as an awareness of global perspectives. Students will be expected to consult with faculty in their area of interest in an advisory capacity. Prerequisites: Completion of a minimum of 48 credits including ENGL110M, PSYC210M, PSYC215M, PSYC225M, SOCI250M and two Psychology/ Sociology electives from PSYC217M, PSYC220M, PSYC234M, PSYC235M, SOCI145M, SOCI210M with a grade of "C" or better.

LENG299M Liberal Arts/English Capstone 3-0-3
Taken in a student's final semester of study, the Liberal Arts/English Capstone provides students with an opportunity to synthesize the knowledge gained in their previous coursework. Students develop and personalize an individual research topic/project based on an area of interest. The individualized project will require students to demonstrate proficiency in research, critical thinking and communication as well as an awareness of global perspectives. Students will be expected to consult with faculty in their area of interest in an advisory capacity. Prerequisites: Completion of a minimum of 48 credits including ENGL110M, ENGL213M, ENGL214M, ENGL207M, two ENGL electives chosen from: ENGL200M, ENGL201M, ENGL202M, ENGL203M, ENGL218M, ENGL225M with a grade of "C" or better.

LIBA101M Personal Framework for Career Exploration 1-0-1
Career development will be explored using a quality of life model that emphasizes personal wellness and management of a healthy, integrated and well-balanced lifestyle as the foundation for future success. Students will engage in a focused personal exploration of life roles, interests, values, aptitudes, abilities and skills and related them to a personal plan for career development. Students will learn strategies for goal-setting, identifying options, decision-making and career action planning. This course is the first in a series of three courses designed to introduce a broad, interdisciplinary perspective of career development. This course is highly encouraged for students in liberal arts, but is relevant to students of all majors with a variety of career interests.

LIBA102M Purposeful Learning, Earning & Living 1-0-1
Career development will be explored using a quality of life model that emphasizes personal wellness and management of a healthy, integrated and well-balanced lifestyle as the foundation for future success. Students are encouraged to conduct more in-depth research about both occupations and college majors of personal choice. Emphasis will be placed on applying research results to further refine personal academic and career plans. Course topics include communication, conflict resolution, workplace diversity, teamwork and collaboration, change management, technology and the global economy and basic budgeting concepts. This course is the second course in a series of three career development courses that together meet the requirements for a three credit open elective course. It is highly encouraged for students in liberal arts, but is relevant to students of all majors with a variety of career interests. Prerequisite: LIBA101M.

LIBA103M Career Marketing Strategies 1-0-1
Career development will be explored using a quality of life model that emphasizes personal wellness and management of a healthy, integrated and well-balanced lifestyle as the foundation for future success. In this course, students will learn to master and leverage academic, occupational and general employability skills to obtain, maintain, and/or advance employment. Emphasis will be placed on the development of a career marketing package for employment that highlights competencies and skills for relevant job opportunities. Course topics include job search, company research, networking, social media, employment applications, resumes, cover letters, references, interviewing, pre-employment assessments, and reference/background checks. This course is the third in a series of three courses designed to introduce a broad, interdisciplinary perspective of career development. It is highly encouraged for students in liberal arts, but is relevant to students of all majors with a variety of career interests. Prerequisite: LIBA102M.

LIBA299M Liberal Arts Capstone 3-0-3
Taken in a student's final semester of study, the Liberal Arts Capstone provides students with an opportunity to synthesize the knowledge gained in their previous coursework. Students develop and personalize an individual research topic/project based on an area of interest. The individualized project will require students to demonstrate proficiency in research, critical thinking and communication, as well as an awareness of global perspectives. Students will be expected to consult with faculty in their area of interest in an advisory capacity. Prerequisite: Completion of a minimum of 48 credits including ENGL110M or equivalent with a grade of "C" or better.

LSCI299M Life Science Capstone 3-0-3
Taken in a student's final semester of study, the Life Science Capstone provides students with an opportunity to synthesize the knowledge gained in their previous coursework. Students develop and personalize an individual research topic/project based on an area of interest. The individualized project will require students to demonstrate proficiency in research, critical thinking and communication as well as an awareness of global perspectives. Students will be expected to consult with faculty in their area of interest in an advisory capacity. Prerequisites: Completion of a minimum of 48 credits including ENGL110M, BIOL109M, BIOL120M, BIOL201M, BIOL210M, BIOL220M, CHEM116M with a grade of "C" or better.

LSSC299M Liberal Arts/Social Science Capstone **3-0-3**
Taken in a student's final semester of study, the Liberal Arts/Social Science Capstone provides students with an opportunity to synthesize the knowledge gained in their previous coursework. Students develop and personalize an individual research topic/project based on an area of interest. The individualized project will require students to demonstrate proficiency in research, critical thinking and communication as well as an awareness of global perspectives. Students will be expected to consult with faculty in their area of interest in an advisory capacity. Prerequisites: Completion of a minimum of 48 credits including ENGL110M, POLS110M, POLS210M, GEOG110M and HIST203M or HIST215M or SOCI250M with a grade of "C" or better.

MATH090M Foundations for College Mathematics **3-0-3**
This course is designed to review and enhance mastery of basic mathematical and algebraic skills needed to complete a college level course in mathematics. Topics covered are operations with whole numbers, fractions, mixed numbers, decimals, signed numbers, percent, ratios, proportions, algebraic expressions, linear equations/inequalities, exponents, square roots, and polynomials. Students will work with basic geometric formulas and basic descriptive statistics. Students will also manipulate formulas; convert between different units of measure; solve word problems; interpret/analyze data; perform basic graphing techniques; perform operations with real numbers and polynomials; graph linear equations; solve linear equations, inequalities, linear-equation systems and quadratic equations; factor polynomials; and recognize basic functions and their related notations. Calculators will not be used in this course until the end of the term. This course is enhanced with web-based technology enabling self-paced learning. Students may take this course in multiple semesters until all concepts have been mastered. Course offered every semester. Credits do not count toward degree requirements. Successful completion of this course requires a grade of "C" or better. Prerequisites: Placement Test or permission from the Mathematics Program Coordinator, the Department Chair, or a full time mathematics faculty member.

MATH111M Numerical Geometry **3-0-3**
This is an applied course in Euclidean geometry stressing calculator manipulation and problem solving. The topics include linear, area, and solid measures involving US and SI units, solutions of linear equations, proportional relationships, congruent and similar figures, properties of polygons, circles, and ellipses. Prerequisites: Successful completion of: MATH090M with a grade of "C" or better, satisfactory placement test scores, or permission from the Mathematics Program Coordinator, the Department Chair, or a full time mathematics faculty member.

MATH132M Business Mathematics **3-0-3**
This course is designed to help the student learn the mathematics needed to perform personal and business operations effectively and efficiently. Students will use mathematics in applications involving investments, retailing and accounting practices, and financial statements. Prerequisites: Successful completion of the course: MATH090M with a grade of "C" or better, satisfactory placement test scores, or permission from the Mathematics Program Coordinator, the Department Chair, or a full time mathematics faculty member.

MATH135M Numerical Algebra and Trigonometry **3-0-3**
Provides students with the basic algebra and trigonometry manipulatives to compute solutions in their curricula. Algebra topics offered are signed numbers, polynomial operations, solutions of linear equations involving numerical and literal terms, word problems and formula manipulation. Trigonometric topics are trigonometric ratios as applied to right triangles and computation of measures in oblique triangles, using the Law of Sines and the Law of Cosines. Prerequisite: MATH111M with a grade of "C" or better or permission of the instructor. Offered every semester.

MATH145M Topics In Applied College Mathematics **4-0-4**
This course is designed to expose the student to a wide range of general mathematics. Problem solving and critical thinking skills, along with the use of technology, will be emphasized and reinforced throughout the course as the student becomes actively involved solving applied problems. Topics to be covered include Number Theory and Systems, Functions and Modeling, Finance, Geometry and Measurement, Probability and Statistics, and selected subtopics related to the student's major field of study. Prerequisite: Successful completion of: MATH090M with a grade of "C" or better, satisfactory placement test scores, or permission of the Program Coordinator, the Department Chair, or a full time mathematics faculty member.

MATH151M Intermediate Algebra **4-0-4**
This course prepares the student for higher level mathematics by covering topics in algebra including exponents, polynomials, factoring, rational expressions and equations, and linear or high- degree equations. Additional topics include solving quadratic, exponential, and logarithmic functions; composite and inverse functions; systems of linear equations using matrices; and systems of inequalities by graphing. Prerequisite: Successful completion of MATH090M with a grade of "C" or better, satisfactory placement test scores, or permission from the Mathematics Program Coordinator, the Department Chair, or a full time mathematics faculty member.

MATH155M College Algebra with Trigonometry **4-0-4**
This course covers the essentials of numerical algebra, geometry, and trigonometry and is designed for science, engineering, technology, computer science, and mathematics students. It provides a solid preparation for student toward Precalculus and Calculus track. A short review of elementary algebra is followed by an introduction to geometric and trigonometric functions. Applied problems are solved by integrating the above mathematical strategies. The trigonometric functions include ratios in solving right triangles and vector applications, and Law of Sines and Cosines in solving oblique triangles. Prerequisite: MATH151M with a grade of "C" or better, satisfactory placement test scores, or permission from the Mathematics Program Coordinator, the Department Chair, or a full time mathematics faculty member.

MATH170M Discrete Mathematics **4-0-4**
This course provides a mathematical foundation for the understanding of set theory, abstraction and formal proofs. Topics include: sets; subsets and their operations; logic; counting; Boolean algebras; induction; groups; discrete functions; recursion; graphs; trees and the study of algorithms. Prerequisite: Satisfactory placement test scores as defined by mathematics faculty; MATH155M with a grade of "C" or better, or permission of the instructor. Offered spring semester only.

MATH171M Pre-Calculus **4-0-4**
This course focuses on the knowledge and skills necessary for study of Calculus. Students will study: logarithmic; exponential and trigonometric functions; complex numbers, conic sections and analytic trigonometry; determine and write linear equations in several forms; explain graph functions using symmetry tests; recognize and graph functions including quadratic, polynomial, rational, exponential and logarithmic functions; use function transformation techniques; perform composition and arithmetic operations of functions; find and graph inverses of functions; use properties of logarithms. Prerequisite: Satisfactory placement test scores as defined by mathematics faculty, MATH155M with a grade of "C" or better, or permission of the instructor. Offered every semester.

MATH200M Finite Mathematics **4-0-4**
Reviews linear equations, inequalities and systems of equations emphasizing graphing methods. Topics include matrices, linear programming, sets, introduction to probability, the mathematics of finance and the simplex method. Prerequisites: Satisfactory placement test scores as defined by mathematics faculty, MATH151M with a grade of "C" or better, or permission of the instructor. Offered every semester.

MATH202M Probability and Statistics **4-0-4**
In this course students study various topics including basic measure of central tendency and variability, frequency distributions, probability, the binomial distribution, the normal distribution, sampling of distributions, estimation of parameters, confidence levels and hypothesis testing, non-parametric tests, simple regression and correlation analysis. Prerequisites: Satisfactory placement test scores as defined by the mathematics faculty or successful completion of the course: MATH145M with a grade of "C" or better, satisfactory placement test scores, or permission from the Mathematics Program Coordinator, the Department Chair, or a full time mathematics faculty member.

MATH204M Calculus I **4-0-4**
This is the first course in the Calculus sequence. Topics include exploration of limits, continuity and derivatives of algebraic, trigonometric, exponential and logarithmic functions. These basic concepts are further developed in applications of differentiation including particle motion, related rates and optimization. Integration is introduced through the study of definite and indefinite integrals and area. Prerequisite: Satisfactory placement scores or MATH171M with a grade of "C" or better or permission of the instructor.

MATH212M Probability and Statistics II **4-0-4**
This course is a continuation of Probability and Statistics and is intended to further the student's knowledge in the application of current statistical practices for the analysis of data. Major topics include exploratory data analysis, univariate statistical analysis, multivariate statistics, multiple regression, factor analysis, and analysis of variance. Emphasis will be placed on applications of statistical procedures, reporting on findings, and visualization of data. Prerequisite: MATH202M with a grade of "C" or better.

MATH214M Calculus II **4-0-4**
This the second course in the Calculus sequence. Topics include definite and indefinite integration, integration of elementary transcendental functions, improper integration and series including Taylor and Maclaurin series. Methods of integration are studied. Concepts are reinforced with applications including areas and volumes of revolution, work, arc length, centroids and power series representation of functions. Prerequisite: Satisfactory placement scores or MATH204M with a grade of "C" or better or permission of the instructor.

MATH215M Mathematical Proofs **4-0-4**
An introduction to reading and writing mathematical proofs. Topics include sets and logic; methods of proof; mathematical induction and relations; topics from number theory and calculus as time permits. Prerequisite: MATH204M with a grade of "C" or better or permission of the instructor.

MATH218M Introduction to Linear Algebra **4-0-4**
This course covers the linear systems of equations, matrix operations, determinants, linear dependency, vector space, linear transformations, eigenvalues and orthogonality. Proofs by mathematical induction and contradiction are integrated into the course curriculum. Prerequisite: Satisfactory placement test scores as defined by mathematics faculty, or MATH204M with a grade of "C" or better, or permission of the instructor.

MATH220M Differential Equations **3-2-4**
This course in differential equations will include: theory; solutions methods and selected applications of ordinary differential equations. Topics include fundamental methods of solving ordinary first- and second- order differential equations; essentials of linear algebra; Laplace transforms and series solutions. Prerequisite: MATH214M with a grade of "C" or better or permission of the instructor.

MATH222M Multidimensional Calculus **3-2-4**
Extends the study of calculus to several variables. Topics include: a study of vectors, vector algebra and vector functions; partial differentiation; chain rule; extrema; transformations; gradient, divergence and curl; curves and surfaces; multiple, line and surface integrals; divergence, Green's and Stoke's theorem. A graphing calculator will be required. Prerequisite: MATH214M with a grade of "C" or better or permission of the instructor.

MATH299M Mathematics Capstone **4-0-4**
Taken in a student's final semester of study, the Mathematics Capstone provides students with an opportunity to synthesize the knowledge gained in their previous coursework. Students develop and personalize an individual research topic/project based on an area of interest. The individualized project will require students to demonstrate proficiency in research, critical thinking and communication as well as an awareness of global perspectives. Students will be expected to consult with faculty in their area of interest in an advisory capacity. Prerequisites: Completion of a minimum of 48 credits including ENGL110M, MATH220M, MATH222M and CIS122M (C++ Programming) with a grade of "C" or better.

MCOD100M ICD-CM-Coding **4-0-4**
Focuses on assigning appropriate codes from the most current edition of International Classification of Diseases Classification Manual through the application of coding conventions and the ICD-9 or 10-CM Official Guidelines for Coding and Reporting. Students utilize a manual system to code both clinical statements and scenarios while practicing AHIMA's Standards of Ethical Coding. Note: A grade of "C" or better is required to continue on to MCOD215M.

MCOD110M CPT Coding **4-0-4**
Focuses on assigning appropriate procedure codes and modifiers from the current edition of Common Procedural Terminology while adhering to current coding and regulatory guidelines. Students will utilize a manual and computer aided coding system to code clinical services and procedures performed, based upon scenarios and operative reports while practicing AHIMA's Standards of Ethical Coding. Prerequisites: AHLT110M, BIOL106M or BIOL110M. Note: A grade of "C" or better and a CGPA of 2.0 is required to continue on to MCOD215M.

MCOD215M Advanced Coding **3-0-3**
This course expands upon the knowledge gained in MCOD100M and MCOD110M by applying learned concepts to actual patient records. Various coding resources, as well as computer aided coding will be utilized to ensure the accuracy of diagnostic and procedural code groupings. Emphasis will be placed upon accurately identifying the principal diagnosis and secondary diagnosis(es) along with appropriate procedure codes based upon supporting documentation. The impact of documentation on coding and reimbursement will be stressed. Common quality monitoring practices along with compliance and auditing will be discussed. All records will be coded in accordance with AHIMA's Standards of Ethical Coding. Prerequisites: MCOD100M, MCOD110M and BIOL220M.

MEDA110M Introduction to Medical Assisting **3-0-3**
This course is designed to provide fundamental knowledge for students who are entering the Medical Assistant Program. Focus is placed on the profession, health care system, professionalism, who you are as a person, working with others, and personal life impacts success. A grade of "C" or better is required to pass MEDA classes. Prerequisite: Placement into ENGL110M and permission of the Program Director.

MEDA125M Clinical Laboratory Procedures I **3-3-4**
Introduces the Medical Assistant Student to the essential knowledge and clinical skills needed in general medical office or clinical setting. Theoretical content will include but not limited to, patient assessment, patient preparation, medical history taking, vital signs and anthropometric measurements; preparation and assisting with physical examination, instrumentation sanitation, disinfection and sterilization of instruments and equipment and assisting with minor surgical procedures and wound care. Prerequisites: AHLT110M, BIOL106M/BIOL107M and MATH090M with a grade of "C" or better, placement into ENGL110M, and permission of MEDA faculty advisor.

MEDA128M Administrative Medical Assisting **3-2-4**
This course will offer students the opportunity to explore, study, and practice numerous administrative responsibilities associated with work in a medical office. The course focuses on career opportunities, professionalism, appointment scheduling, letter composition relevant to the medical office, telephone techniques, records management, banking duties, and the maintenance of a recordkeeping system. The major insurance carriers are reviewed as well as such programs as Worker's Compensation, Medicare, Medicaid, CHAMPUS/CHAMPVA. Accuracy in procedural and diagnostic coding will be stressed as a way to maximize reimbursement. Students will use computerized patient and insurance billing software to produce insurance claims and patient invoices efficiently. Prerequisites: ENGL110M, AHLT110M, ADMN122M with a grade of "C" or better.

MEDA218M Clinical Lab Procedures II **3-3-4**
Building upon the skills acquired in Clinical Laboratory Procedures I the student will gain the knowledge essential for a variety of health care settings and specialties as well as physician office laboratory's. Theoretical content and lab skills presented will include: ECG's, Spirometer Testing, Medication Administration, Microbiology, OB/GYN, Pediatrics, Emergency Preparedness, and Phlebotomy. Prerequisites: AHLT110M, BIOL106M/107M and MATH090M with a"C"or better, placement into ENGL110M and permission of MEDA faculty advisor.

MEDA223M Medical Assistant Practicum **0-15-5**
This capstone course allows students to receive supervised hands-on experience at off-site locations related to the medical assistant field. All practicums are unpaid and students must have submitted all documentation as stated in the *Medical Assistant Handbook* to the Medical Assistant Program Director. There are no evening or weekend practicums, so please consult with your Academic Advisor. Corequisite: MEDA 225M. Prerequisites: All MEDA courses with a grade of "C" or better.

MEDA225M Practicum Seminar **1-0-1**
Students in the Medical Assistant Practicum course meet for a one-period seminar to review their practicum progress and to discuss issues related to successful employment. Resumés, cover letters, interviewing techniques and job-keeping skills are some of the topics included in this course. Corequisite: MEDA223M.

MKTG125M Principles of Marketing: A Global Perspective **3-0-3**
Provide a basic understanding of the entire marketing process from a managerial point of view. Students examine the marketing system and strategies for the marketing of consumer and business products. Other topics include: the global marketing environment; customer relationship management; target markets; market segmentation; customer behavior; market research; retail and wholesale environments and specialty marketing. Emphasis is on the marketing mix – product, price, place and promotion. Prerequisite: placement into ENGL095M.

MKTG135M Global Consumer Behavior **3-0-3**
An in-depth analysis of the internal and external forces in the consumer decision-making process as it relates to marketing. Consumer trends and changes in demographic and psychographic characteristics are discussed. Emphasis is on the global aspect of consumer buying behavior in terms of buying, having and being.

MKTG205M International Marketing **3-0-3**
Analyzes the decision-making process in marketing products internationally, with a focus on the design of international marketing strategies *(identification of potential markets and products, price, promotion and distribution decisions)* within the constraints of a particular cultural, economic and political setting. Case studies are used to apply course concepts to international marketing scenarios. Prerequisite: MKTG125M.

MKTG210M Advertising **3-0-3**
Covers: the history of advertising; roles of advertising; the advertising brief; target marketing; the advertising agency; media planning and placement; and media services. Also, basic media strategy using television, radio, newspapers, magazines, outdoor advertising, personal selling, internet marketing, direct response and other forms of advertising will be investigated. Students apply advertising, promotional and integration tools to an advertising project/campaign. Prerequisite: MKTG125M.

MKTG224M Sales and Sales Management **3-0-3**
An analysis of the role of selling in the marketing process, with a focus on effective communication and customer psychology. Topics regarding sales techniques, customer service, recruiting, training and supervision of employees are examined, along with sales force organization, performance and assessment.

MKTG282M Marketing Research **3-0-3**
This course will be taught from the viewpoint of the person who conducts primary and secondary market research with a concentration on techniques and processes required to conduct quality research studies. Topics include questionnaire development, sampling techniques, data collection methods and survey errors. Application of concepts through primary data coupled with secondary data through a market research project. This course should be taken in the student's final semester. Prerequisite: MKTG125M.

NURS111M Nursing I **6-12-10**
Introduces the roles of the Associate Degree Nurse as a provider and manager of care and member of the discipline of nursing. Students develop beginning intellectual, interpersonal and psychomotor competencies for patient assessment. Communication theory, life span development, ethical-legal standards and nursing process are basic concepts to the practice of nursing. Introduces the concept that the person is a system in dynamic interaction with internal and external environments. The 11 Functional Health Patterns organize the study of concepts common to a basic knowledge of the patient's state of wellness and possible or actual health problems. The Learning Laboratory provides opportunities to practice nursing skills in simulated activities. Clinical learning provides experiences to practice nursing by caring for well patients or patients with common basic health problems in structured health settings. Prerequisite: Admission into the Nursing Program. Corequisites: BIOL110M, PSYC110M.

NURS112M Nursing II **4-15-9**
The student develops competence to provide and manage care for patients and their families across the life span in structured healthcare settings. The student provides support and teaching to the patient and family and direct care for the patient. Includes the Functional Health Patterns of Sexual Reproduction, Role Relationship, Nutrition Metabolic, Health Perception Health Management, Cognitive Perceptual and Value Belief. Intellectual, interpersonal and psychomotor competencies are further developed. Needs of patients across the life span are emphasized with special focus on adults, children in childbearing and child rearing families and psychiatric/mental Healthcare settings. Student plans the care of the patient/family utilizing the Nursing Process. Direct care will be provided to patients with common health problems. Laboratory learning provides opportunities to practice more complex nursing skills and basic group skills in simulated activities. Clinical learning experiences are provided in adult healthcare settings and psychiatric/mental health or perinatal/pediatric settings. Prerequisites: NURS111M and BIOL110M with a grade of "C" or better and completion of PSYC110M. Corequisite: BIOL120M, PSYC210M.

NURS211M Nursing III **4-15-9**
The student continues to develop competence to provide and manage care for patients and their families across the life span in structured Healthcare settings. The student provides support and teaching to the patient and family and direct care for the patient. Includes the Functional Health Patterns of Activity Exercise, Elimination, Nutrition Metabolic, Self-Perception and Coping Stress Tolerance. Intellectual, interpersonal and psychomotor competencies are further developed. Needs of patients across the life span are emphasized with special focus on adults, children in childbearing and child rearing families and psychiatric/mental Healthcare settings. The student will plan the care of the patient/family utilizing the Nursing Process. Direct care will be provided to patients with common health problems. Laboratory learning provides opportunities to practice increasingly complex nursing skills in simulated activities. Clinical learning experiences are provided in adult Healthcare settings and psychiatric/mental health, or perinatal/pediatric settings. Prerequisites: NURS112M and BIOL120M with a grade of "C" or better and completion of PSYC210M. Corequisites: BIOL210M, ENGL110M.

NURS212M Nursing IV **3-18-9**
The student develops increased competence and independence to provide and manage care for patients and families with common multi-system health problems across the life span. Includes ethical decision-making, role performance and the care of patients with multi-system health problems of metabolism/immunity/hematopoiesis; cognition/sensation/perception; and cardio-respiratory. Also includes leadership skills, Healthcare policy and legislative advocacy. An evidence-based care project presentation is required. Laboratory learning focuses on student case presentations involving current, multi-system health problems and ethical decision-making. Clinical learning experiences are provided in advanced medical-surgical and community health settings. Prerequisites: NURS211M and BIOL210M with a grade of "C" or better and completion of ENGL110M.

PHIL110M Introduction to Philosophy **3-0-3**
This course provides an introduction to the important ideas and methods of philosophical inquiry by surveying the writings of some of the most noted philosophers of the Western and Nonwestern world. It also explores the fundamental questions of several of the core areas of philosophy (including metaphysics, epistemology, political philosophy, ethics, and the philosophy of religion), and will relate philosophical ideas to contemporary issues. Prerequisite: Placement into ENGL110M.

PHIL240M Ethics **3-0-3**
This course is designed to introduce students to some classical and contemporary ethical perspectives, philosophies, and decision-making models. The goal of this course is to relate and apply such knowledge to modern day life; hence any concepts, models, and theories presented will also often be applied to specific problems and cases. Applications may include general ethical issues and/or more career specific issues, (to be determined by student/faculty needs or interests). Prerequisite: ENGL110M with a grade of "C" or better.

PHYS100M Introductory Physics **2-3-3**
A conceptual introduction to the basic principles related to the composition of matter, mechanical properties of solids and fluids, forces and static equilibrium, potential and kinetic energy, power and force transformers. Emphasizes the development of problem-solving techniques and the appropriate application of those concepts to solve problems. Dimensional/unit analysis is stressed. Prerequisite: A grade of "C" or better in MATH135M or equivalent. *(Does not fulfill lab science elective).* Offered every semester.

PHYS105M Astronomy I **3-2-4**
Starting with a survey of the night sky and the daily motions of the stars and planets, this course surveys our current understanding of the Universe. It traces the development of the tools of the modern astronomer and how those tools have led to out theories of the solar system, the life cycle of stars, the formation of elements, the formation of galaxies and the evolution of the universe. Prerequisite: high school Algebra with a grade of "C" or better.

PHYS110M Physical Science I **3-2-4**
A hands-on exploration of the basic principles of the physical world, this course is designed to foster a better understanding of the environment that surrounds us and to serve as a foundation for further study in science. Concepts explored include mechanics, heat, temperature, electricity and magnetism, sound and light. Prerequisite: MATH090M. *(Fulfills lab science elective).*

PHYS120M Physical Science II **3-2-4**
Continues the hands-on exploration of the basic concepts initiated during PHYS110M. Concepts explored include the atom, atomic models and selected topics in chemistry, earth science and astronomy. Success in the first semester is a prerequisite to the second semester. Success in both will enable the student to pursue advanced science courses of physics, chemistry, earth science and astronomy. Prerequisite: PHYS110M *(Fulfills lab science elective).*

PHYS135M College Physics I **3-3-4**
Introduces the basic principles of Newtonian mechanics with emphasis on the application of these principles when solving problems. Topics include kinematics of motion, vectors, Newton's laws, friction, work-energy, impulse-momentum for both translational and rotational motion and the mechanical properties of matter. Dimensional *(unit)* analysis and critical thinking are stressed. Prerequisite: A grade of "C" or better in MATH155M or equivalent. *(Fulfills lab science elective)*

PHYS136M College Physics II **3-3-4**
Special emphasis is placed on the principles introduced when solving problems. Topics to be investigated include the fundamentals and the applications of oscillating systems and sound waves, heat energy and thermodynamics, electrical charges and electric and magnetic fields. Prerequisites: MATH171M and PHYS135M with a grade of "C-" or better. *(Fulfills lab science elective)*

PHYS210M University Physics I **3-3-4**
This is a calculus-based study of the fundamental principles of classical mechanics, an introductory course emphasizing motion in one and two dimensions, forces, gravitation, energy, momentum, rotation, and oscillations. The course is recommended for the student specializing in science and engineering. There are two components to the course, three hours of lecture/problem solving per week and a three hour lab course. Prerequisite: MATH204M with a grade of "C" or better.

PHYS220M University Physics II **3-3-4**
This course is a calculus-based study of fluids, thermodynamic, and electricity and magnetism. The course is recommended for the student specializing in science and engineering. There are two components to the course, three hours of lecture/problem solving per week and a three hour lab course. Prerequisite: PHYS210M with a grade of "C" or better. Corequisite: MATH214M.

POLS110M American Government **3-0-3**
This course is an introduction to the basic structures of the political process in the United States. It explains political activity with a focus on the national level, but may include details about the state and local levels. Specific topics include an analysis of the Constitution, the powers of the Executive, Legislative, and Judicial branches, federalism, the bureaucracy, and the media. Campaigns, elections, political parties and interest groups will also be discussed. Prerequisite: placement into ENGL110M

POLS210M Introduction to Political Science **3-0-3**
This course is an introduction to the field of political science. Political philosophy, political ideologies, nationalism, cultures, and institutions will be discussed as well as public opinion, political parties, interest groups, international relations concepts and theories, and voting behavior. Throughout the course, the concepts of power and legitimacy, elitism and pluralism will guide discussion. American and comparative examples will be utilized. Prerequisite: ENGL110M with a grade of "C" or better

PSYC110M Introduction to Psychology **3-0-3**
This course is an introduction to various areas of psychology, including scientific investigation and prominent theories. Topics include, but are not limited to: motivation; emotions; personality; physiological foundations of behavior; psychological disorders and therapy; sensation and perception, learning and human development. Prerequisite: placement into ENGL110M. *(Fulfills social science elective)*

PSYC205M Special Topics in Psychology **3-0-3**
This course will vary by semester. Psychological topics will reflect faculty and/or student interests and will focus on an in-depth coverage of covered topics. All courses will focus on various aspects of psychology; concepts, events, forces, personalities, ideas and values shaping the contemporary world. The course should be considered "writing intensive". Critical thinking, speaking and writing skills will be emphasized, as well as the ability to analyze psychological sources. Course prerequisites: PSYC110M and ENGL110M with a grade of "C" or better. *(Fulfills Social Science requirement).*

PSYC210M Human Growth and Development **3-0-3**
This course is the study of human growth and development with a specific emphasis on the physical, cognitive, social and emotional dimensions from the prenatal period to later adulthood. An examination of major theorists is presented during the course. Major developmental milestones, diversity, family make-up and socio-cultural dimensions complement the scope of the course. Prerequisites: PSYC110M and ENGL110M with a grade of "C" or better. *(Fulfills Social Science requirement).*

PSYC215M Abnormal Psychology **3-0-3**
This course focuses on defining and understanding what constitutes abnormal behavior. Theoretical perspectives such as biological, psychosocial, and socio-cultural approaches will be examined and applied through comparative analysis. Students will be able to identify and interpret behavior and diagnostic criteria associated with mental illness. Synthesis of disorders, assessment, and diagnosis will be fostered in the classroom and applied to diverse cultures, communities, and societies. Prerequisites: PSYC110M and ENGL110M with a grade of "C" or better. *(Fulfills Social Science requirement).*

PSYC217M Chemical Dependency **3-0-3**
This course introduces the concepts of chemical dependency as related to the individual and the family. This course discusses the disease concept of chemical dependency, the concept of denial, models for change and available treatment options for people with chemical dependency and related issues. Prerequisites: ENGL110M and PSYC110M with a grade of "C" or better *(Fulfills Social Science requirement).*

PSYC220M Adult Development **3-0-3**
This course provides perspective on psychological influences that affect adult development and the aging process. Discussion of adult development, including cognitive, social, and personality development, and other issues will be presented. A major focus of the course will be on the application of theories of typical development to the challenge of aging. Prerequisite: ENGL110M and PSYC210M with a grade of "C" or better OR permission of the Liberal Arts: Behavioral/Social Science and Humanities Department Chair. *(Fulfills Social Science requirement).*

PSYC225M Social Psychology **3-0-3**
This course offers the opportunity to consider both the theory and research specific to human behavior in social contexts. The dynamics of this interplay will be explored through topics that can include, but is not limited to: attitude formation/change; communication; aggression; stereotyping and prejudice; peer/familial/romantic relationships; aggression and community settings. A laboratory application in the form of a field-based project will complement the scope of this course. Prerequisites: ENGL110M and PSYC110M with a grade of "C" or better.

PSYC230M Educational Psychology **3-0-3**
Reviews the application of psychological principles to the educational environment and covers theories of cognitive processes and development, learning and social and moral development as they apply to learning and teaching. Issues involving assessment, classroom management, individual differences and socioeconomic and developmental influences on learning are also presented. Application of theoretical perspective to classroom teaching is emphasized. Prerequisite: PSYC110M. *(Fulfills Social Science requirement).*

PSYC234M Child and Adolescent Development **3-0-3**
This class provides an intermediate exploration of the fundamentals of physical, cognitive, social and emotional development, from the prenatal period through adolescence. Various contemporary psychological perspectives and theories on human development will be analyzed and discussed. Prerequisites: ENGL110M and PSYC210M with a grade of "C" or better *(Fulfills Social Science requirement).*

PSYC235M Health Psychology **3-0-3**
This course is created to help the student understand issues of health and wellness based on the triangle of health psychology: mind, body, and spirit. It is designed to have the student better understand the role that stress, mindset, positive and negative relationships, and life choices play in one's overall health. The course also addresses stress reduction concepts, positive coping styles, the formation of healthy relationships, and the building of healthy lifestyles, as well as the affect that all of these have on one's overall quality of life. This course brings to the students' awareness the factors and behavioral methods that facilitate a resilient quality of life that is very different in nature and practice from the coping style of psychosocial survival. Prerequisites: PSYC110M, ENGL110M with a grade of "C" or better. *(Fulfills Social Science requirement).*

ROBO210M Robotic Processes **2-3-3**
This course covers the knowledge and skills that an operator, technician, engineer or programmer needs to set up and program a robot. Recommended safety procedures are integrated into all training exercises. There are lectures, demonstrations and a series of lab exercises designed to reinforce what the student has learned. Prerequisite: MATH090M with a grade of "C or better.

ROBO211M Robotic Design **2-3-3**
Students will design a robot according to specifications for the functions and tasks the robot needs to complete. This will involve many critical features of the robot needed to meet the specified requirements. The course will cover the entire design processes, such as defining the problem, researching and designing, creating a prototype, building a robot, programming and testing and, finally, the evaluation of the robot design to the specifications. Prerequisite: MATH090M with a grade of "C" or better.

SOCI109M Contemporary Social Problems **3-0-3**
Students study contemporary American social problems from sociological perspectives. They discuss the nature, causes and potential solutions to these problems by applying sociological analysis. Topics may vary and include: poverty; culture; immigration; education; crime and deviance; health and the economy. A service learning option may be available in some sections. Prerequisite: Placement into ENGL110M. *(Fulfills Social Science requirement.)* Offered every semester.

SOCI110M Introduction to Sociology **3-0-3**
This course is an introduction to fundamental theories and concepts of sociology. It examines various social institutions and probes multifaceted dimensions of social issues and events. It also explores collective behavior and social movements. Prerequisite: Placement into ENGL110M. *(Fulfills Social Science requirement.)*

SOCI145M Gender Studies **3-0-3**
This course is an introduction to the concept of gender as it relates to society. Students will explore various aspects of gender including: social construction of gender; gender identity development; changing gender roles; gender-based status, power and privilege; gender discrimination; and other sociological concerns related to being 'male', 'female', or 'transgendered.' Prerequisite: Placement into ENGL110M. *(Fulfills Social Science requirement.)*

SOCI205M Special Topics in Sociology **3-0-3**
This course will vary by semester. Sociological topics will be chosen to reflect faculty and/or student interest and will then focus on an in-depth coverage of that topic. All courses will focus on various aspects of sociology; concepts, events, forces, personalities, ideas and values shaping the contemporary world. The course should be considered "writing intensive". Critical thinking, speaking and writing skills will be emphasized, as well as the ability to analyze sociological sources. Course prerequisites: SOCI110M and ENGL110M with a grade of "C" or better. *(Fulfills Social Science requirement).*

SOCI210M Changing American Family **3-0-3**
This course examines the dynamics of relationships in transition and the changing family unit. It also explores social, medical, spiritual, financial, and legal perspectives of relationships. The question is: Is marriage a legal technicality, a symbolic commitment, and/or a measurement of maturity? Prerequisite: SOCI109M or SOCI110M and ENGL110M with a grade of "C" or better

SOCI250M Multiculturalism **3-0-3**
This course is designed to introduce students to racial, ethnic, and other differences in people that may influence their norms, values, perceptions, and behaviors. Historical connections, as well as current issues related to race, ethnicities, and other minority groups are explored. Discussion increases awareness and understanding of other races, ethnicities, and different minority groups fostering tolerance and cooperation between the participants and the diverse populations of their home/school/work communities. Prerequisite: SOCI110M and ENGL110M with a grade of "C" or better. *(Fulfills Social Science requirement).*

SPAN110M Spanish I **3-2-4**
A fully integrated introductory Spanish course designed for beginning Spanish students with little or no prior knowledge of Spanish. It is directed for students whose learning objectives and needs are in any of the following categories: for Spanish language students; for business purposes; and travelers. Emphasizes proficiency in basic communicative skills concentrating on the dynamic application of the living language through dialogue, phonetics and vocabulary. Includes a strong grammar foundation and other basic language skills. Language laboratory activities reinforce class content. *(Fulfills Foreign Language requirement).*

TCHE100M Child and Adolescent Development **3-0-3**
This class provides an introduction to the fundamentals of physical, cognitive, social and emotional development, from the prenatal period through adolescence, with an emphasis

on children grades K-12. Various contemporary psychological perspectives and theories on human development will be introduced and discussed. Practical application of theory and concepts to classroom and recreational settings will be emphasized. 10-15 hours of observation of children and adolescents will be required.

TCHE101M Introduction to Exceptionalities 3-0-3
This course examines the educational challenges and related challenges students *(K-12)* with documented learning difficulties may encounter. The history and current philosophy of special education services in the United States will be reviewed. Laws governing individuals and students with documented learning challenges and disabilities along with the implications for educating these students will be presented and discussed. The roles and responsibilities of the teacher, paraeducator and members of the IEP team will be examined. Teaching methods, appropriate accommodations and modifications for the curriculum related to special education will be presented and discussed. Students will research a specific educational challenge and will be required to complete 8-10 hours of observation in a public school or other approved setting. Prerequisite: TCHE100M.

TCHE104M Foundations of Education 3-0-3
Examines the philosophical, historical, legal and social/cultural aspects of education in the U.S. Explores current issues and trends in education, how schools and classrooms function organizationally and academically and teaching as a profession. Focuses on the goals of education, the role of governmental agencies, educational law and policy and the roles and responsibilities of teachers. The Interstate New Teacher Assessment and Support Consortium *(INTASC)* Model of Standards for Beginning Teacher Licensing is introduced. Students must complete 20 hours of observation in a school setting.

TCHE110M Introduction to School Aged Programming 3-0-3
This course will provide a foundation for the importance of out-of-school-time programs and explore the philosophy and goals for high quality programs. Focus will be on the current theories and practices relevant to the care of school-aged children & youth in both classroom and recreational settings, including before/after school programs, camps, etc. Students will identify and examine the components of quality classroom and recreational programs, the rules, regulations and ethical practices governing group child care for school age children & youth and the roles and responsibilities of the providers. The importance of building positive relationships between home, school and community will be emphasized. **Observation of a school age care program will be required**.

TCHE201M Teaching and Learning 3-0-3
Presents an overview of the multi-dimensional teaching and learning processes in elementary, middle and secondary schools. Focus is on the context in which teaching and learning occurs, classroom organization and management, lesson planning and decision making, effective teaching strategies and assessment methods. In-class and outside of class activities will result in the creation of a teaching methods portfolio and reflective practice journal. Students will develop and teach two lessons appropriate to their teaching goals and will complete a service-learning project incorporating at least 10 hours of service in a school setting. Prerequisite: TCHE104M with a grade of "C" or better.

TCHE202M Current Practice: Teaching, Learning, Assessment 3-0-3
An in-depth study of the application of educational practices and pedagogical theory necessary to succeed as classroom teachers. The concepts presented enhance and build upon material from prior courses. Students incorporate current research and instructional strategies into their teaching repertoire as evidenced by individual and group activities. Prepares students for success in advanced methods and materials courses. Students must complete a minimum of 10 observation hours in a school setting. Prerequisite: TCHE104M

TCHE205M Technology in Education 2-2-3
This course provides an overview of theory and strategies for effective integration of technology resources, technology-based methods of instruction and assistive technology designed for students with disabilities, based on the National Educational Technology Standards for teachers *(NETS-T)*. An emphasis will be placed on technology as a tool that facilitates learning and enhances the teaching process. Students will explore the value of technology as it directly relates to student achievement, professional growth and classroom management. The course focuses on both knowledge and performance and includes hands-on technology activities. Corequisite: ECE104M or TCHE104M.

TCHE206M Literacy in Education 3-0-3
An in-depth study of literacy in education. The areas of reading, writing, listening and speaking are viewed as interrelating processes. A broad theoretical foundation promotes a focus on literacy in today's classroom. Students also preview current research and methods of support available to teachers. Material in this course is discussed consistent with themes of reflective practice and acknowledging and responding to the unique learning characteristics of all students. Prerequisite: TCHE104M.

TCHE210M Essentials of Career/Technical/Curriculum/Instruction 3-0-3
Covers the history, philosophy, principles, organization and operation of career and technical education in the U.S. Students will develop a functional understanding of the role and responsibilities of a professional career/technical educator and gain the foundation and skills to design, implement and manage a curriculum in career/technical education. Identification of resources and occupational analysis, derivation of content, formulation of objectives, defining measurable outcomes and the selection and development of activities and evaluation methods will be explored. Prerequisites: Permission of the instructor.

TCHE211M School Age Curriculum & Environments 3-0-3
This course is designed to provide the knowledge and skills individuals need to care for school-age children and adolescents in group educational and recreational settings. In this course students will review professional ethics, standards of quality and NH licensing regulations relevant to programs for school age children and youth and observe and discuss the effects of space, equipment, materials and relationships upon play and learning in various school age settings. Focus will be on development of the skills and strategies that the school-age providers need to select, plan and implement developmentally appropriate activities to engage children & youth in active learning, support academic and personal development and facilitate caring and trusting relationships with adults and peers. At least 10 hours of observation and community service in programs for school age children will be required. This course will only be offered during the summer term. Prerequisite: TCHE110M or permission of Department Chair.

TCHE215M Classroom Management/Behavioral Guidance Strategies 3-0-3
This course will provide students with an in-depth understanding of classroom management and child guidance techniques. Strategies to support the development of a positive, supportive and respectful classroom environment, including teaching social competencies that facilitate responsible student behavior will be examined. Theories and research related to approaches to classroom management and guidance will be presented and discussed. Specific behavioral challenges and issues will be investigated. The course provides students with a broad theoretical foundation of behavioral intervention strategies to support children with emotional, behavioral and social challenges. Students will be required to complete 10 hours of observation in a classroom setting throughout the semester. Prerequisites: TCHE100M or ECE100 AND either TCHE104M or ECE104 or TCHE110M.

TCHE220M Family, Professional,& Community Relations in Education 3-0-3
This course will provide students with strategies for positive and productive interactions among teachers, parents, co-workers and other professionals working with children. Students will explore and develop collaborative and communication skills for participating in IEP teams, co-teaching and working with families as partners in the process. Students will also investigate the ethical issues in working with educational teams, families and other professionals. Students will develop strategies for establishing and maintaining positive and supportive relationships with families. Students will also become familiar with community resources that support children and their families. Students will be required to complete 8 hours of community service that benefits children and/or families. Prerequisite: TCHE104M or ECE104 or TCHE110M.

TCHE225M Curriculum Planning and Implementation for Children with Unique Learning Characteristics 3-0-3
Provides an overview of effective instructional strategies, curricula, materials, student assessments and assistive techniques for children with special educational needs. Classroom accommodations and instructional modifications to meet the goals of the IEP/IFSP, which can be implemented in a variety of instructional settings, are introduced. Collaborative planning, co-teaching strategies and effective methods for working with members of the IEP/IFSP team and families are reviewed. Prerequisites: A grade of "C" or better in TCHE101M and TCHE104M, or ECE104M and ECE201M. Offered fall *(and summer with permission for those working in the field only)*.

WELD111M Gas and Arc Welding Lab 0-12-4
At the successful completion of this course, each student will be able to: (1) safely utilize oxy-fuel cutting equipment to cut shapes and prepare material for welding; (2) safely utilize oxy-fuel welding equipment to weld various mild steel joints in the four welding positions; (3) safely utilize arc welding equipment to weld various mild steel joints in the four welding positions; (4) safely use oxy-fuel equipment for braze welding, brazing, soldering and fusion welding of the most widely used types of metals.

WELD112M Gas and Arc Welding Theory 3-0-3
This course will allow students to explore how metals are produced; the advantages of different steel making processes; chemical, physical and mechanical properties of common metals; the operating principles of gas and arc welding and cutting equipment; how electrodes are made and their uses, differences and numbering system; and basic joints and processes. Gas and arc welding processes are identified, and methods to control them are also explained.

WELD113M Technical Blueprint Reading 0-3-1
Introduces the basic concepts and practices of technical drawing and blueprint reading. Covers the proper use of: drawing equipment; line work and lettering; construction and interpretation of multi-view orthographic drawings; sectional views and auxiliary views. Other topics of discussion include dimensioning and tolerances; sketching and structural steel shapes. Emphasis will be placed on using the drawing skills learned to maintain a high quality of workmanship in the field.

WELD121M MIG and TIG Welding Laboratory **0-12-4**
Instructs students in the safe, hands-on use of the GTAW, GMAW, FCAW, SAW and PAW processes as they are used in industry. The GTAW process will be used to weld mild steel, stainless steel, aluminum, copper alloys and titanium. The GMAW process will be used to weld mild steel, stainless steel and aluminum. Resistance welding, plastic welding and thermal spray equipment may also be used. Prerequisites: WELD111M, WELD112M.

WELD122M MIG and TIG Welding Theory **3-0-3**
Covers the theory behind the gas-shielded arc welding processes, GMAW and GTAW. Principles of operation, filler materials and gas selection are discussed in great detail, as well as modern welding processes, including: Submerged Arc Welding, Plasma Arc Welding; Solid State Welding; Resistance Welding; Electroslag Welding; Stud Welding; the high energy beam processes; Thermal Spraying and more. Prerequisite: WELD112M.

WELD125M Manufacturing and Repair Technology **0-3-1**
Introduces the safety and fundamental use of machine tools in both manufacturing and repair environments. Processes covered include turning, milling, drilling, broaching, grinding and precision measurement. In laboratory sessions, students will apply the techniques studied by using machine tools to manufacture welding fixtures and dimensionally restore parts which were repaired by welding.

WELD180M Basic Arc and Gas Welding **1-3-2**
Provides the students with a technical understanding of shielded metal arc welding, arc welding power supplies, electrode classifications, oxy-fuel welding and cutting, torch brazing, joint types, preparation and fit-up and welding safety. Also provides training to make quality fillet and square groove welds in the flat position on various thickness of mild steel, using the *(SMAW)*, *(OFW)* and *(TB)* processes.

WELD181M Intermediate Arc and Gas Welding **1-3-2**
Builds on the knowledge and skill acquired in Basic Arc and Gas *(WELD180M)*. It provides the training to make multiple-pass fillet and square groove welds in all positions on mild steel plate using the *(SMAW)* process. Also provides training to develop the skills to make fillet and square groove welds in the flat, horizontal and vertical positions on mild steel, using the *(OFW)* process. Prerequisite: WELD180M.

WELD182M Welder Qualification and Testing **1-3-2**
Provides students with an understanding of welder qualification in accordance with the American Welding Society, D1.1 Structural Welding Code. Also provides training to develop the skills to make code-quality, multiple-pass groove welds with backing on 3/8" mild steel plate in all positions using E7018 electrodes. Prepares students for welder qualification testing used throughout the welding industry. Prerequisites: WELD180M, WELD181M.

WELD183M Advanced *(SMAW)* Plate and Pipe Welding **1-3-2**
Designed for the experienced welder. Provides the training to make multiple-pass, open-root v-groove welds on 3/8" mild steel plate and 4" - 6" mild steel pipe in all positions, using E6010 and E7018 electrodes. Also provides training for mechanized oxy-fuel cutting as well as carbon arc cutting and gouging. Prerequisites: WELD180M, WELD181M, WELD182M.

WELD184M Gas Tungsten Arc Welding *(TIG)* **1-3-2**
Provides students with a technical understanding of gas tungsten arc welding, equipment adjustments, tungsten electrodes, filler metals, shielding gases, plasma arc cutting and welding safety. Also provides training to develop skills to make quality welds on 14- and 11-gauge mild steel, stainless steel and aluminum, in the flat, horizontal and vertical positions. Prepares students for production/maintenance welding. Prerequisite: WELD180M.

WELD185M Gas Metal Arc Welding *(MIG)* **1-3-2**
Provides students with a technical understanding of gas metal arc welding, flux-cored arc welding, equipment adjustments, metal transfer modes, filler metals, shielding gases and welding safety. Also provides training to develop the skill necessary to make quality *(GMAW)* and *(FCAW)* welds in various positions on mild steel, stainless steel and aluminum, using short circuit, globular and spray transfer modes and illustrates problems in industrial situations and provides corrective information. Prerequisite: WELD180M.

WELD186M Blueprint Reading for Welders **3-0-3**
Introduces: print reading, covering the different types of lines, dimensions and notes used to make sketches and prints; the various types of views and their relationship to each other; the welding symbols; and inspection and testing symbols for all welding processes. Students will develop a practical understanding of the blueprint reading knowledge required by the welding industry for employment. Prerequisites: WELD180M or WELD111M and WELD113M or permission of instructor.

WELD211M Structural Code Welding Lab **0-12-4**
Covers the hands-on practice of Shielded Metal Arc Welding as applied to the American Welding Society Structural Steel Code D1.1. Students perform welder qualification tests in all positions and subject the test coupons to the required forms of mechanical testing. The role of the Welding Inspector is also covered, as well as the documentation required for both welder and weld-procedure qualification. Students gain experience in the inspection role to become familiar with weld defects and discontinuities. Prerequisites: WELD111M, WELD112M, WELD121M, WELD122M, WELD125M.

WELD212M Code Welding Theory **3-0-3**
This course will cover proper industrial quality-control procedures with respect to welder qualification, welding procedure qualifications, materials control and quality assurance organization. These concepts will then be utilized in discussion of three major welding codes and specifications: A.W.S., D1.1, ASM.E., boiler and pressure vessel code and A.P.I. 1104, which covers cross country pipelines. The principles and practices of common forms of non-destructive testing will be covered with emphasis placed upon weld defects and discontinuities. Several methods of safely performing leak testing will be covered. Weldability of the steels and non-ferrous metals will also be discussed, as well as the weldability of dissimilar metals. Prerequisites: WELD111M, WELD112M, WELD121M, WELD122M, WELD125M.

WELD213M Metallurgy **2-2-3**
This course is an introduction to the science of Metallurgy and its application to the welding of various metals. The course includes theoretical studies, as well as laboratory exercises. The concepts covered will include: identification of metals; grain structures; heat treatment processes; quench mediums and effects of mass on quenching; composition of ferrous and non-ferrous alloys; microscopic examination of metals; hardness, spark and tensile testing; and the effects of carbon and alloy content on heat-treatments and welding. Prerequisite: MATH111M; Corequisite: MATH135M.

WELD220M Fabrication Techniques and Estimating **2-2-3**
This course deals with problems encountered when welding different types of steel and non-ferrous metals in a production shop; the use of arc motion and work motion equipment and robotics in the modern welding factory; the importance of welding procedures and the use of fixtures; and the estimating of typical welding costs *(materials, cutting, welding, consumables and overhead)* used to price out a job. Prerequisites: WELD111M, WELD112M, WELD121M, WELD122M, WELD211M, WELD212M.

WELD221M Pipe Code Welding **0-12-4**
Students use arc welding equipment to make multiple pass and 100% penetration welds in the 1G, 2G, 3G and 4G positions on mild steel plate with electrodes from the fast freeze, fill freeze and fast fill groups; safely utilize arc welding equipment to produce welds on 4-inch and 6-inch standard steel pipe in the 1G, 2G, 5G, 6G positions, plus various pipe assemblies. Prerequisites: WELD111M, WELD112M, WELD211M.

WELD223M Statics and Strength of Materials **2-2-3**
This course will introduce the student to the principles of applied statics and strength of materials as they relate to weldments, weld testing, material testing and related rigging. Laboratory projects will involve the use of non-destructive and destructive testing equipment to determine the forces acting upon rigid bodies under a static load, as well as the mechanical properties of materials. Prerequisites: MATH111M and MATH135M or higher and WELD213M or ADMT220M. Corequisite: PHYS100M or higher.

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