MANCHESTER
COMMUNITY COLLEGE



2026–2027 Academic Catalog

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

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General Information

Welcome to Manchester Community College!



Dear MCC Students:

Thank you for joining our community of students, faculty, and staff as we embark on our 81st year educating students from the Queen City and beyond. Founded as a trade school for returning Veterans in 1945, MCC has built our history and core programs to become the comprehensive community college you attend today.

Whichever program you study, whether you are enrolled part-time or full-time, I hope you will embrace the opportunities Manchester Community College has to offer. The college is committed to the educational dream attainment of every one of our students and provides both supports to students and encourages momentum to credential completion.

Please reach out to MCC faculty and advisors early on if you have questions about class material, deadlines, or policies. Connection and communication are important as you navigate new situations. You'll find tutors online and in person in the Learning Commons, where you'll also find various study areas and even a family study space where children are welcome. While the bookstore is fully online, you can visit the Learning Commons if you need help activating digital codes for course materials.

Our offices are available in person and remotely, so stop by the Welcome Center if you have questions about your bill or registering for classes. You can email or "chat" with the bursar, financial aid, or registrar online. MCC's food pantry, "My Campus Cupboard" is in Room 117 of the main building. Feel free to visit for snacks or groceries as needed when the campus is open.

Please also be sure to connect with your fellow classmates, both in the classroom and through student life activities. There are dozens of student clubs and leadership opportunities, which you can learn more about at the Club Fair held each semester.

Thank you again for choosing MCC as part of your educational journey. I look forward to meeting you and supporting your success.

Gratefully yours,

Paul M. Beaudin, Ph.D.

Dr. Paul Beaudin, *President*
Manchester Community College

Address and Campus Directions

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.

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; Honesty.

Inclusivity Statement

At Manchester Community College, we honor people with all of their intersecting identities and experiences. Our diversity is a strength that enriches us, and we commit to ongoing efforts to ensure everyone feels welcomed and valued.

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, a separate Automotive Training Center and the Susan D. Huard Advanced Technologies building. 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 65 degree and certificate programs, as well as workshops and professional development programs on campus and online.

Statements of Legal Compliance

Non-Discrimination Policy

Manchester Community College, as part of the Community College System of NH, 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, as amended
2. The Age Discrimination in Employment 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)
8. NH Law RSA 188-F-3a
9. Genetic Information Nondiscrimination Act of 2008

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/financial 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 HUB. 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.

What You Will Gain with 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 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.

Admissions Requirements

Manchester Community College has an open admissions policy for graduates of approved accredited high schools, homeschool programs, or those individuals that possess a high school equivalency diploma (HiSET or GED). **Admission to the College does not necessarily mean admission to all courses or programs.**

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.

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). 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:

- We strongly encourage you to submit official transcripts from all secondary institutions previously attended, as well as any applicable testing scores (SAT, ACT and AP) for placement purposes, including proof of completion of high school or its equivalent.

- 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.
- Admission to selective programs requires a high school transcript. (See more information on our website.)

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 list of courses taken and grades earned and/or portfolio of work accomplished
- GED/HISET or other testing for placement purposes, if applicable

Transfer Students

Follow the application procedures outlined above and:

- Submit official transcripts from the institutions of higher learning previously attended.
- 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.

Re-admitted 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
- 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 registering as a non-matriculating student must:

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

Academic Placement

Prior to registering for English and/or Mathematics courses, students must first be assessed based on High School transcripts, Hi-Set Scores or SAT scores. See the Academic Placement Policy for more details. 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.

Tuition Deposits

Students admitted into the Nursing program are required to submit a nonrefundable 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.

Orientation

Attendance at one of the college's orientation programs is strongly advised for all new students.

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

Financial Aid Overview

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 Program.

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, 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.studentaid.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.studentaid.gov to apply online. (This takes up to 2 weeks to process after submitted to the Department of Education.)
- Give yourself enough time to complete the Financial Aid process before payment/payment arrangement is due (7 days into semester). Plan to 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.

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 $380 to $7,395 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.

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 as 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 (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 and 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.

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)

Financial Aid Satisfactory Academic Progress (SAP) Policy

The Financial Aid Office is required by federal regulations to periodically review financial aid recipients to ensure that they are making academic progress towards 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.

Component	Requirement
QUALITATIVE — Cumulative GPA (CGPA) Component	Must have earned the required CGPA at the published intervals.
QUANTITATIVE — Pace (Completion Rate) Component	Must complete at least 66.666% of the credits attempted, rounded to the nearest percent.
QUANTITATIVE — Maximum Timeframe Component	Students must complete the program of study within 150% of the timeframe allowed.

In general, coursework that is taken while in attendance at the CCSNH institution is considered when reviewing a student's academic record for satisfactory academic progress. However, there are some exceptions. Please see the section on Treatment of Repeated Courses, Audited Courses, Incompletes, Developmental/Remedial Courses, English as a Second Language Courses (ESOL), Credits by Examination, Non-punitive grades, Pass/Fail Grades, Withdrawals.

Qualitative Standard

Cumulative GPA (CGPA) Component A student must maintain a minimum cumulative grade point average as noted below in order to be making satisfactory academic progress. A GPA calculator is available at https://www.ccsnh.edu/admissions/gpa-calculator/

Total Credits Passed at Institution	Minimum CGPA Required for the Program	
	Certificate/Diploma	Associate Degree
0-13	1.50	1.50
14-27	2.0	1.70
28-40	2.0	1.80
41+	2.0	2.0

Quantitative Standard

Pace (Completion Rate Component) and Maximum Timeframe Component

The quantitative standard of the satisfactory academic policy is comprised of two elements. The first element, maximum time frame, is the time frame by which a student must complete an academic program. The second element, pace, includes determining whether a student is on track to complete the program within the set maximum time frame. Once it has become apparent a student will be unable to complete their academic program within the maximum time frame, either by falling below the pace standard or by having attempted 150% of the credits required to complete their academic program, the student becomes ineligible for Title IV aid.

Pace (Completion Rate Component): A student must complete at least 67% of the total credits he/she attempted throughout his/her academic career at the college, rounded to the nearest percent. All attempted credits, including transfer credits, will be included in the quantitative calculation.

For example, a student who has attempted 36 credits at the college must earn credit for at least 24 credits in order to meet the requirements of satisfactory academic progress.

Maximum Timeframe Component: In order to be eligible for federal student aid, students must complete the program of study within 150% of the timeframe allowed. For example, a student enrolled in a 60 credit degree program must complete the program before exceeding 90 attempted credits. For a student who changes majors, only coursework attempted that is applicable to the new program of study is counted in the maximum timeframe. Developmental and remedial classes may be excluded from the 150% calculation. Throughout enrollment, as soon as it can be determined that a student is not on target to graduate within 150% of the standard program length, financial aid will be suspended. Students may be identified and suspended as they reach the 150% time limit, but the college understands there are situations such as enrollment for a 2nd or subsequent degree, a change of major, or the non-applicability of transfer credit the could result in a student needing a reset of the Quantitative – Maximum Timeframe Component.

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 federal student aid will be included in the review. Additionally, periods for which the student was granted academic amnesty will be included in the review.

Timing of the Review

The Financial Aid Office of the CCSNH institution will evaluate a financial aid recipient's satisfactory academic progress upon completion of each semester within the academic year of the program the student is enrolled in.

Results of the Review

Meeting Satisfactory Academic Progress (SAP) Standards

Students who meet SAP standards will be coded as making Satisfactory Academic Progress and will retain eligibility for federal student aid for the next semester of enrollment.

Satisfactory Academic Progress (SAP) Warning

Students who do not meet SAP standards will be placed on SAP warning for one semester. Students placed on SAP warning will retain eligibility for federal student aid for the warning semester.

At the end of the warning period, SAP standards will be reviewed. If the student meets SAP standards, he/she will be coded as making satisfactory academic progress and retain eligibility for federal student aid for the next semester of enrollment. If the student is still unable to meet SAP standards, he/she will be ineligible for federal student aid at the institution until he/she is able to meet SAP standards or granted Probation.

Satisfactory Academic Progress (SAP) Suspension

If the student is still unable to meet SAP standards after his/her Warning Period, he/she will be ineligible for federal student aid at the institution until he/she is able to meet SAP standards or has been granted Probation.

Satisfactory Academic Progress (SAP) Probation

A student who becomes ineligible for federal student aid may appeal for a review of that determination. If the appeal is granted, a student is assigned a SAP status of Probation. Generally, all students must have an academic plan if he/she requires more than one semester to reestablish financial aid eligibility. During Probation, the student is eligible to receive federal student aid.

Appeal Process

A student who becomes ineligible for federal student aid may appeal for a review of that determination. The student appeal request and any supporting documentation or degree audit must be submitted to the Financial Aid Office.

A successful appeal results in Probation and allows the student to be eligible for federal student aid for his/her probationary period.

A student choosing to submit an appeal of his/her SAP review results may be requested to submit the following information to the Financial Aid Office:

- A written explanation of the circumstances that prevented him/her from achieving SAP standards, documentation of any extenuating circumstances, and what has changed in his/her situation that will allow him/her to achieve satisfactory academic progress unless the situation was evident. The Financial Aid Appeals Committee reserves the right to request further information from the student to support information provided in his/her explanation.
- An academic plan which the student will follow to regain satisfactory academic progress.
- If a student changes curriculum programs, is working toward multiple degrees/certificates, or graduates and enrolls in a second degree and then reaches 150% of the credits required for the new degree (or primary degree/certificate in the case of multiple degrees/certificates), a degree audit or academic plan may be requested with the appeal and will be evaluated on an individual, case-by-case basis.

Regaining Eligibility

Unless an appeal is granted, a student can regain financial eligibility only by taking action that brings him/her into compliance with both the qualitative and quantitative components of the CCSNH institution's satisfactory academic progress policy. Neither paying for one's own classes nor sitting out a semester affects a student's SAP standing, so neither is sufficient to re-establish financial aid eligibility.

If a financial aid recipient believes he/she is meeting Satisfactory Academic Progress standards then he/she can request to have his/her SAP standing reviewed upon completion of the semester. If the student is found to be meeting both the qualitative and quantitative components of the SAP policy and to not have exceeded maximum time frame, then his/her status will be updated to reflect he/she is meeting Satisfactory Academic Progress standards, and the student will be eligible to receive Title IV financial aid the next semester.

Satisfactory Academic Progress (SAP) Review FAQs

Question	Answer
When is my academic progress reviewed?	At the end of each semester.
What academic periods are included?	All periods, even those in which the student did not receive financial aid, was in a different major, and those for which the student was granted academic amnesty.
What are the results of the review?	Satisfactory Academic Standing, Warning, or Suspension.
What does Warning mean for me?	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 federal student aid for their warning semester.

Question	Answer
What happens at the end of the Warning Period?	At the end of the warning period, SAP standards will be reviewed. If the student meets SAP standards, he/she will once again be coded as making satisfactory academic progress and will retain his/her federal student aid eligibility for his/her next semester. If the student is still unable to meet SAP standards, he/she will no longer be eligible to receive federal student aid at the institution until such time that he/she is able to meet SAP standards or has been granted Probation.
What does suspension mean for me?	The student will no longer be eligible to receive federal student aid at the institution until such time that he/she is able to meet SAP standards or has been granted Probation.
Is there an appeal process if my aid is suspended?	Yes, please see the section on the Appeal process.
Can you regain Financial Aid eligibility once it has been suspended?	Yes, please see the section on Regaining Eligibility.
What does Probation mean?	A student who becomes ineligible for federal student aid may appeal for a review of that determination. If the appeal is granted, a student will be assigned a SAP status of Probation. During Probation, the student will be eligible to receive federal student aid funding.

Review Treatments

Academic Amnesty, Repeated Courses, Audited Courses, Incompletes, Developmental/ Remedial Courses, English as a Second Language Courses (ESOL), Credits by Examination, Non-punitive grades, Pass/Fail Grades, Withdrawals

The following table is a breakdown of how each type of course or credit is treated in the review.

	Cumulative GPA Component	Completion Rate Component	Maximum Timeframe Component
Academic Amnesty	Y	Y	Y
Repeat Courses	Y	Y	Y
Transfer Credits	N	Y	Y
Consortium Credits	N	Y	Y
Developmental/ Remedial/ESOL	Y	Y	Y
Incompletes	Y	Y	Y
Audit Courses	N	N	N
Non-punitive Grades	N	Y	Y
Pass/Fail Grades	N	Y	Y
Withdrawals	N	Y	Y

Academic Amnesty

Students who are granted academic amnesty should be aware that previous grades will be used to evaluate Satisfactory Academic Progress (Quantitative and Qualitative) for financial aid purposes even though they are not included in the new academic grade point average. The repeat course policy applies to courses under academic amnesty.

For more information on academic amnesty, refer to your MCC's academic catalog.

Repeat Courses

For one time only, financial aid will cover a repeated course that has been previously passed (and paid for with financial aid funds). For this purpose, passed means any grade higher than an "F," regardless of any program requirement of a higher qualitative grade.

Financial aid funds may be used repeatedly to pay for a course if the student failed/withdrew. However, if a student passed a course once, and uses financial aid funds for retaking it and fails, that failure counts as their paid retake. The student may not be paid for retaking the course a third time. Credit for a course can only be earned one time. Only the most recent attempt of the repeated course is counted in the Cumulative GPA and the quantitative earned credits. Attempted credits are always part of the quantitative calculation.

Transfer Credits

Credits that are transferred in from another institution will be excluded from the student's cumulative GPA. However, they will be included in the calculation for the maximum timeframe and completion rate components.

Consortium Credits

All courses taken at an institution other than the 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 cumulative GPA component.

Developmental / Remedial / ESOL Credits

Credits from these courses may be included in the calculations for all three components of the satisfactory academic progress review. A student is eligible for up to 24 credit hours of federal student aid in this category. ESOL credits are not counted against the 24 credit hour limitation. These courses may be removed from the quantitative and maximum timeframe calculations, but never from the qualitative calculation.

Incompletes

Incompletes must generally resolved by the end of the third week of the semester following the receipt of the incomplete grade. If not, the grade is either automatically changed to an "F" or is considered to be an "F" for all components of the satisfactory academic progress review.

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 pay for credit by examination. Credit by Examination is included in the maximum timeframe and completion rate components of Satisfactory Academic Progress but is not included in the cumulative GPA component.

Non-punitive Grades

Non-punitive grades will not impact the cumulative GPA component of a student's SAP status. However, they will be included in the calculation of the maximum timeframe and the completion rate components.

Pass / Non-Pass Grades

Pass/Non-Pass grades will not impact the cumulative GPA component of a student's SAP status. However, they will be included in the calculation of the maximum timeframe and the completion rate components.

Withdrawals

Withdrawals will not impact the cumulative GPA component of a student's SAP status. However, they will be included in the calculation of the maximum timeframe and the completion rate components.

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

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

Tuition & Fees

In-State Students - (New Hampshire Residents) $238/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) $357/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 - $523/credit*

Fees *(Required)*

Type of Fee	Amount
Academic Instruction Fee	$110 per lab hour
Comprehensive Fee	$25 per credit*

Other Fees

Type of Fee	Amount
Automated Manufacturing Technology Materials Fee	Up to $250 per select courses
Automotive Technology Materials Fee	Up to $200 per select courses
Challenge Exam Fee	No Fee
CLEP Exam	$25
Computer Info System Test Fee (102M/103M)	$122 per select courses
Computer Info System Test Fee (116M)	$278
Cybersecurity Investigations Test Fee (220M)	$215
Electrical Technology Materials Fee	$100 per select courses
Fine Arts - Modeling Fees	$20 per select courses
Graphic Design Supplies Fee	$20 per select courses
HVAC Materials Fee	$100–$375 per select courses
ID Replacement	$10
Liability Insurance	$25 per select courses
Library Fine	Replacement charge for lost items
Lineworker Materials Fee	$100 per select courses
NSNA Membership (*Optional*)	$25 per year
Nursing ATI Standardized Testing Fee	Freshman $772 per semester / Senior $756.26 per semester
Nursing Clinical Surcharge	$500 per semester
Nursing Pinning Fee	$20
Nursing Tuition Deposit	$100
Parking Fine	$5–$25
Payment Plan Service Fee	$35 per semester
Returned Check Fee	$35 or 5% of check's face value plus any bank fees
Welding Materials Fee	Up to $315 per select courses

Books and Supplies (*Estimated*)

Type of Fee	Amount
Texts and Writing Materials	$800 per semester
Automated Manufacturing Technology Tools	$1,500
Automotive Tools and Supplies	$2,500–$4,000
Graphic Design - Color Theory Course Supplies	$20
HVAC Tools	$1,800
Nursing Lab Kit	$130
Nursing Uniforms and Supplies	$350
Welding Tools and Supplies	$300

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

Payment

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 by the tuition due date which is the Friday after the first day of class. If the class is two weeks or less, then tuition due date is two weeks prior to the start of the semester. If the class is two weeks or less, then the tuition due date is the day after the first class. For late registration, payment in full must be made within 48 hours upon registration. Cash, Check, Visa, MasterCard and Discover are accepted as payment. All debit/credit payments are charged a 2.85% transaction fee.

Students awaiting scholarships or financial aid awards to cover tuition must have the appropriate paperwork completed by the semester tuition 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 your SIS 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 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 $110 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 (3), Lab (3), Credit (4)
(4 credits - 3 lecture hours = 1 x 110 = $110)

Comprehensive Student Services Fee (CSS)

$20 per credit - This per credit fee is charged for every credit regardless of the number of credits taken. Online courses will also 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.

Lost Library Materials

Students will be charged for the replacement of lost items.

Nursing Clinical Surcharge

All nursing students taking clinical courses will be charged a nursing clinical surcharge of $500 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.

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 nonsufficient 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.

Veterans Education Benefits

The academic programs at MCC, Manchester Community College have been approved by the NH Department of Education for Veterans Education benefits, for persons eligible for GI Bill® and Federal Tuition Assistance. Students who have questions regarding their eligibility should contact the VA at 1-888-442-4551 or their Education Service Specialist in their military branch. Any student who will be using VA educational benefits must contact MCC's VA Certifying Official in the Registrar's Office to ensure that all necessary paperwork has been processed. GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at www.benefits.va.gov/gibill.

Tuition Rate for Veterans

MCC charges qualifying Veterans and Dependents at the in-state tuition rate, in accordance with Section 702 of the Veterans Access, Choice and Accountability Act of 2014 ("Choice Act"), for payment of benefits under the Post-9/11 GI Bill and Montgomery GI Bill-Active Duty, and under the following policy (Community College System of New Hampshire finance policies at 421.01.1):

- A member of the Armed Forces of the United States stationed in New Hampshire under military orders, or stationed in a contiguous state but temporarily living in NH, shall be entitled to classification for himself/herself, spouse and dependent children as in-state for tuition purposes so long as said orders remain in effect and residence in New Hampshire is continued. Furthermore, military personnel who are residents of another state but choose New Hampshire as their residence within 90 days of being discharged from the military will be considered New Hampshire residents and charged in-state tuition.
- A veteran, as defined under RSA 21:50, I, or a covered individual, as defined under Chapter 30, 31, 33 or 35 of Title 38 or Chapter 1606 of Title 10 of the United States Code using educational assistance benefits provided under federal law, shall be charged in-state tuition while living in New Hampshire and enrolled in any institution of the Community College System of New Hampshire.
- A spouse or child using educational assistance benefits provided pursuant to Chapter 30, 31, 33 or 35 of Title 38 or Chapter 1606 of Title 10 of the United States Code shall be charged in-state tuition while living in New Hampshire and enrolled in any institution of the Community College System of New Hampshire.

Tuition Refund Policy

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-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 Loan funds to the U.S. Department of Education. In terms of William D. Ford Direct 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 (William D. Ford Direct): If a student is in the first year of an undergraduate program, is a first-time borrower under the William D. Ford Direct Loan 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
- The spring semester, the appeal must be received no later than the end of the summer semester
- 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 via email to MCCAppeals@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

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
  (A student must take more than 12 credits per semester to complete an associate degree in two years. We encourage students to Think30! when registering for classes.)
- **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 credits 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.

Degree Requirements

Associate of Arts Degree (A.A.)

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. The Associate of Arts Degree program requires a minimum of sixty (60) 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 37 credits in programspecific courses. Specific course requirements are defined by individual programs. The following categories must be included and have the minimum number of credits as listed:

- English Composition 3-4 credits
- English Electives 3 credits
- Foreign Language / Humanities / Fine Arts 9 credits
- Science (including one lab science) 7-8 credits
- Quantitative Reasoning / Mathematics 6-8 credits
- Social Science 9 credits

AND EITHER

- Electives in Specialized Major Field 20-24 credits

or

- Liberal Arts Electives (from list above) 12-15 credits

AND

- Open Electives 9 credits

Totaling a minimum of 60 credits

Associate of Science Degree (A.S.)

The minimum number of credits for the Associate of Applied Science is 60. 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.

The following categories must be included and have the minimum number of credits as listed:

1. **30** credits from program or major specific courses
2. **20** credits in Liberal Arts courses including a minimum of three credits in each of the following:
    - English Composition
    - Foreign Language / Humanities / Fine Arts
    - Quantitative Reasoning / Mathematics
    - Science
    - Social Science

    The remaining credits can be from Foreign Language / Humanities / Fine Arts, Quantitative Reasoning / Mathematics, Science or Social Science
3. **10** credits as deemed appropriate by faculty.

A student may be automatically awarded a credential if all criteria is met.

Associate of Applied Science Degree (A.A.S.)

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 upperdivision 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 following categories must be included and have the minimum number of credits as listed:

1. 30 credits from program or major specific courses
    - 15 credits in Liberal Arts courses including a minimum of three credits in each of the following:
    - English Composition
    - Foreign Language / Humanities / Fine Arts or Mathematics
    - Science
    - Social Science

The remaining 15 credits to reach the required minimum total of 60 credits may be assigned in any subject area, as deemed by the faculty to be appropriate to the curriculum.

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)
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

To earn Diploma or Professional Certificate from any CCSNH college, a student must:

- Successfully complete at least thirty (30) credits in college-level coursework designed to meet defined competencies in an occupational field (excluding remedial or developmental coursework/credits – i.e., those identified as being "for institutional credit only"); the thirty (30) credits must include ten (10) credits of general education coursework.
- Earn at least eight (8) credits or 25% of total program credits, whichever is larger, in coursework offered by and under the control of the college awarding the degree.
- Achieve a Cumulative Grade Point Average (cGPA) of 2.0 or higher in all courses in the Diploma or Professional Certificate program (only) taken at the college awarding the degree.

Certificate

To earn a Certificate from any CCSNH college, a student must:

a. Successfully complete all program credits in college-level coursework designed to meet defined competencies in an occupational field (excluding remedial or developmental coursework/credits – i.e., those identified as being "for institutional credit only").

b. Earn at least six (6) credits or 25% of total program credits, whichever is larger,
in coursework offered by and under the control of the college awarding the degree;

c. Achieve a Cumulative Grade Point Average (cGPA) of 2.0 or higher in all courses in the Certificate program (only) taken at the college awarding the degree.

Colleges reserve the right to automatic conferral of certificate programs.

Micro-Credentials

CCSNH adopts the UNESCO definition of a micro-credential.

1. **A micro-credential:**
    - Is a record of focused learning achievement verifying what the learner knows, understands or can do;
    - Includes assessment based on clearly defined standards and is awarded by a trusted provider;
    - Has stand-alone value and may also contribute to or complement other micro-credentials or macro-credentials, including through recognition of prior learning; and meets the standards required by relevant quality assurance.

2. **To earn a micro-credential** from an CCSNH college, a student must successfully complete the program of study published and adopted by the granting institution.

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 nonmatriculated 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 15 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.

Academic Placement Policy

Any student admitted into a degree, professional certificate or certificate program at MCC must be assessed in English and math so that appropriate course placements can be made. Before students may register for math or English courses, or courses that require English proficiency as a pre-requisite, they must demonstrate mastery of the high school level material. This mastery is demonstrated through placement requirements. Students will not be denied admission based on placement. 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.

Students will be assessed for academic placement utilizing the following:

- Completed SAT testing; minimum scores vary by program and can be discussed with an Advisor.
- High school transcripts: minimum requirements vary and can be discussed with an advisor. In general, students will need 3 years in English or Math and meet minimum cumulative GPA requirements.
- Ability to read at the college level; based on academic placement.
- Hi-Set Scores: students must meet the designated Hi-Set score for college readiness, an advisor will make this assessment.
- Transferred a college-level mathematics or English course from another accredited institution into an MCC program
- If a student does not have access to any of the above, or their scores are greater than 5 years old, the student will be asked to complete an English writing assessment or engage in conversation with our fulltime math faculty.

Any student who has a disability that might interfere with his/her ability to take any assessment independently may request special testing accommodations from the Accessibility Coordinator. Students who are non-native speakers of the English language may be asked to complete a reading assessment in addition to the writing assessment to determine course placement based on level of English proficiency.

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.

Student Success Placement Policy

FYE100M MCC Essentials: The MCC Essentials course should be taken in the students' first semester of attendance. Students who transfer with 15 or more credits may elect to be exempted from the course.

English Placement Policy

Before students may register for college-level English courses, they must demonstrate mastery of English by one of the methods outlined above.

English Placement Guidelines

Students who take the MCC Writing Assessment and score below a 3 will place into ENGL 095M.

Students who do not place into ENGL095M, ENGL110XM or ENGL110M based on their scores, transcripts or MCC writing assessment should meet with the ELL Academic Support Specialist for further resources.

Mathematics Placement Policy

Before students may register for college-level mathematics courses, they must demonstrate mastery of mathematics at the high school level by presenting SAT scores, Hi-Set scores, high school transcripts, previously earned college credit or by conferring with MCC math faculty to discuss previous math education and experience.

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.

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, 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 online at mccnh.edu.

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 at mccnh.edu/graduation.

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

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 and understand and access the resources available to help them succeed and regularly connect with a faculty academic advisor who supports their efforts. All students who are matriculated into an academic program have an advisor assigned to them.

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 helping create an academic plan. Students are expected to seek out their faculty advisor for assistance with registration, course selection and to support successful progression toward their educational goals.

Academic Advising Center

Faculty serve as the primary academic advisors for all matriculated students. Liberal Arts students and non-matriculated students are advised in the Academic Advising Center in Room 248.

The mission of the Academic Advising Center is to foster learning and help students achieve their highest academic potential. MCC students may use the services in the Advising Center to become successful, independent learners through collaboration with the rest of the college community.

English Language Learner Support is available in the Academic Advising Center. The Advising Center offers assistance in soft skills, such as: study skills, test taking, and time management, among others. Advisors run study groups, as well as workshops for students in specific courses or areas of study on an as-needed basis.

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 MCC Essentials course is designed to do this and provide specific skills to maximize academic performance.

MCC Essentials

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

MCC Essentials - 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 previously attended an accredited college or university where he/she completed a minimum of 15 credits with at least a 3.0 CGPA.

Academic Support Services

Learning Commons

The Library, Well-being, Multi-faith and Sensory Center, Accessibility Coordinator, Tutoring, and Student Support Counselor, are all located in the Learning Commons. Research assistance, accessibility support, writing and citation advice and tutoring in many subjects are available online or in person. Students can make appointments for these services in Navigate or drop in.

To accommodate diverse learning and study styles, the Learning Commons has multiple study spaces, including group study rooms, study carrels, a family study room and a silent study room. The space, resources and services promote an active and engaging learning environment.

Ask Us Anything

The free Ask Us Anything course in Canvas is where students can ask other students as well as staff and faculty from a variety of MCC offices and departments anything they want to know about being a student at MCC.

Career Development

Career Development prepares students for successful careers in the 21st century. In-person and online resources are available to MCC students as they achieve their academic and career goals. MCC has robust online resources which provide employment opportunities, resume and job preparation assistance, as well as a career resource library.

Outgoing Transfer Services

Transfer services are available to guide students in the pursuit of a four-year degree and beyond. MCC has a variety of established articulation agreements and transfer pathways. See Transfer Opportunities and Articulation Agreements for more information. Transfer services are located in the Academic Advising Center, Room 248.

Library Services

The MCC Library supports teaching and learning and helps students succeed in college, careers, and life. 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 computers and laptops, printers and a scanner. For more information visit the library's website at library.mccnh.edu/home.

Nearly all MCC library services and resources are available to students online 24/7. 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. Librarians are available to help with research in person or online via chat, text, phone, email or Zoom, and students are welcome to drop in or make an appointment for Library Research Help in Navigate. Look for links in Canvas to access the library's online resources and services or visit the library's website: library.mccnh.edu/home.

Online Learning

CCSNH Academic Technologies Support offers online learning support to all students for both technical and academic purposes. Technical support relates to resolving course access difficulties within the Canvas learning management system. Academic support relates to assistance with course navigation and working with class content within Canvas courses. Most courses have a Student Canvas Orientation Module in the Modules tab with learning resource links including videos, as well as a learning readiness quiz. You can also contact the Educational Technologies Specialist for virtual assistance. Email: CCSNHAcademicTechnology@ccsnh.edu

Accessibility 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. Accessibility Services are available to MCC students with documented disabilities through the Accessibility Coordinator. As each student's needs are unique, the provisions of services are designed individually and through an interactive process. Academic adjustments or accommodations are determined by the nature of the disability, requirements of the curriculum or program of study, and the timeliness of the request. Student's documentation and disability information is treated confidentially.

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

Students denied accessibility services may submit a written appeal of the decision to the Vice President of Student and Community Development (VPSCD) within 10 working days of the receipt of the decision from the Accessibility Coordinator. If the student does not agree with the decision of the VPSCD, 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, 8th floor, 5 Post Office Square, Boston, MA 02109-3921; (617) 289-0111 or OCR.Boston@ed.gov

Tutoring Services

Tutoring is provided free of charge to MCC students enrolled in credit-bearing courses, covering a wide range of subject areas to support their coursework.

In-person tutoring is available in the Library/Learning Commons on a drop-in basis or by appointment, which can be scheduled through Navigate. Online 24/7 tutoring is also available through Brainfuse, accessible via the Canvas course menu, and includes live help in various subjects, a Writing Lab, and practice test resources. For more information visit the Learning Commons, email MCCTutoring@ccsnh.edu, call (603) 206-8151 or visit library.mccnh.edu/home/tutoring.

Student Support Services

Student Support Services

The Office of Student Support Services provides an open environment where students can find support for any academic or personal challenges to help ensure they can make 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 non-clinical counseling and support groups (as needed)
- Referrals to on-campus resources (faculty, tutoring, student life, accessibility office, food pantry, Title IX and more)
- Referral to relevant community agencies {fuel assistance, legal aid, scholarships, food, housing, transportation, physical and mental 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. MCC 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, MCC 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 Services can be found here:

Veterans Admissions Counselor
Mark McGrath
Office: Admissions Office
(603) 206-8104
Email: mmcgrath@ccsnh.edu

Benefits Verification
Office: Registrar's Office
(603) 206-8120
Email: MCCRegistrar@ccsnh.edu

Career & Transfer Development
Shelley Duquette
Office: Suite 248
(603) 206-8171
Email: sduquette@ccsnh.edu

Student Support Counselor
Kristen Butterfield-Ferrell
Office: Learning Commons
(603) 206-8177
Email: kbutterfieldferrell@ccsnh.edu

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

Student Life

Student Life Mission Statement

The Office of Student Life coordinates programming, events and cultural experiences in order to provide students with the following:

- Leadership development and an opportunity to work in a group for a common purpose

- Exposure to new experiences, and a chance to share one's interests and talents with others
- Experiences that build a connection to campus and a respect for diversity
- Opportunities to engage in wellness and fitness activities, as well as recreational sports
- An understanding of the value of community involvement and service to others
- A sense of self and a voice in determining their future

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. 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 MCC Essentials (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 re-admission.
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 online bookstore. Students may purchase all books, required course material, and MCC Gear at our online bookstore.

Bus Service

Bus service is provided by Manchester Transit Authority and is available Monday-Friday. Schedules are available at the main reception desk. Students are eligible to ride the bus for free. See the main reception desk for details.

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. Meal plans are available for students as optional add-ons. There are three levels available. Students may choose to use their financial aid toward the cost of a meal plan. Students may sign up on the Student Services part of the website.

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 at https://nighthawks.mccnh.edu/student-services/student-handbook-pdf/ 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's Child Development Center (CDC), run by a private vendor, offers infant/toddler and preschool care and serves as a Lab School for MCC's Early Childhood Education (ECE) students. The CDC is staffed by qualified ECE teachers and can often provide a lower teacher/child ratio with the addition of supervised student interns. The Child Development Center provides developmentally appropriate and individualized programming to support all children and families. 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.

My Campus Cupboard

MCC has grab-and-go food available for all students during normal campus hours. My Campus Cupboard is located in Suite 117.

MCC Alerts

MCC RAVE 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 RAVE 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 RAVE ALERTS visit the college website.

Transfer Opportunities and Articulation Agreements

Transfer Overview

Transfer from MCC to Other Institutions

Many MCC students transfer to a four-year college or university upon completion of their Associate degree. MCC has developed partnerships with public and private four-year institutions in New Hampshire and throughout the country. These partnerships include individual course acceptance, articulation agreements, transfer pathways and NH Transfer and NH Dual Admission programs. Transfer policies vary according to each institution. When transferring to another institution, the number of transfer credits granted for courses completed at MCC is determined entirely by the institution to which the student is transferring.

Transcripts

MCC partners with the National Student Clearinghouse (NSC) to provide online transcript ordering for our students and alumni for $5, including Early College, Dual Enrollment and Running Start.

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 Keene State College (KSC), Plymouth State University (PSU), the University of New Hampshire (UNH), the University of New Hampshire Manchester (UNH Manchester) or UNH College of Professional Studies (CPS). NHTCP students begin their college study at 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 your faculty and transfer advisor to select classes that will prepare you to meet the specific transfer goals you have for your future.

Meeting the criteria listed below will facilitate* your general admission to KSC, PSU, UNH, UNH Manchester and UNH College of Professional Studies.This means that you would qualify for admission to the institution and to most of the programs. However, every semester there are a few majors that limit the number of new transfer students that they accept, due to severe space limitations or specific course prerequisites. We encourage you to contact the KSC, PSU, UNH, UNH Manchester or CPS Admissions Office to see whether the major you are interested in is limited.

Transfer Requirements for Non-Restricted Majors:

NHTCP Req.	Minimum CGPA	Lowest transferable grade	Courses that must be taken (or competencies met)
CPS	2.5	C	• College composition • Mathematics: equivalent to CPS MATH 502 • Any additional courses in humanities, social or natural
KSC	2.5	C	• College composition • Mathematics: either algebra and trigonometry, 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 and Manchester)	2.8	C	• College composition • Mathematics: through at least Intermediate Algebra or Intermediate Algebra - Corequisite, 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

Transfer Pathways

Transfer pathways provide an opportunity for students to complete an associate degree in designated majors and transfer to a four-year college or university in a similar major. Established transfer pathways are available through USNH institutions including UNH (English, Humanities, Life Science) Plymouth State University (Liberal Arts) and UNH College of Professional Studies. CPS accepts associate degrees into all bachelor degree programs and offers accelerated bachelor's completion programs. New England College and the Institute of Art and Design at NEC offer many transfer pathways as well.

NH Transfer

NH Transfer provides resources and support for NH students to map the most seamless, efficient, and cost effective pathway to completing a four-year degree. The NH Transfer website, www.nhtransfer.org, offers many resources about transfer programs, transfer scholarship opportunities, transfer fairs, transfer advisor contacts and the NH Transfer Credit Database.

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 college -- from American University to Worcester Polytechnic Institute and hundreds of colleges in between -- accept MCC credits. Students usually 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.

Articulation Agreements and Transfer Pathways with 4-Year Institutions

ADVANCED MANUFACTURING
Southern NH University
UNH Manchester
Worcester Polytechnic Institute (WPI)

ALLIED HEALTH PROGRAMS
UNH College of Professional Studies

AUTOMOTIVE TECHNOLOGY
UNH College of Professional Studies
Southern NH University

BEHAVIORAL SCIENCE
Rivier University
UNH Manchester

BUSINESS STUDIES
Franklin Pierce University
Franklin University (online)
Keene State College
New England College
Plymouth State University
Rivier University
Southern NH University
UNH Manchester

COMPUTER SCIENCE
Champlain College
Franklin University (online)
Keene State College
New England College
UNH Manchester

CYBERSECURITY INVESTIGATIONS
Champlain College (online)
Rivier University

EARLY CHILDHOOD EDUCATION
Keene State College
Plymouth State University
Rivier University

EDUCATION
Cambridge College
Keene State College
New England College
Plymouth State University
Rivier University

ENGLISH
Rivier University
UNH

ELECTRICAL TECHNOLOGY
UNH College of Professional Studies
Southern NH University

FINE ARTS
Keene State College
New England College

GRAPHIC DESIGN
UNH College of Professional Studies
Keene State College
New England College

HEALTH FITNESS PROFESSIONAL
New England College

HEALTH SCIENCE
Rivier University

HUMANITIES
UNH

HVAC
Ferris State University
Southern NH University

LIBERAL ARTS
Franklin University
Keene State College*
New England College (*Honors Program partner*)
Plymouth State University
Rivier University
SNHU Online
UNH*

LIFE SCIENCE
MCPHS University
UNH Manchester
UNH

MATHEMATICS
Rivier University

NURSING
Aspen University
Chamberlain University
Colby Sawyer College
Emmanuel College
Endicott College
Franklin Pierce University
New England College
Purdue University
Rivier University
Salve Regina University
Southern NH University
St. Joseph's School of Nursing
UNH College of Professional Studies
Walden University

SOCIAL SCIENCE
Rivier University

TECHNICAL PROGRAMS
UNH College of Professional Studies
Southern NH University

WELDING
Ferris State University
Southern NH University

Many of the colleges we currently work with are moving toward transfer pathways instead of articulation agreements. This includes, but is not limited to: Plymouth State University, UNH College of Professional Studies, St. Anselm College, and the National University System.

+Bachelors Completion Program for Nurses

The Community College System of NH and the University System of NH created a 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.

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

COMPUTER SCIENCE
NH Job Corps

ELECTRICAL TECHNOLOGY
Manchester School of Technology

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

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

NURSING
River Valley Community College (LPN Program)

WELDING
Seacoast School of Technology
W.H. Palmer Career and Technical Center

Higher Education Opportunities

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 Commission of Higher Education (NECHE). 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 60 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.

CREDIT BY EXAMINATION

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 at the time of online registration for the exam. Payment is also made at this time on their website. 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 Learning Commons. For more information, please visit: clep.collegeboard.org

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.

Secondary Education Opportunities

Early College Program Coursework: The New Hampshire *Early College at the High School* Program (formerly Running Start) 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 *Early College at the High School* 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

Early College at MCC: Manchester Community College has established an Early College initiative that specifically allows NH high school students to take MCC credit-bearing courses. The credits students earn through Early College at Manchester Community College can be applied to a degree at MCC or possibly transfer to another college or University. This allows students to get a jump on college at a reduced rate!

Please note: To qualify for Early College, students must be at least 16 years old. Cost per class is 50% of tuition due at the time of registration. Lab fees apply for some courses. Students are also expected to pay for their own books and/or materials.

Students are required to meet with their high school guidance counselor to discuss their interest in the Early College program. Students will also be required to meet with an MCC representative who will make sure the Early College Registration is completed and students are signed up for the correct course.

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.

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/.

Interdisciplinary Studies Degree Program

The Interdisciplinary 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.

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 Interdisciplinary 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, professional certificate, certificate or micro-credential 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.

Military Opportunities

DANTES (Defense Activities for Non Traditional Support) and 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.

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).

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

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

HEALTH FITNESS PROFESSIONAL
Birch Hill Terrace
Best Fitness
Center for Physical Therapy/Exercise
Concord Hospital
Elliot Hospital
Hampshire Hills
Health Fitness Corp/Fidelity

Hillcrest
Merrick Spine Center
Next Level Performance
Performance Rehab, Inc
RSVP/Senior Counts
Synergy
Training Effects
The Complete Athlete-Sports Performance Clinics
Work Out Club & Wellness Center
YMCA/Manchester

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

NURSING
Catholic Medical Center and Affiliates
Dartmouth-Hitchcock Manchester
Elliot Hospital and Affiliates
Infusion Solution
New Hampshire Hospital
Northeast Rehab Health Network
Parkland Medical Center
Veterans Administration
VNA Home Health & Hospice

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.

Non-Credit Learning

Workforce Training

Workforce Development Center

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,need training for professional licenses or certifications and for people who are looking for advancement or a new career challenge.

Some of the many innovative workshops, seminars, courses and certificates address the educational requirements of business professionals, managers and supervisors, office staff, computer and information technology professionals, teachers, medical professionals, and many of the trades such as carpenters, electricians, commercial drivers, welders and various manufacturing technician roles.

The center partners with community organizations, including Southern NH Services, DHHS SNAP E&T and the New Hampshire Charitable Foundation. Each organization provides eligible adults with access to a wide range of employment and training-related services, including tuition assistance.

Corporate and Customized Training

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

- Leadership and Supervisory Skills
- Business Skills
- MS Office Skills
- ESOL (English Speakers of other Languages)
- Commercial Driver Licenses (CDL)
- Manufacturing Courses
- Pharmacy Technician
- Phlebotomy
- Medical Assistant Certification
- Licensed Nursing Assistant
- Veterinarian Assistant
- Communication Skills
- Project Management
- Soldering
- Carpentry
- Welding

To encourage companies to upgrade the skills of their employees, the state has created the NH Job Training Fund, which is now titled the WorkInvestNH Fund and covers up to 50% of the cost of employee training. For more information about the WorkInvest Fund, visit https://www.nhes.nh.gov/services/employers/work-invest-nh.htm.

To contact the Workforce Development Center at MCC, call (603) 206-8160, email ManchesterWDC@ccsnh.edu or visit www.mccnh.edu/wdc.

Grant Funded Programs

WorkReadyNH is a practical, tuition- free professional development program that builds the skills that help employees succeed in the workforce, and that NH employers highly desire. There is a soft skills component, including effective communication, team building, problem solving, and decision making and an essential skills component to focus on adequate levels of reading, math and locating information. In addition, the program can help strengthen resume, communication, conflict resolution and interview skills. At the successful completion of the program, participants can earn the National Career Readiness Certificate (NCRC). Issued by ACT, the NCRC is a portable, nationally recognized, evidenced-based credential that measures essential workplace skills and is a reliable predictor of workplace success. Certificate levels are tied to an extensive database of over 22,000 careers. Each WorkReadyNH session is 60 hours long, offered as a blend of live, interactive class and independent work with both daytime and evening sessions available. For more information visit https://www.ccsnh.edu/colleges-and-programs/workready-nh/.

Goldman Sachs *10,000 Small Businesses* is a tuition-free program for small businesses that links learning to action. In partnership with Goldman Sachs Foundation, Babson College, and CCSNH, participants will gain practical skills in topics such as negotiation, marketing, and employee management that can immediately be put into action. In addition, they will receive the tools and professional support to develop a strategic and customized growth plan that will take their business to the next level. The curriculum is geared around the participants, solely focused on small business management training and includes a 12-week schedule with a mix of in-person and online sessions featuring expert instruction, peer learning and skill building exercises. The curriculum is complemented by business services, including one-on-one business advice, legal and financial clinics, and networking opportunities. For more information visit https://10ksbapply.com/newhampshire.

English Speakers of Other Languages/ESOL

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
- Integration of listening, reading, speaking and writing
- Use of authentic materials
- Understanding and valuing different cultures
- Peer and self-assessment
- Computer literacy
- Vocabulary building

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 intermediate 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 academic writing course. Assessments are administered through the Workforce Development Center. An assessment is not required for the Listening, Speaking and Pronunciation classes. No appointment is necessary.

Open Enrollment Non-credit Courses

Students receive a certificate of completion after each course.

- ESLO050M Listening, Speaking and Pronunciation
- ESL033M Intermediate 1: Academic Paragraph Writing and Vocabulary
- ESL034M Intermediate 2: Academic Paragraph Writing and Vocabulary
- ESL050M Listening, Speaking and Pronunciation
- ESL055M Advanced Academic Essay Writing and Vocabulary

Contextualized Industry ESOL Courses

Specialized ESOL courses are offered for specific areas such as medical/ allied health and can be offered on campus or at companies. For more information, contact the Director of Workforce Development at (603) 206-8160.

Academic Calendar

Date	Event
ACADEMIC CALENDAR FOR SCHOOL YEAR 2026-2027 **Fall Semester 2026**	
Monday, August 31	Fall Semester Classes begin
Monday, September 7	Labor Day Holiday – No Classes and Offices Closed
Tuesday, September 8	Last day to add a First 8-Week Term and 16-Week Term Class without instructor's permission
Tuesday, September 8	Last day to drop a First 8-Week Term Class with a refund
Monday, September 14	Last day to drop a 16-Week Term Class with a refund
Friday, September 18	Last day to resolve "I" grades from Summer 2026 Semester
Monday, September 28	12-Week Term Classes begin
Monday, October 5	Last day to withdraw with "W" grade from a First 8-Week Term Class
Monday, October 5	Last day to add / drop a 12-Week Term Class with a refund
Wednesday, October 14	Last day to withdraw with a "WP" or "WF" grade from a First 8-Week Term Class
Saturday, October 24	First 8-Week Term Classes end
Monday, October 26	First 8-Week Term grades due by noon
Monday, October 26	Second 8-Week Term Classes begin
Monday, November 2	Last day to add / drop a Second 8-Week Term Class with a refund
Thursday, November 5	Last day to withdraw with "W" grade from a 16-Week Term Class
Tuesday, November 17	Last day to withdraw with "W" grade from a 12-Week Term Class
Wednesday, November 11	Veterans' Day Holiday Observed – No Classes and Offices Closed
Thursday, November 26 through Sunday, November 29	Thanksgiving Holiday – No Classes and Offices Closed
Monday, November 30	Last day to withdraw with "W" grade from a Second 8-Week Term Class
Thursday, December 3	Last day to withdraw with a "WP" or "WF" grade from a 16-Week Term Class
Tuesday, December 8	Last day to withdraw with a "WP" or "WF" grade from a 12-Week Term Class
Tuesday, December 8	Last day to withdraw with a "WP" or "WF" grade from a Second 8-Week Term Class
Saturday, December 19	Last day of Fall Semester Classes
Monday, December 21	Fall Semester grades due by noon (full term, 12 week & 2nd half term)
Thursday, December 24-Friday, December 25	Christmas Day Holiday – Offices Closed
Monday, December 28 to Thursday, December 31	Winter Recess – Offices Closed
Spring Semester 2027	
Friday, January 1	New Year's Day Holiday – Offices Closed
Monday, January 18	Martin Luther King Jr. / Civil Rights Day Holiday – Offices Closed

Date	Event
Tuesday, January 19	Spring Semester Classes begin
Monday, January 25	Last day to add First 8-Week Term or 16-Week Term Class without instructor's permission
Monday, January 25	Last day to drop a First 8-Week Term Class with a refund
Monday, February 1	Last day to drop a 16-Week Term class with a refund
Friday, February 5	Last day to resolve "I" grades from Fall 2026 Semester
Monday, February 8	12-Week Term Classes begin
Monday, February 15	Presidents' Day Holiday – No Classes and Offices Closed
Tuesday, February 16	Last day to add / drop a 12-Week Term Class with a refund
Monday, February 22	Last day to withdraw with "W" grade from a First 8-Week Term Class
Tuesday, March 2	Last day to withdraw with a "WP" or "WF" grade from a First 8-Week Term Class
Saturday, March 13	First 8-Week Term Classes end
Sunday, March 14 to Sunday, March 21	Spring Break – No Classes
Monday, March 15	First 8-Week Term grades due by noon
Monday, March 22	Second 8-Week Term Classes begin
Monday, March 22	Registration opens for Fall 2027, Spring 2028, and Summer 2028 Semesters
Monday, March 29	Last day to withdraw with "W" grade from a 16-Week Term Class
Monday, March 29	Last day to add/drop a Second 8-Week Term Class with a refund
Monday, April 5	Last day to withdraw with "W" grade from a 12-Week Term Class
Tuesday, April 20	Last day to withdraw with "W" grade from a Second 8-Week Term Class
Thursday, April 22	Last day to withdraw with a "WP" or "WF" grade from a 16-Week Term Class
Tuesday, April 27	Last day to withdraw with a "WP" or "WF" grade from a 12-Week Term Class
Tuesday, April 27	Last day to withdraw with a "WP" or "WF" grade from a Second 8-Week Term Class
Saturday, May 8	Last day of Spring Semester Classes
Monday, May 10	Spring Semester grades due by noon
To Be Determined	Graduation
Summer Semester 2027	
General Summer Dates	
Monday, May 31	Memorial Day Holiday – No Classes and Offices Closed
Saturday, June 4	Last day to resolve "I" grades from Spring 2026 Semester
Friday, June 18 and Saturday, June 19	Juneteenth Day Holiday – No Classes and Offices Closed
Sunday, July 4 & Monday, July 5	Independence Day Holiday Observed – No Classes and Offices Closed
12-Week Term (Full Term) (May 17 - August 7)	
Monday, May 17	12-Week Term begins
Tuesday, May 24	Last day to add / drop a 12-Week Term Class with a refund
Monday, May 31	Memorial Day Holiday – No Classes and Offices Closed
Friday, June 18 and Saturday, June 19	Juneteenth Day Holiday – No Classes and Offices Closed
Sunday, July 4 & Monday, July 5	Independence Day Holiday Observed – No Classes and Offices Closed
Tuesday, July 6	Last day to withdraw with "W" grade from a 12-Week Term Class
Tuesday, July 27	Last day to withdraw with a "WP" or "WF" grade from a 12-Week Term Class
Saturday, August 7	12-Week Term ends
Monday, August 9	12-Week Term grades due by noon
First 8-Week Term (8 weeks) (May 17 - July 10)	
Monday, May 17	First 8-Week Term begins
Monday, May 24	Last day to add / drop a First 8-Week Term Class with a refund
Monday, May 31	Memorial Day Holiday – No Classes and Offices Closed
Friday, June 18 and Saturday, June 19	Juneteenth Day Holiday – No Classes and Offices Closed
Monday, June 21	Last day to withdraw with "W" grade from a First 8-Week Term Class
Tuesday, June 29	Last day to withdraw with a "WP" or "WF" grade from a First 8-Week Term Class
Sunday, July 4 & Monday, July 5	Independence Day Holiday Observed - No Classes and Offices Closed
Saturday, July 10	First 8-Week Term ends
Monday, July 12	First 8-Week Term grades due by noon
Second 8-Week Summer Term (8 weeks) (June 14 - August 7)	
Monday, June 14	Second 8-Week Term begins
Friday, June 18 and Saturday, June 19	Juneteenth Day Holiday – No Classes and Offices Closed
Monday, June 21	Last day to add / drop a Second 8-Week Term Class with a refund
Sunday, July 4 & Monday, July 5	Independence Day Holiday – No Classes and Offices Closed
Monday, July 19	Last day to withdraw with "W" grade from a Second 8-Week Term
Tuesday, July 27	Last day to withdraw with a "WP" or "WF" grade from a Second 8-Week Term Class
Saturday, August 7	Second 8-Week Term ends
Monday, August 9	Second 8-Week Term grades due by noon

Date	Event
Summer Terms for Specific Programs	
Automotive 1 Term (8 weeks) (May 10 – July 3)	
Monday, May 10	Automotive 1 Summer Term Begins
Monday, May 17	Last day to add/drop an Automotive 1 Summer Term Class with a refund
Monday, May 31	Memorial Day Holiday - No Classes and Offices Closed
Monday, June 14	Last day to withdraw with "W" grade from Automotive 1 Summer Term Class
Friday, June 18 and Saturday, June 19	Juneteenth Day Holiday - No Classes and Offices Closed
Tuesday, June 22	Last day to withdraw with a "WP" or "WF" grade from Automotive 1 Summer Term Class
Sunday, July 4 & Monday, July 5	Independence Day Holiday Observed - No Classes and Offices Closed
Saturday, July 3	Automotive 1 Summer Term Ends
Tuesday, July 6	Automotive 1 Summer Term Grades Due

Automotive 1 Term (6 weeks) (July 6- August 14)	
Tuesday, July 6	Automotive 2 Summer Term Begins
Monday, July 12	Last day to add/drop an Automotive 2 Summer Term Class with a refund
Friday, July 30	Last day to withdraw with "W" grade from Automotive 2 Summer Term Class
Tuesday, August 3	Last day to withdraw with a "WP" or "WF" grade from Automotive 2 Summer Term Class
Saturday, August 14	Automotive 2 Summer Term Ends
Monday, August 16	Automotive 2 Summer Term Grades Due by noon

Accreditation Statement

Manchester Community College is accredited by the New England Commission of Higher Education (NECHE) (formerly “NEASC”), a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering post-graduate instruction.

Accreditation of an institution by NECHE 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 NECHE 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

Automotive — The Chrysler MCAP (Mopar Career Automotive Program) is NATEF certified

Business Programs (Accounting, Business Communications, Business Studies, Management, Marketing) — Accreditation Council for Business Schools and Programs (ACBSP)

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

Nursing — Accreditation Commission for Education in Nursing: 3390 Peachtree Road NE, Suite 1400, Atlanta, Georgia 30326, Phone: (404) 978-5000. The most recent accreditation decision made by the ACEN Board of Commissioners for the associate nursing program is continuing accreditation. View the public information disclosed by the ACEN regarding this program at http://www.acenursing.com/accreditedprograms/programsearch.htm.

Academic Placement Policies

Any student admitted into a degree, professional certificate or certificate program at MCC must be assessed in English and math so that appropriate course placements can be made. Before students may register for math or English courses, or courses that require English proficiency as a pre-requisite, they must demonstrate mastery of the high school level material. This mastery is demonstrated through placement requirements. Students will not be denied admission based on placement. 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. While working remotely, students will be assessed utilizing the following:

- Completed SAT testing; minimum scores vary by program and can be discussed with an Advisor.
- High school transcripts: minimum requirements vary and can be discussed with an advisor. In general, students will need 3 years in English or Math and meet minimum cumulative GPA requirements.
- Hi-Set Scores: students must meet the designated Hi-Set score for college readiness, an advisor will make this assessment.
- Transferred a college-level mathematics or English course from another accredited institution into an MCC program
- If a student does not have access to any of the above, or their scores are greater than 5 years old, the student will be asked to complete an English writing assessment or engage in conversation with our fulltime math faculty.

Any student who has a disability that might interfere with his/her ability to take any assessment independently may request special testing accommodations from the Accessibility Coordinator. Students who are non-native speakers of the English language may be asked to complete a reading assessment in addition to the writing assessment to determine course placement based on level of English proficiency.

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.

Student Success Placement Policy

FYE100M MCC Essentials: The MCC Essentials course must be taken in the student's 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 by presenting SAT scores, Hi-Set scores, high school transcripts, previously earned college credit or by completing the MCC Writing Assessment.

English Placement Guidelines

Students who take the MCC Writing Assessment and score below a 3 will place into ENGL 095M.

Students who do not place into ENGL095M, ENGL110XM or ENGL110M based on their scores, transcripts or MCC writing assessment should meet with the ELL Academic Support Specialist for further resources.

Mathematics Placement Policy

Before students may register for college-level mathematics courses, they must demonstrate mastery of mathematics at the high school level by presenting SAT scores, Hi-Set scores, high school transcripts, previously earned college credit or by conferring with MCC math faculty to discuss previous math education and experience.

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 and ARTS117M, ARTS217M

Foreign Language/Humanities Elective/Fine Arts Elective:

- Fine Arts Elective: any course with the academic subject code of ARTS and GDES114M, GDES115M GDES155M.
- Foreign Language Elective: any course with the academic subject code of ASL, FREN, SPAN
- Humanities Elective: includes any course with the academic subject code of HUMA or PHIL as well as the following: HIST120M, HIST130M, ENGL113M, ENGL200M, ENGL200AM, ENGL201M, ENGL203M, ENGL204M, ENGL207M, ENGL208M, ENGL209M, ENGL210M, ENGL213M, ENGL214M, ENGL218M, ENGL220M, ENGL224M, ENGL227M, ENGL228M, ENGL229M, ENGL235M, ENGL248M, ENGL258M, ENGL288M

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, ENVS, ESCI, GEOL, 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.

Veterans Benefits

Veterans Benefits and Transition Act of 2018, Section 103 (2018- July 31, 2026)

For any students using VA Education Chapter 33 (post 9-11 GI Bill®) or Chapter 31 (Vocational Readiness & Employment) benefits, while payment to the institution is pending from the VA (up to 90 days), the school will not:

- Prevent their enrollment;
- Assess a late penalty fee;
- Require they secure alternative or additional funding;
- Deny their access to any resources (access to classes, libraries, or other institutional facilities) available to other students who have satisfied their tuition and fee bills to the institution.

To quality for this provision, such students are required to:

- Produce a VA Certificate of Eligibility or an eBenefits GI Bill Statement of Benefits by the first day of class;
- Provide the school a request to be certified;
- Provide any additional information needed to properly certify the enrollment as described in the school's institutional policies.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at https://www.benefits.va.gov/gibill.

Addendum - Veterans Benefits and Transition Act of 2018, Section 103 (effective August 1, 2026)

Veterans Benefits and Transition Act of 2018, Section 103

For any students using VA Education Chapter 33 (post 9-11 GI Bill®), Chapter 31 (Vocational Readiness & Employment), Chapter 35 (Dependents and Survivors) or Chapter 1606 (Montgomery GI Bill Selected Reserve) benefits, while payment to the institution is pending from the VA (up to 90 days), the school will not:

- Prevent their enrollment;
- Assess a late penalty fee;
- Require they borrow additional funding;
- Deny their access to any resources (access to classes, libraries, or other institutional facilities) available to other students who have satisfied their tuition and fee bills to the institution.

To qualify for this provision, such students are required to:

- Produce a VA Certificate of Eligibility or an eBenefits GI Bill Statement of Benefits by the first day of class;
- Provide the school a request to be certified;
- Provide any additional information needed to properly certify the enrollment as described in the school's institutional policies.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at https://www.benefits.va.gov/gibill.

Revised 9.18.2026

Degrees & Certificates

Accounting

Accounting Associate of Science

Degree Type Associate of Science

Program Overview

MCC's Accounting program teaches the accounting skills needed for career opportunities, as well as the analytical skills to evaluate situations and look at the "big picture." The degree provides a foundation in economics, law, management, finance and computer technology. Curriculum is continually modified and updated to keep pace with ever-changing rules, laws and technology.

Program Goals & Outcomes

Graduate of this program will:

- 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.

Accreditation

The Business Department's Associate Degrees in Accounting, Business Communications, Business Studies, Management and Marketing are accredited by the Accreditation Council for Business Schools and Programs (ACBSP). ACBSP is recognized by the Council for Higher Education Accreditation (CHEA).

Fall Semester

Course Code	Title	TH	LAB	CR
ACCT113M	Introduction to Accounting and Financial Reporting I	3	0	3
BUS114M	Business Management	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
	ENGL101XM or ENGL101M	4	0	4-5
	MATH145M, MATH145XM or MATH200M	4	0	4
FYE100M	MCC Essentials	1	0	1
	Sub-Total Credits	**17**	**2**	**18-19**

Spring Semester

Course Code	Title	TH	LAB	CR
ACCT123M	Introduction to Accounting and Financial Reporting II	3	0	3
BUS212M	Business Law I	3	0	3
ECON134M	Macroeconomics	3	0	3
MATH106M	Statistics I – An Introduction to Statistical Reasoning	4	0	4
	Business Elective (ACCT, BUS, ECON, FIN, MKTG)	3	0	3
	Sub-Total Credits	**16**	**0**	**16**

Fall Semester

Course Code	Title	TH	LAB	CR
ACCT213M	Cost Accounting I	3	0	3
ACCT216M	Software System Applications	2	2	3
ACCT220M	Intermediate Accounting I	3	0	3
ACCT243M	Federal Income Taxes - Individuals	3	0	3
PHIL240M	Ethics	3	0	3
	Sub-Total Credits	**14**	**2**	**15**

Spring Semester

Course Code	Title	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	Business Communications	3	0	3
	Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**15**	**0**	**15**
	Total Credits			**64-65**

Accounting Certificate

Degree Type Certificate

Certificate Overview

The certificate is a building block to the Accounting A.S. degree. The Accounting certificate prepares students for entry-level positions in the field and is often recommended if additional coursework is needed to be eligible for the CPA exam.

Course Code	Title	TH	LAB	CR
ACCT113M	Introduction to Accounting and Financial Reporting I	3	0	3
ACCT123M	Introduction to Accounting and Financial Reporting II	3	0	3
ACCT213M	Cost Accounting I	3	0	3
ACCT216M	Software System Applications	2	2	3
ACCT220M	Intermediate Accounting I	3	0	3
ACCT243M	Federal Income Taxes - Individuals	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
	Total Credits			**21**

Advanced Manufacturing Technology

Advanced Manufacturing Technology - Mechanical Engineering Strand Associate of Science

Degree Type Associate of Science

Program Overview

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 teaches students 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 and manufacture to delivery to the customer.

This degree program has three strands of study: Mechanical Engineering, Mechatronics and Robotics. Each of these strands requires specific electives in the core curriculum. **For the Mechanical Engineering strand students must complete the core AMT curriculum requirements with these strand electives:**

- Replace MATH155M and MATH171M with MATH204M Calculus and MATH214M Calculus II.

- Take Mechatronics electives ADMT230M CAD/CAM for Manufacturing.
- Take ADMT225M Statics.

Program Goals & Outcomes

Depending on the degree strand of study, Students graduating from this program will be able to:

- Implement and control automated manufacturing processes.
- Design components and assemblies using SolidWorks.
- SolidWorks CAD Design Associate (CSWA) Certification.
- Use 3D printers, laser cutters, and CNC equipment to fabricate prototypes.
- Illustrate flow of materials and resources within the manufacturing cycle.
- Control a manufacturing system to create finished product.
- Program material handling robots and equipment.
- Perform system analysis and master the troubleshooting process.
- Master lean manufacturing process to maximize production of a product.
- Have theoretical knowledge and hands-on practice in electronics, mechanics, computer systems and software control systems.

Fall Semester

Course Code	Title	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	MCC Essentials	1	0	1
	Sub-Total Credits	**15**	**12**	**19**

Spring Semester

Course Code	Title	TH	LAB	CR
ADMT120M	Motor Controls and PLCs 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
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**15**	**11**	**19-20**

Fall Semester

Course Code	Title	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
	Sub-Total Credits	**12**	**12**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ADMT240M	Manufacturing Systems II	3	6	5
ADMT225M	Statics	3	0	3
	Open Elective (3 credits)	3	0	3
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**12**	**6**	**14**

Students transferring to the Mechanical Engineering Technology program at UNH Manchester, need to take Mechatronics Pathway as well as MATH204M Calculus I and MATH214M Calculus II

Total Credits		**68-69**

Advanced Manufacturing Technology - Mechatronics Strand Associate of Science

Degree Type Associate of Science

Program Overview

This degree program has three strands of study: Mechanical Engineering, Mechatronics and Robotics. Each of these strands requires specific electives in the core curriculum. **For the Mechatronics strand students must complete the core AMT curriculum requirements requirements and take:**

- ADMT230M CAD/CAM for Manufacturing
- ADMT225M Statics

Program Goals & Outcomes

Depending on the degree strand of study, students graduating from this program will be able to:

- Implement and control automated manufacturing processes.
- Design components and assemblies using SolidWorks.
- SolidWorks CAD Design Associate (CSWA) Certification.
- Use 3D printers, laser cutters, and CNC equipment to fabricate prototypes.
- Illustrate flow of materials and resources within the manufacturing cycle.
- Control a manufacturing system to create finished product.
- Program material handling robots and equipment.
- Perform system analysis and master the troubleshooting process.
- Master lean manufacturing process to maximize production of a product.
- Have theoretical knowledge and hands-on practice in electronics, mechanics, computer systems and software control systems.

Fall Semester

Course Code	Title	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	MCC Essentials	1	0	1
	Sub-Total Credits	**15**	**12**	**19**

Spring Semester

Course Code	Title	TH	LAB	CR
ADMT120M	Motor Controls and PLCs 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
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**15**	**11**	**19-20**

Fall Semester

Course Code	Title	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
	Sub-Total Credits	**12**	**12**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ADMT240M	Manufacturing Systems II	3	6	5
ADMT225M	Statics	3	0	3
	Open Elective (3 credits)	3	0	3
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**12**	**6**	**14**

	Total Credits	**68-69**

Advanced Manufacturing Technology - Robotics Strand Associate of Science

Degree Type Associate of Science

Program Overview

This degree program has three strands of study: Mechanical Engineering, Mechatronics and Robotics. Each of these strands requires specific electives in the core curriculum.

For the Robotics strand students must complete the core AMT curriculum requirements and take:

- ROBO210M Robotic Processes
- ROBO211M Robotic Design

Program Goals & Outcomes

Depending on the degree strand of study, graduates will be able to:

- Implement and control automated manufacturing processes.
- Design components and assemblies using SolidWorks.
- SolidWorks CAD Design Associate (CSWA) Certification.
- Use 3D printers, laser cutters, and CNC equipment to fabricate prototypes.
- Illustrate flow of materials and resources within the manufacturing cycle.
- Control a manufacturing system to create finished product.
- Program material handling robots and equipment.
- Perform system analysis and master the troubleshooting process.
- Master lean manufacturing process to maximize production of a product.
- Have theoretical knowledge and hands-on practice in electronics, mechanics, computer systems and software control systems.

Fall Semester

Course Code	Title	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	MCC Essentials	1	0	1
	Sub-Total Credits	**15**	**12**	**19**

Spring Semester

Course Code	Title	TH	LAB	CR
ADMT120M	Motor Controls and PLCs 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
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**15**	**11**	**19-20**

Fall Semester

Course Code	Title	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
	Sub-Total Credits	**12**	**12**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ADMT240M	Manufacturing Systems II	3	6	5
ROBO211M	Robotic Design	2	3	3
	Open Elective (3 credits)	3	0	3
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**11**	**9**	**14**
	Total Credits			**68-69**

Automated Manufacturing Technology

Automated Manufacturing Technology (Flex) Associate of Science

Degree Type Associate of Science

Program Overview

Automated Manufacturing Technology refers to flexible manufacturing systems that use innovative technologies to improve both production processes and product quality.

The Automated Manufacturing Technology program prepares students to work with integrated systems, such as robotic automation, modular work cells, machining centers, welding stations, and mechanical and electrical technologies.

Students will explore how each technology supports the full product lifecycle, from initial design and production to final delivery.

This degree program offers multiple strands (or areas of focus), including Flex, Mechanical Engineering Technology, Mechatronics, and Robotics. Each strand includes a set of specialized elective courses within the core curriculum, allowing students to tailor their education to their interests and career goals.

The Flex Strand is for students to customize their learning to a unique area of Automated Manufacturing. Students take the 6 core courses in the Automated Manufacturing Certificate to get a solid foundation in Automated Manufacturing. The student has the option to pick two Math and two Lab Science classes that match their desired area of study. The student also picks elective classes in that area of student with their work culminating in a capstone experience. This strand was specifically designed for emerging areas of Automated Manufacturing like Biofabrication, Industry 4.0 and AI Manufacturing.

For the **Flex Strand** students must complete the core Automated Manufacturing Technology (AMT) curriculum requirements with these strand electives:

Minimum 13 Elective credits in the following:

- ADMT, ROBO, CBAM, CIS, BIO, PHYS, MATH, WELD, DATA, CHEM or as approved by the Department Chair
- Note - 8 credits must be 200 level
- Military Technical Transfer up to 10 Credits

Program Goals & Outcomes

Depending on the area of study, Students graduating from this program will be able to:

- Implement and control automated manufacturing processes.
- Design components and assemblies using SolidWorks.
- Operate 3D printers, laser cutters, and CNC equipment to fabricate components.
- Understand the flow of materials and resources within the manufacturing cycle.
- Integrate manufacturing systems to improve a process or product.
- Program robots, industrial controls, and automated equipment.
- Perform system analysis and troubleshoot manufacturing processes and systems.
- Apply lean manufacturing principles to reduce waste in the manufacturing process.

• Demonstrate theoretical knowledge of electronics, mechanics, computer systems and software control systems.

Major Coursework

Course Code	Title	TH	LAB	CR
CBAM101M	Manufacturing Career Prep	1	0	1
	ADMT112M or CBAM105M	3	0	3
	ADMT115M or CBAM110M -	3	0	3
	ADMT118M or CBAM115M	3	0	3
CBAM120M	Control Fundamentals with Python	2	3	3
	ADMT110M or CBAM125M	3	0	3
	Sub-Total Credits	**15**	**3**	**16**

General Education Requirements

Course Code	Title	TH	LAB	CR
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Lab Science Elective (4 credits)	3	3	4
	Lab Science Elective (4 credits)	3	3	4
	Social Science Elective	3	0	3
	Math Elective	4	0	4
	Math Elective	4	0	4
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**24**	**6**	**26-27**

Technical Electives

To be determined with your advisor.

Course Code	Title	TH	LAB	CR
CBAM240M	Automated Manufacturing Capstone Experience	3	6	5
	Automated Manufacturing Technology Electives	3	0	3
	Automated Manufacturing Technology Electives	3	0	3
	Automated Manufacturing Technology Electives	3	0	3
	Automated Manufacturing Technology Electives	3	0	3
	Automated Manufacturing Technology Electives	3	0	3
	Sub-Total Credits	**18**	**6**	**20**
	Total Credits			**62-63**

Automated Manufacturing Technology Mechanical Engineering Strand Associate of Science

Degree Type Associate of Science

Program Overview

Automated Manufacturing Technology refers to flexible manufacturing systems that use innovative technologies to improve both production processes and product quality.

The Automated Manufacturing Technology program prepares students to work with integrated systems, such as robotic automation, modular work cells, machining centers, welding stations, and mechanical and electrical technologies.

Students will explore how each technology supports the full product lifecycle, from initial design and production to final delivery.

This degree program offers multiple strands (or areas of focus), including Flex, Mechanical Engineering Technology, Mechatronics, and Robotics. Each strand includes a set of specialized elective courses within the core curriculum, allowing students to tailor their education to their interests and career goals.

The Mechanical Engineering Technology Strand is for students interested in pursuing a four-year bachelor's degree in mechanical engineering technology. All of the courses in this strand focus on a traditional mechanical engineering pathway with focus on Engineering Design, Electrical Fundamentals, Material Science, Statics, Machining, Physics and Calculus. Many students transfer to UNH Manchester or UMass Lowell to complete their engineering technology degree. Students with these skills are ready to enter the workforce as a technician in mechanical or manufacturing engineering.

For the **Mechanical Engineering Technology Strand** students must complete the core AMT curriculum requirements with these strand electives:

General Education Electives

- PHYS135M College Physics I
- PHYS136M College Physics II
- MATH171 Pre-Calculus
- MATH204M Calculus I

Students must complete the core AMT curriculum requirements with these strand electives.

- ADMT112M Intro to Engineering Design and Solid Modeling
- ADMT 118M Electrical Fundamentals for Mfg
- ADMT135M Basic Machining Practice
- ADMT220M Material Science
- ADMT225M Statics
- MATH214M Calculus II (optional elective)

Program Goals & Outcomes

Depending on the degree strand of study, Students graduating from this program will be able to:

• Implement and control automated manufacturing processes.

• Design components and assemblies using SolidWorks.

• Operate 3D printers, laser cutters, and CNC equipment to fabricate components.

• Understand the flow of materials and resources within the manufacturing cycle.

• Integrate manufacturing systems to improve a process or product.

• Program robots, industrial controls, and automated equipment.

• Perform system analysis and troubleshoot manufacturing processes and systems.

• Apply lean manufacturing principles to reduce waste in the manufacturing process.

• Demonstrate theoretical knowledge of electronics, mechanics, computer systems and software control systems.

Major Coursework

Course Code	Title	TH	LAB	CR
CBAM101M	Manufacturing Career Prep	1	0	1
ADMT112M	Introduction to Engineering Design and Solid Modeling	3	3	4
CBAM110M	Industrial Print Reading and Metrology	2	3	3
ADMT118M	Electrical Fundamentals for Manufacturing	3	3	4
CBAM120M	Control Fundamentals with Python	2	3	3
CBAM125M	Manufacturing Fundamentals	2	3	3
	Sub-Total Credits	**13**	**15**	**18**

General Education Requirements

Course Code	Title	TH	LAB	CR
PHYS135M	College Physics I	3	3	4
PHYS136M	College Physics II	3	3	4
MATH171M	Pre-Calculus	4	0	4
MATH204M	Calculus I	4	0	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Social Science Elective	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**24**	**6**	**26-27**

Technical Electives

To be determined with your advisor.

Course Code	Title	TH	LAB	CR
CBAM240M	Automated Manufacturing Capstone Experience	3	6	5
ADMT135M	Basic Machining Practices	1	5	3
ADMT220M	Material Science	2	3	3
ADMT225M	Statics	3	0	3
	Automated Manufacturing Technology Electives	3	0	3
	Sub-Total Credits	**12**	**14**	**17**
	Total Credits			**61-62**

Automated Manufacturing Technology Mechatronics Strand Associate of Science

Degree Type Associate of Science

Program Overview

Automated Manufacturing Technology refers to flexible manufacturing systems that use innovative technologies to improve both production processes and product quality.

The Automated Manufacturing Technology program prepares students to work with integrated systems, such as robotic automation, modular work cells, machining centers, welding stations, and mechanical and electrical technologies.

Students will explore how each technology supports the full product lifecycle, from initial design and production to final delivery.

This degree program offers multiple strands (or areas of focus), including Flex, Mechanical Engineering Technology, Mechatronics, and Robotics. Each strand includes a set of specialized elective courses within the core curriculum, allowing students to tailor their education to their interests and career goals.

The Mechatronics Strand is for students interested in how automated systems work. Mechatronics describes a mechanical/electrical system that is programed to control a process. All of the courses in this strand round out a student's skills in mechanical design, electronics, programming, PLCs, Motor Control, Machining and Computer Aided Machining (CAM) allowing the student to design, troubleshoot and maintain a mechatronics system. Students with these skills are ready to enter the workforce as a technician in mechatronics, robotics, automation, engineering, manufacturing or electro-mechanical systems.

For the **Mechatronics Strand** students must complete the core AMT curriculum requirements with these strand electives

Mechatronics Strand Courses

- ADMT120M Motor Controls and PLCs for Manufacturing
- ADMT135M Basic Machining Practice
- ADMT230M CAD/CAM for Manufacturing.
- ADMT210M Manufacturing Systems I

Program Goals & Outcomes

Depending on the degree strand of study, Students graduating from this program will be able to:

• Implement and control automated manufacturing processes.

• Design components and assemblies using SolidWorks.

• Operate 3D printers, laser cutters, and CNC equipment to fabricate components.

• Understand the flow of materials and resources within the manufacturing cycle.

• Integrate manufacturing systems to improve a process or product.

• Program robots, industrial controls, and automated equipment.

• Perform system analysis and troubleshoot manufacturing processes and systems.

• Apply lean manufacturing principles to reduce waste in the manufacturing process.

• Demonstrate theoretical knowledge of electronics, mechanics, computer systems and software control systems.

Beginning Program Coursework

Course Code	Title	TH	LAB	CR
CBAM101M	Manufacturing Career Prep	1	0	1
ADMT112M	Introduction to Engineering Design and Solid Modeling	3	3	4
CBAM110M	Industrial Print Reading and Metrology	2	3	3
ADMT118M	Electrical Fundamentals for Manufacturing	3	3	4
CBAM120M	Control Fundamentals with Python	2	3	3
CBAM125M	Manufacturing Fundamentals	2	3	3
	Sub-Total Credits	**13**	**15**	**18**

General Education Requirements

Course Code	Title	TH	LAB	CR
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Lab Science Elective (4 credits)	3	3	4
	Lab Science Elective (4 credits)	3	3	4
	Social Science Elective	3	0	3
	Math Elective	4	0	4
	Math Elective	4	0	4
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**24**	**6**	**26-27**

Technical Electives

To be determined with your advisor.

Course Code	Title	TH	LAB	CR
CBAM240M	Automated Manufacturing Capstone Experience	3	6	5
ADMT120M	Motor Controls and PLCs for Manufacturing	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
	Sub-Total Credits	**11**	**20**	**18**
	Total Credits			**62-63**

Automated Manufacturing Technology Robotics Strand Associate of Science

Degree Type Associate of Science

Program Overview

Automated Manufacturing Technology refers to flexible manufacturing systems that use innovative technologies to improve both production processes and product quality.

The Automated Manufacturing Technology program prepares students to work with integrated systems, such as robotic automation, modular work cells, machining centers, welding stations, and mechanical and electrical technologies.

Students will explore how each technology supports the full product lifecycle, from initial design and production to final delivery. This degree program offers multiple strands (or areas of focus), including Flex, Mechanical Engineering Technology, Mechatronics, and Robotics. Each strand includes a set of specialized elective courses within the core curriculum, allowing students to tailor their education to their interests and career goals.

The Robotics Strand is for students interested in industrial robotics and automation. Students will program a variety of industrial and collaborative robots and explore how inputs and outputs control an automated system. All of the courses in this strand round out a student's skills in mechanical design, electronics, programming, PLCs, motor control, robotic end effector design, machine vision and systems integration. Students with these skills are ready to enter the workforce as a technician in robotics, automation, engineering, manufacturing, or electro-mechanical systems.

For the **Robotics Strand** students must complete the core AMT curriculum requirements with these strand electives:

Robotics Strand Courses

- ADMT120M Motor Controls and PLCs for Manufacturing
- ADMT210M Manufacturing Systems 1
- ROBO210M Robotic Processes
- ROBO211M Robotic Design

Program Goals & Outcomes

Depending on the degree strand of study, Students graduating from this program will be able to:

• Implement and control automated manufacturing processes.

• Design components and assemblies using SolidWorks.

• Operate 3D printers, laser cutters, and CNC equipment to fabricate components.

• Understand the flow of materials and resources within the manufacturing cycle.

• Integrate manufacturing systems to improve a process or product.

• Program robots, industrial controls, and automated equipment.

• Perform system analysis and troubleshoot manufacturing processes and systems.

• Apply lean manufacturing principles to reduce waste in the manufacturing process.

• Demonstrate theoretical knowledge of electronics, mechanics, computer systems and software control systems.

Major Coursework

Course Code	Title	TH	LAB	CR
CBAM101M	Manufacturing Career Prep	1	0	1
ADMT112M	Introduction to Engineering Design and Solid Modeling	3	3	4
CBAM110M	Industrial Print Reading and Metrology	2	3	3
ADMT118M	Electrical Fundamentals for Manufacturing	3	3	4
CBAM120M	Control Fundamentals with Python	2	3	3
CBAM125M	Manufacturing Fundamentals	2	3	3
	Sub-Total Credits	**13**	**15**	**18**

General Education Requirements

Course Code	Title	TH	LAB	CR
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Lab Science Elective (4 credits)	3	3	4
	Lab Science Elective (4 credits)	3	3	4
	Social Science Elective	3	0	3
	Math Elective	4	0	4
	Math Elective	4	0	4
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**24**	**6**	**26-27**

Technical Electives

Course Code	Title	TH	LAB	CR
CBAM240M	Automated Manufacturing Capstone Experience	3	6	5
ADMT120M	Motor Controls and PLCs for Manufacturing	3	3	4
ADMT210M	Manufacturing Systems I	2	3	3
ROBO210M	Robotic Processes	2	3	3
ROBO211M	Robotic Design	2	3	3
	Sub-Total Credits	**12**	**18**	**18**
	Total Credits			**62-63**

Automated Manufacturing Certificate

Degree Type Certificate

Major Coursework

Course Code	Title	TH	LAB	CR
CBAM101M	Manufacturing Career Prep	1	0	1
CBAM105M	Solidworks and 3D Printing	2	3	3
CBAM110M	Industrial Print Reading and Metrology	2	3	3
CBAM115M	Electrical for Manufacturing	2	3	3
CBAM120M	Control Fundamentals with Python	2	3	3
CBAM125M	Manufacturing Fundamentals	2	3	3
	Sub-Total Credits	**11**	**15**	**16**
	Total Credits			**16**

Mechatronics Certificate

Degree Type Certificate

Certificate Overview

The Mechatronics certificate prepares students to work in today's advanced manufacturing industry. Students will acquire detailed knowledge of machining, electrical processes 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.

Fall Semester

Course Code	Title	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
	Sub-Total Credits	**10**	**12**	**14**

Spring Semester

Course Code	Title	TH	LAB	CR
ADMT120M	Motor Controls and PLCs for Manufacturing	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
	Sub-Total Credits	**8**	**14**	**13**
	Total Credits			**27**

Robotics Certificate

Degree Type Certificate

Certificate Overview

The Robotics Certificate provides students with the skills and knowledge required to work with robots and automation technology in a high-quality production environment. Students will learn robotic operation, build and design, and programming fundamentals specific to tasks a robot will complete. This certificate is also a building block for the associate degree in Advanced Manufacturing Technology.

Fall Semester

Course Code	Title	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
	Sub-Total Credits	**10**	**12**	**14**

Spring Semester

Course Code	Title	TH	LAB	CR
ADMT120M	Motor Controls and PLCs for Manufacturing	3	3	4
ADMT210M	Manufacturing Systems I	2	3	3
ROBO210M	Robotic Processes	2	3	3
ROBO211M	Robotic Design	2	3	3
	Sub-Total Credits	**9**	**12**	**13**
	Total Credits			**27**

Automotive Technology

Automotive Technology Associate of Applied Science

Degree Type Associate of Applied Science

Program Overview

There are four areas of degree emphasis to choose from in the Automotive Technology degree: Ford ASSET / MLR (Maintenance & Light Repair), Global Manufacturers, Independent Shops and MCAP (MOPAR Career Automotive Program). Degree requirements will be met using specific courses that also provide training in one of these sub-specialties.

Program Goals & Outcomes

MCC partners with dealerships and independent businesses to provide students with training and opportunities for full-time employment with companies who handle brands like Audi, Mercedes-Benz, Nissan, Subaru, Infinity, Ford, Lincoln, Dodge, Jeep, RAM, Chrysler, Fiat and more.

Students graduating from this program will have the following skills:

- *Safety and Compliance:* adherence to safety protocols and regulations ensuring safety and compliance.
- *Communication and Teamwork:* effectively communicate and collaborate in a professional manner.
- *Proficiency in Automotive Technology:* demonstrate a comprehensive understanding of automotive systems.
- *Repair and Maintenance:* possess skills necessary to perform maintenance and complex repairs.
- *Diagnostic Skills:* Graduates ability to evaluate and correct mechanical and electrical issues using advanced diagnostic tools and techniques.
- *Adaptability and Flexibility:* adaptation to technological advancements, staying current with industry.
- *Customer Service Skills:* excellent customer service by addressing client needs and ensuring satisfaction
- *Advanced Training:* recognizing the importance of professional development, actively seeking to enhance knowledge and skills.

Accreditation

- The Chrysler MCAP (Mopar Career Automotive Program) is accredited by the ASE Foundation.
- The Global Manufacturers pathway is accredited by the ASE Foundation.
- Specific manufacturer certifications are handled through MCC's automotive partnerships.

Fall Semester

Course Code	Title	TH	LAB	CR
AUTO1011M	Maintenance and Light Repair	2	8	4
AUTO1012M	Electrical Systems	3	9	6
AUTO1013M	Automotive Co-op Work Experience I	0	15	2
FYE100M	MCC Essentials	1	0	1
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**9**	**32**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
AUTO1021M	Steering and Suspension Systems	3	6	5
AUTO1022M	Electronic Controls	3	6	5
AUTO1023M	Automotive Co-op Work Experience II	0	15	2
	Math Elective	4	0	4
	Sub-Total Credits	**10**	**27**	**16**

Summer Session

Course Code	Title	TH	LAB	CR
AUTO1031M	IC Engine and Systems	2	6	4
AUTO1032M	Brake Systems	2	6	4
AUTO1033M	Automotive Co-op Work Experience III	0	15	2
	Social Science Elective	3	0	3
	Sub-Total Credits	**7**	**27**	**13**

Fall Semester

Course Code	Title	TH	LAB	CR
AUTO2010M	Automotive Co-op Work Experience IV		15	2
AUTO2011M	Manual Transmissions and Drivetrains	2	6	4
AUTO2013M	Climate Control Systems	2	6	4
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**8**	**27**	**14-15**

Spring Semester

Course Code	Title	TH	LAB	CR
AUTO2021M	Automotive Co-op Work Experience V		15	2
AUTO2022M	Automatic Transmission and Transaxles	2	8	4
AUTO2023M	Vehicle Performance Diagnosis	2	9	5
	Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**7**	**32**	**14**
	Total Credits			**73-74**

Automotive Technology Certificate

Degree Type Certificate

Certificate Overview

The Automotive Certificate program combines classroom and practical training to provide students with the skills needed to become entry-level technicians. Students will gain skills that directly apply to the field of study, prepare for ASE exams and work toward full-time employment.

Course Code	Title	TH	LAB	CR
AUTO1011M	Maintenance and Light Repair	2	8	4
AUTO1012M	Electrical Systems	3	9	6
AUTO1021M	Steering and Suspension Systems	3	6	5
AUTO1032M	Brake Systems	2	6	4
	Total Credits			**19**

Automotive Technology Professional Certificate

Degree Type Certificate

Certificate Overview

In the Automotive Technology Professional Certificate program, students will learn the skills necessary to become a “B” level technician by becoming familiar with the latest technology, earning a professional certificate and working as an apprentice technician.These skills directly apply to the field of study, and prepare students for ASE exams and work toward full-time employment. This certificate program combines classroom and practical training with paid on-the-job work experience. All Automotive Technology Professional certificate students must complete two internship courses with a minimum of 560 hours of work experience at an approved site.

Course Code	Title	TH	LAB	CR
AUTO1011M	Maintenance and Light Repair	2	8	4
AUTO1012M	Electrical Systems	3	9	6
AUTO1013M	Automotive Co-op Work Experience I	0	15	2
AUTO1021M	Steering and Suspension Systems	3	6	5
AUTO1022M	Electronic Controls	3	6	5
AUTO1023M	Automotive Co-op Work Experience II	0	15	2
AUTO1031M	IC Engine and Systems	2	6	4
AUTO1032M	Brake Systems	2	6	4
AUTO1033M	Automotive Co-op Work Experience III	0	15	2
AUTO2013M	Climate Control Systems	2	6	4
FYE100M	MCC Essentials	1	0	1
	Math Elective	4	0	4
	Open Elective (3 credits)	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Total Credits			**53-54**

Powersports Certificate

Degree Type Certificate

Certificate Overview

Using a well-developed balance of classroom instruction in specialized targeted courses, industry-relevant hands-on training, on-the-job work experience and online training, the Powersports Certificate program is designed to cultivate highly skilled work-ready technicians. With a focus on customer service, students will be trained to progress from customer concern to cause, and decisively to problem correction.

Course Code	Title	TH	LAB	CR
PSPT101M	Introduction to Power Sports Basic Maintenance and Repair	1	6	3
PSPT102M	Electrical Systems	3	6	5
PSPT103M	Engine and Drivetrain	2	3	3
PSPT104M	Brake and Suspension Systems	2	6	3
PSPT105M	Fuel Systems	3	6	3
	Total Credits			**17**

Behavioral Science

Behavioral Science Associate of Arts

Degree Type Associate of Arts

Program Overview

The Behavioral Science degree program at MCC offers a comprehensive curriculum in psychology and sociology, and provides a solid foundation in general education, which allows students to discover and explore academic interests while earning credits for future transfer into a baccalaureate program. Aligning with the curriculum of most 4-year institutions, the Behavioral Science Associate of Arts (A.A.) degree seeks to provide students with courses typically required during the first two years of study for a Bachelor of Arts degree in Behavioral Science. Through a variety of theoretical and practical applications, courses focus on how underlying concepts, theories and principles affect human behavior and societal systems.

Program Goals & Outcomes

Students graduating 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.

Fall Semester

Course Code	Title	TH	LAB	CR
PSYC110M	Introduction to Psychology	3	0	3
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Mathematics Elective (3 credits)	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**14**	**0**	**14-15**

Spring Semester

Course Code	Title	TH	LAB	CR
SOCI110M	Introduction to Sociology	3	0	3
PSYC210M	Human Growth and Development	3	0	3
	Political Science or History Elective	3	0	3
ENGL113M	Introduction to Public Speaking	3	0	3
	Lab Science Elective	3	3	4
	Sub-Total Credits	**15**	**3**	**16**

Fall Semester

Course Code	Title	TH	LAB	CR
PSYC215M	Abnormal Psychology	3	0	3
	Psychology/Sociology Elective	3	0	3
MATH106M	Statistics I – An Introduction to Statistical Reasoning	4	0	4
	English Elective (3 credits)	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**16**	**0**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
LBSC299M	Behavioral Science Capstone	3	0	3
SOCI250M	Multiculturalism	3	0	3
	Psychology/Sociology Elective	3	0	3
ENGL220M	Advanced Composition: Medium, Message, and Mode	4	0	4
	Life Science Lab Elective (BIOL)	3	3	4
	Sub-Total Credits	**16**	**3**	**17**

Students must take a minimum of three (3) 200 level Behavioral Science. courses at MCC to meet residency requirements.

*Psychology/Sociology Electives - Choose from: (PSYC205M, PSYC217M, PSYC220M, PSYC225M PSYC234M, PSYC235M, SOCI145M, SOCI205M, SOCI210M) **Students may only receive credit for one section of each of the following topics courses: PSYC205M and SOCI205M

***Denotes milestone course which must be taken / passed in the semester indicated to maintain good standing in the degree program

****Students in this program must successfully complete SOCI110M and may not take SOCI 109M. Credit will not be awarded for both courses.

	Total Credits	**63-64**

Business Communications

Business Communications Associate of Science

Degree Type Associate of Science

Program Overview

The MCC Business Communications degree program introduces students to basic business communication concepts, theories and techniques. Students will also engage in organizational behavior exercises and team building activities, as well as have the opportunity to apply business communication knowledge using hands-on, real-world projects. This may include Service-Learning projects, integrated marketing communication plans, marketing research projects and advertising campaigns, as well as case studies and business communication simulations.

Program Goals & Outcomes

Graduates of 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

Accreditation

MCC's Associate Degrees in Accounting, Business Communications, Business Studies, Management, and Marketing are accredited by the Accreditation Council for Business Schools and Programs (ACBSP). ACBSP is recognized by the Council for Higher Education Accreditation (CHEA). Our national accreditation allows our graduates to transfer to 4-year colleges and universities in all regions of the country.

Fall Semester

Course Code	Title	TH	LAB	CR
BUS120M	Introduction to Communications Media	3	0	3
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
CIS110M	Microsoft® Computer Applications I	2	2	3
	MATH132M or MATH145M or MATH200M	3	0	3
FYE100M	MCC Essentials	1	0	1
	Sub-Total Credits	**16**	**2**	**17-18**

Spring Semester

Course Code	Title	TH	LAB	CR
BUS114M	Business Management	3	0	3
ACCT113M	Introduction to Accounting and Financial Reporting I	3	0	3
	PSYC110M or SOCI110M	3	0	3
ENGL113M	Introduction to Public Speaking	3	0	3
	Business Elective	3	0	3
	Sub-Total Credits	**15**	**0**	**15**

Fall Semester

Course Code	Title	TH	LAB	CR
MKTG210M	Advertising	3	0	3
	GDES110M or Fine Arts Elective	2	3	3
	ENGL203M or ENGL206M or ENGL211M	3	0	3
	Science Elective (3 credits)	3	0	3
	Pathway Elective (PHIL240M or BUS216M)	3	0	3
	Sub-Total Credits	**14**	**3**	**15**

Spring Semester

Course Code	Title	TH	LAB	CR
BUS200M	Team Building	3	0	3
BUS210M	Business Communications	3	0	3
	Business Elective	3	0	3
	Business Elective 205 or 250	3	0	3
	ENGL213M or ENGL214M	3	0	3
	Sub-Total Credits	**15**	**0**	**15**
	Total Credits			**62-63**

Business Communications Certificate

Degree Type Certificate

Certificate Overview

The Business Communications certificate is a building block to the Business Communications degree. Students will learn basic business communication concepts, theories and techniques. Students will also engage in organizational behavior exercises and team building to apply business communication knowledge using hands-on, real-world projects. Upon completion of the certificate, students will be prepared to work in an entry-level communication position.

Course Code	Title	TH	LAB	CR
BUS120M	Introduction to Communications Media	3	0	3
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
	Business Elective	3	0	3
	Business Elective	3	0	3
	English Elective	3	0	3
	Total Credits			**19-20**

Business Studies

Business Studies Associate of Science

Degree Type Associate of Science

Program Overview

The Business Studies degree program is designed to facilitate transfer to a 4-year college for continued study in business administration. In the first year students will take a wide variety of business courses in disciplines like accounting, communications, management and marketing. The second year allows students to narrow their field of interest and explore courses within a particular discipline.

Program Goals & Outcomes

Students graduating 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.

Accreditation

MCC's Associate Degrees in Accounting, Business Communications, Business Studies, Management, and Marketing are accredited by the Accreditation Council for Business Schools and Programs (ACBSP). ACBSP is recognized by the Council for Higher Education Accreditation (CHEA). Our national accreditation allows our graduates to transfer to 4-year colleges and universities in all regions of the country.

Fall Semester

Course Code	Title	TH	LAB	CR
BUS110M	Introduction to Business	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
CIS110M	Microsoft® Computer Applications I	2	2	3
FYE100M	MCC Essentials	1	0	1
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
BUS114M	Business Management	3	0	3
	Sub-Total Credits	**16**	**2**	**17-18**

Spring Semester

Course Code	Title	TH	LAB	CR
ECON135M	Microeconomics	3	0	3
ENGL220M	Advanced Composition: Medium, Message, and Mode	4	0	4
	MATH145M or MATH200M	4	0	4
	Business Elective 200 Level			3
	Sub-Total Credits	**11**	**0**	**14**

Fall Semester

Course Code	Title	TH	LAB	CR
ACCT113M	Introduction to Accounting and Financial Reporting I	3	0	3
BUS212M	Business Law I	3	0	3
ECON134M	Macroeconomics	3	0	3
MATH106M	Statistics I – An Introduction to Statistical Reasoning	4	0	4
	Business Elective 205 or 250	3	0	3
	Sub-Total Credits	**16**	**0**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ACCT123M	Introduction to Accounting and Financial Reporting II	3	0	3
BUS210M	Business Communications	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Business Elective (ACCT, BUS, ECON, FIN, MKTG)	3	0	3
	Lab Science Elective	3	3	4
	Sub-Total Credits	**15**	**3**	**16**

Students must take a minimum of eight (8) credits in 200 level Business courses (ACCT, BUS, MKTG) at MCC to meet residency requirements.

Total Credits		**63-64**

Finance Certificate

Degree Type Certificate

Certificate Overview

These courses provide students with a comprehensive foundation in finance, covering personal financial planning, corporate finance, global financial systems, banking, and investment principles. This certificate will allow students to seek employment in an entry level banking or financial services position.

In addition, students who complete the certificate will be well-positioned to transition seamlessly into MCC Associate Degree programs in Business Studies and Accounting. Furthermore, the courses included in the certificate align with and will be accepted as transfer credits at Southern New Hampshire University (SNHU) and the University of New Hampshire – Manchester (UNH Manchester) in their Bachelor's in Finance programs.

Course Code	Title	TH	LAB	CR
FIN120M	Personal Financial Management	3	0	3
FIN130M	Money and Banking	3	0	3
FIN210M	Principles of Investments	3	0	3
BUS221M	Business Finance	3	0	3
BUS250M	International Business	3	0	3
ACCT113M	Introduction to Accounting and Financial Reporting I	3	0	3
ACCT123M	Introduction to Accounting and Financial Reporting II	3	0	3
	Total Credits			**21**

Computer Science and Innovation

Computer Science and Innovation Associate of Science

Degree Type Associate of Science

Program Overview

While studying Computer Science and Innovation you will use new technologies – and learn about networking and programming innovation – to solve problems in an ever-changing world. The Computer Science and Innovation degree program offers you technical and professional preparation for careers in computer science or to transfer to a 4-year degree program. All degree candidates study core computer science competencies including various programming, Internet, networking and operating system courses. *Go to mccnh.edu/programs for more details about this and other MCC programs and certificates.*

Program Goals & Outcomes

When you graduate from this program you 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 a 4-year college.
- Explain the necessity for a commitment to life-long learning.

Fall Semester

Course Code	Title	TH	LAB	CR
CIS105M	Introduction to Computer Science	3	0	3
MATH155M	College Algebra with Trigonometry	4	0	4
FYE100M	MCC Essentials	1	0	1
	Apps Elective	2	2	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**14**	**2**	**15-16**

Spring Semester

Course Code	Title	TH	LAB	CR
	Physics Elective	3	3	4
	Elective	3	0	3
	Programming Language Elective	2	2	3
	Social Science Elective (3 credits)	3	0	3
	Computer Science Technical Elective	2	2	3
	Sub-Total Credits	**13**	**7**	**16**

Fall Semester

Course Code	Title	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
	Sub-Total Credits	**12**	**8**	**15**

Spring Semester

Course Code	Title	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	Introduction to Accounting and Financial Reporting I	3	0	3
	Computer Science Capstone Elective	3 - 4	0	3-4
	Sub-Total Credits	**16-176**		**18-19**
	Total Credits			**64-66**

Programming Certificate

Degree Type Certificate

Certificate Overview

The Programming certificate is designed to prepare students for careers in computer programming and provides the skills necessary for entry-level positions in the field. The certificate also serves as a building block to transfer credits into one of the other MCC Computer Science degree programs: Computer Science and Innovation, A.S., Computer Science Artificial Intelligence (AI) for Cybersecurity or Computer Science eXtended Reality (XR).

Course Code	Title	TH	LAB	CR
CIS105M	Introduction to Computer Science	3	0	3
	CIS Elective	2	2	3
	CIS Elective	2	2	3
CIS210M	Data Structures and Elementary Algorithms	3	3	4
CIS220M	Object-Oriented Programming	2	2	3
	Apps Elective	2	2	3
	Total Credits			**19**

Computer Science Artificial Intelligence

Artificial Intelligence (AI) is transforming nearly every industry, from healthcare and finance to cybersecurity, robotics, manufacturing, and education. The Computer Science Artificial Intelligence (CSAI) Degree prepares students with the technical knowledge and practical skills needed to develop intelligent software systems and understand the technologies shaping the future.

Students in the CSAI program build a strong foundation in computer programming, algorithms, data structures, and software development while exploring specialized topics such as machine learning, natural language processing, computer vision, and generative AI. Through hands-on projects, students learn to design, train, evaluate, and deploy AI models using modern programming languages and industry-standard tools.

Graduates will be prepared to:

- Develop AI-powered applications and intelligent software solutions.
- Analyze and interpret data using machine learning techniques.
- Build and evaluate predictive models.
- Understand the ethical and societal implications of artificial intelligence.

Computer Science Artificial Intelligence (AI) Associate of Science

Degree Type Associate of Science

Program Overview

Artificial Intelligence (AI) is transforming nearly every industry, from healthcare and finance to cybersecurity, robotics, manufacturing, and education. The Computer Science Artificial Intelligence (CSAI) Degree prepares students with the technical knowledge and practical skills needed to develop intelligent software systems and understand the technologies shaping the future.

Students in the CSAI program build a strong foundation in computer programming, algorithms, data structures, and software development while exploring specialized topics such as machine learning, natural language processing, computer vision, and generative AI. Through hands-on projects, students learn to design, train, evaluate, and deploy AI models using modern programming languages and industry-standard tools.

Program Goals & Outcomes

Graduates will be prepared to:

- Develop AI-powered applications and intelligent software solutions.
- Analyze and interpret data using machine learning techniques.
- Build and evaluate predictive models.
- Understand the ethical and societal implications of artificial intelligence.

Fall Semester

Course Code	Title	TH	LAB	CR
CIS105M	Introduction to Computer Science	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
CSAI100M	Introduction to Artificial Intelligence	2	2	3
MATH155M	College Algebra with Trigonometry	4	0	4
FYE100M	MCC Essentials	1	0	1
	Sub-Total Credits	**14**	**2**	**15-16**

Spring Semester

Course Code	Title	TH	LAB	CR
CSAI120M	Generative AI for Computer Science	3	0	3
	Programming Language Elective	2	2	3
	Science Elective	3	0	3-4
	Social Science Elective	3	0	3
	Sub-Total Credits	**11**	**2**	**12-13**

Fall Semester

Course Code	Title	TH	LAB	CR
CSAI130M	Natural Language Programming	3	0	3
CSAI240M	Artificial Intelligence for Computer Vision	3	0	3
MATH170M	Discrete Mathematics	4	0	4
CSCN210M	Computer Science in Action I: Technology Innovation	3	3	4
	Sub-Total Credits	**13**	**3**	**14**

Spring Semester

Course Code	Title	TH	LAB	CR
MATH106M	Statistics I – An Introduction to Statistical Reasoning	4	0	4
CSCN220M	Entrepreneurship in Computer Science	3	3	4
CSAI260M	Ethics & AI Integration	3	0	3
	English/Philosophy Elective	3	0	3
	Computer Science Technical Elective	2	2	3
CIS291M	Capstone Senior Seminar	2	2	3
	Sub-Total Credits	**17**	**7**	**20**
	Total Credits			**61-63**

Computer Science Artificial Intelligence for Cybersecurity

Computer Science Artificial Intelligence (AI) for Cybersecurity Associate of Science

Degree Type Associate of Science

Program Overview

This Computer Science Artificial Intelligence (AI) for Cybersecurity degree program prepares students for three external Amazon Web Service (AWS) certification exams while earning an Associate of Science degree. The program begins with the origins and history of AI, machine learning and computer vision. The focus of the program is on examining AI as it affects Cybersecurity, and explores the security implications of AI, as well as the benefits for cybersecurity investigations.

Program Goals & Outcomes

Students graduating from this program will be able to:

- Use knowledge of AI in relation to cybersecurity - including concepts and program materials - as a platform for success in AI fields and AI-related cybersecurity employment.
- Be prepared for three external Amazon Web Service (AWS) Certification exams.

Fall Semester

Course Code	Title	TH	LAB	CR
CSAI100M	Introduction to Artificial Intelligence	2	2	3
CIS105M	Introduction to Computer Science	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
	Apps Elective	2	2	3
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**14**	**6**	**17-18**

Spring Semester

Course Code	Title	TH	LAB	CR
CIS126M	Programming with Python	2	2	3
MATH155M	College Algebra with Trigonometry	4	0	4
	Computer Science Technical Elective	2	2	3
	Computer Science Technical Elective	2	2	3
	Sub-Total Credits	**10**	**6**	**13**

Fall Semester

Course Code	Title	TH	LAB	CR
CSAI130M	Natural Language Programming	3	0	3
CSAI240M	Artificial Intelligence for Computer Vision	3	0	3
MATH106M	Statistics I – An Introduction to Statistical Reasoning	4	0	4
	Physics Elective	3	3	4
	Sub-Total Credits	**13**	**3**	**14**

Spring Semester

Course Code	Title	TH	LAB	CR
CSAI260M	Ethics & AI Integration	3	0	3
CIS291M	Capstone Senior Seminar	2	2	3
MATH170M	Discrete Mathematics	4	0	4
	English/Philosophy Elective	3	0	3
	Social Science Elective	3	0	3
	Sub-Total Credits	**15**	**2**	**16**
	Total Credits			**60-61**

Computer Science eXtended Reality

Computer Science eXtended Reality (XR) Associate of Science

Degree Type Associate of Science

Overview

The focus of this degree program is eXtended Reality (XR), which includes Augmented Reality (AR), Virtual Reality (VR) and Mixed Reality (MR) as it affects business, education and society. Students will create and manage environments in the XR world utilizing existing platforms and be trained to create assets to use in XR workspaces for business.

Program Goals & Outcomes

Graduates will be able to able to:

- Have a fundamental understanding of eXtended Reality concepts, skills and working environments.
- Create and manage environments in the XR world by utilizing existing XR platforms.
- Design and create assets to use in XR platforms.
- Utilize XR workspaces for business.

Fall Semester

Course Code	Title	TH	LAB	CR
CISXR100M	Introduction to XR	2	2	3
CIS105M	Introduction to Computer Science	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
MATH155M	College Algebra with Trigonometry	4	0	4
FYE100M	MCC Essentials	1	0	1
	Sub-Total Credits	**14**	**2**	**15-16**

Spring Semester

Course Code	Title	TH	LAB	CR
CSXR105M	XR for Communication & Collaboration	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
CSXR211M	XR Content Creation with No-Code Tools	3	0	3
	Social Science Elective	3	0	3
CSCN210M	Computer Science in Action I: Technology Innovation	3	3	4
	Sub-Total Credits	**14**	**5**	**16**

Fall Semester

Course Code	Title	TH	LAB	CR
CSXR210M	The XR Metaverse	2	2	3
CSXR209M	Designing Accessible XR Experiences	3	0	3
MATH106M	Statistics I – An Introduction to Statistical Reasoning	4	0	4
CSCN220M	Entrepreneurship in Computer Science	3	3	4
	Computer Science Technical Elective	2	2	3
	Sub-Total Credits	**14**	**7**	**17**

Spring Semester

Course Code	Title	TH	LAB	CR
CSXR212M	XR & Workforce Integration	3	0	3
CSXR215M	Ethics & Privacy in XR	3	0	3
	English/Philosophy Elective	3	0	3
CIS291M	Capstone Senior Seminar	2	2	3
	Open Elective (3 credits)	3	0	3
	Sub-Total Credits	**14**	**2**	**15**
	Total Credits			**63-64**

Cybersecurity

Cybersecurity Investigations Associate of Science

Degree Type Associate of Science

Program Overview

MCC's Cybersecurity Investigations program incorporates hands-on training, Virtual Reality and preparation for Comp TIA certification exams to prepare students for a growing, high-demand field.

Program Goals & Outcomes

Graduates of 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 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 teamwork.
- Explain the concept and importance of ethics in cybersecurity investigations.
- Demonstrate a foundation for employment or transfer to a 4-year institution.
- Explain the necessity for a commitment to life-long learning.

Fall Semester

Course Code	Title	TH	LAB	CR
CYBD100M	Introduction to Cybersecurity	2	2	3
CIS102M	A+ Prep/Hardware	2	2	3
CIS110M	Microsoft® Computer Applications I	2	2	3
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**11**	**6**	**14-15**

Spring Semester

Course Code	Title	TH	LAB	CR
CYBD110M	Investigations and Evidence Recovery	3	3	4
CIS103M	A+ Prep/Software	2	2	3
CIS116M	Network + Preparation	3	3	4
POLS110M	American Government	3	0	3
	Mathematics Elective 100 or higher	4	0	4
	Sub-Total Credits	**15**	**8**	**18**

Fall Semester

Course Code	Title	TH	LAB	CR
CYBD210M	Operating System Artifacts	3	3	4
CYBD215M	Digital Forensics	3	3	4
PHIL240M	Ethics	3	0	3
	Cybersecurity Elective	3	3	4
	Sub-Total Credits	**12**	**9**	**15**

Spring Semester

Course Code	Title	TH	LAB	CR
CYBD230M	Mobile and Emerging Device Analysis	3	3	4
CYBD235M	Network Intrusions	3	3	4
	Capstone Elective	2	2	3
	English Elective	3	0	3
	Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**14**	**8**	**17**
	Total Credits			**64-65**

Early Childhood Education

Early Childhood Education Associate of Applied Science

Degree Type Associate of Applied Science

Program Overview

The Early Childhood Education (ECE) program is designed to prepare you to work with children from birth through age 8 years in a variety of professional settings including but not limited to child care, public schools, early intervention and Head Start. Graduates meet the New Hampshire Child Care Licensing (NHCCL) requirements for a lead teacher and center director and are eligible for many transfer opportunities including public school certification Pre-K through 3rd grade.

The Associate of Applied Science degree provides a combination of theory and practical experience related to child development, curriculum design, social and emotional competencies, family supports, and health and safety training. Graduates have approximately 234 hours of supervised experience with children at a minimum of two different developmental levels (infant/toddler, preschool or primary grade) along with multiple additional observation experiences that further strengthen their understanding of child development and teaching practice.

Program Goals & Outcomes

Graduates of 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 your practice and a commitment to the profession's code of ethical conduct.
- Demonstrate reflective thinking and the ability to continually evaluate the effect of your choices and actions on others, seek out opportunities to grow professionally, and serve as an advocate for children, families and the early childhood profession.

Accreditation

The Early Childhood Education A.A.S. degree at Manchester Community College is nationally accredited by the Commission on the Accreditation of Early Childhood Higher Education Programs of the National Association for the Education of Young Children. The current accreditation term runs from March 2024 through March 2031.

Fall Semester

Course Code	Title	TH	LAB	CR
FYE100M	MCC Essentials	1	0	1
ECE100M	Early Childhood Growth and Development	3	0	3
ECE104M	Foundations of Early Childhood Education	3	0	3
ECE116M	Child Health, Safety and Nutrition	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**14**	**0**	**14-15**

Spring Semester

Course Code	Title	TH	LAB	CR
	English Elective (3 credits)	3	0	3
ECE106M	ECE Curriculum: The Arts & Emergent Literacy	3	0	3
	Practicum Elective	2	2	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	MATH132M or MATH145M or MATH145XM	3	0	3
	Sub-Total Credits	**14**	**2**	**15**

Fall Semester

Course Code	Title	TH	LAB	CR
ECE200M	ECE Curriculum: Math, Science, and Creative Thinking	3	0	3
ECE201M	Children's Individual and Special Needs	3	0	3
ECE202M	Student Teaching Practicum	1	9	4
ECE214M	Developmentally Appropriate Guidance and Discipline for Young Children	3	0	3
	Science Elective	3	0	3-4
	Sub-Total Credits	**13**	**9**	**16-17**

Spring Semester

Course Code	Title	TH	LAB	CR
PSYC110M	Introduction to Psychology	3	0	3
ECE204M	Developmentally Appropriate Curriculum for Infants and Toddlers	3	0	3
ECE210M	Child, Family and Community Relations	3	0	3
ECE212M	Professional Development Practicum: ECE Capstone	1	9	4
ECE250M	Childcare Administration and Management	3	0	3
	Sub-Total Credits	**13**	**9**	**16**
	Total Credits			**61-63**

Advanced Early Childhood Certificate

Degree Type Certificate

Certificate Overview

The Advanced Early Childhood certificate program prepares students to work in New Hampshire as a center director.

Course Code	Title	TH	LAB	CR
ECE100M	Early Childhood Growth and Development	3	0	3
ECE104M	Foundations of Early Childhood Education	3	0	3
ECE116M	Child Health, Safety and Nutrition	3	0	3
ECE201M	Children's Individual and Special Needs	3	0	3
ECE210M	Child, Family and Community Relations	3	0	3
ECE214M	Developmentally Appropriate Guidance and Discipline for Young Children	3	0	3
ECE250M	Childcare Administration and Management	3	0	3
	Curriculum Elective	3	0	3
	Sub-Total Credits	**24**	**0**	**24**

*Required for Center Director Credential in New Hampshire

	Total Credits	**24**

Early Childhood Lead Teacher Certificate

Degree Type Certificate

Certificate Overview

This certificate prepares students to become lead teachers in an early childhood program, in accordance with NH state child care program licensing rules. All courses in this program transfer directly into the Early Childhood Education A.A.S. degree program for students who wish to continue their education.

Course Code	Title	TH	LAB	CR
ECE100M	Early Childhood Growth and Development	3	0	3
ECE104M	Foundations of Early Childhood Education	3	0	3
ECE116M	Child Health, Safety and Nutrition	3	0	3
ECE201M	Children's Individual and Special Needs	3	0	3
ECE214M	Developmentally Appropriate Guidance and Discipline for Young Children	3	0	3
	ECE Elective	3	0	3
	ECE Practicum Elective	3	2	3
	Total Credits			**21**

Early Childhood Special Education Certificate

Degree Type Certificate

Certificate Overview

This certificate will help students become valuable members of the IEP or IFSP team by providing training to effectively work with children with unique learning characteristics. Earning the certificate is recommended to work as a paraprofessional in public schools or as part of the team that helps develop, maintain and evaluate Individualized Education Programs.

Birth-Grade 3 Option

Course Code	Title	TH	LAB	CR
ECE100M	Early Childhood Growth and Development	3	0	3
ECE104M	Foundations of Early Childhood Education	3	0	3
ECE112M	Introduction to Play-Based Curriculum and Learning Environments	3	0	3
ECE201M	Children's Individual and Special Needs	3	0	3
	TCHE215M or ECE214M	3	0	3
TCHE220M	Diverse and Inclusive Practices in Family, School, and Community Partnerships	3	0	3
TCHE225M	Curriculum and Instruction for Diverse Learners	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
	Total Credits			**24**

Entry-Level Early Childhood Certificate

Degree Type Certificate

Certificate Overview

The Entry-Level Early Childhood certificate provides students with the training needed to earn the credential of *Associate Teacher* in the state of New Hampshire. It is also a building block to the Lead Teacher certificate and the Early Childhood Education degree.

Course Code	Title	TH	LAB	CR
ECE100M	Early Childhood Growth and Development	3	0	3
ECE104M	Foundations of Early Childhood Education	3	0	3
ECE116M	Child Health, Safety and Nutrition	3	0	3
ECE214M	Developmentally Appropriate Guidance and Discipline for Young Children	3	0	3
	Total Credits			**12**

Electrical Technology

Electrical Technology Associate of Science

Degree Type Associate of Science

Program Overview

The Electrical Technology Associate of Applied Science (A.A.S.) degree is uniquely structured to offer three distinct pathways, each tailored to different career objectives and areas of interest. The degree pathways allow students to align their electrical technology studies to specific career goals like becoming an electrical technician, working in a substation or earning state licensure.

Program Goals & Outcomes

Depending on your chosen Electrical Technology degree pathway (Licensure, Technician or Substation), graduates of this program will:

- Possess the required theory training for an electrician apprenticeship.
- Be well-versed in fundamental electrical theory.
- Demonstrate safe and appropriate use of electrical equipment and tools.
- Possess in-depth knowledge of the National Electrical Code.
- Be prepared for entry-level positions as electrical technicians, linemen, substation electricians or licensed electricians.

Fall Semester

Course Code	Title	TH	LAB	CR
ETEC110M	Electrical Fundamentals I	3	3	4
	ETEC120M or ETEC122M	3	0	3
	Mathematics Elective (MATH135M, MATH151M or higher)	4	0	4
	Lab Science Elective	3	3	4
FYE100M	MCC Essentials	1	0	1
	Sub-Total Credits	**14**	**6**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ETEC150M	Power, Transformers and Rotating Machinery	3	3	4
	Pathway Elective (ETEC160M or ETEC135M)	3	3	4
	Pathway Elective (ETEC165M, MATH155M or MATH171M)	4	0	4
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**14**	**6**	**16-17**

Fall Semester

Course Code	Title	TH	LAB	CR
ETEC210M	Electrical and Electronic Motor Controls	3	3	4
ETEC230M	Electrical Print Reading	3	0	3
	Pathway Elective (ETEC220M or ETEC225M)	3	3	4
	Pathway Elective (Open Elective or ETEC270M)	4	0	4
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**16**	**6**	**18**

Spring Semester

Course Code	Title	TH	LAB	CR
ETEC250M	Advanced Controls I – Digital Fundamentals – PLC Basics	3	3	4
	Pathway Elective (ETEC260M or ETEC265M)	3	3	4
	Lab Science Elective	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**12**	**9**	**15**
	Total Credits			**62-63**

Electrical Technology - State Licensure Pathway Associate of Science

Degree Type Associate of Science

Program Overview

The Electrical Technology – State Licensure Pathway enables students to fulfill the 600 apprenticeship educational schooling hours required to sit for the Journeyman Electrician's exam. Successful completion of either the certificate or degree program provides these hours. Since MCC has some of the best hands-on training equipment and is fully accredited, students may also earn hands-on field experience toward the 8,000 hours required by the State of NH from successful completion of laboratory and classroom experimentation. Students in this pathway must be actively registered with the State of NH OPLC as a licensed apprentice.

After obtaining a Journeyman Electrician License, students who wish to obtain a Master Electrician License can do so after 30 more hours of electrical-related continuing educational schooling and 2,000 more hours of hands-on field experience.

Program Goals & Outcomes

Depending on the chosen Electrical Technology degree pathway (Licensure, Technician or Substation), graduates of this program will:

- Possess the required theory training for an electrician apprenticeship.
- Be well-versed in fundamental electrical theory.
- Demonstrate safe and appropriate use of electrical equipment and tools.
- Possess in-depth knowledge of the National Electrical Code.
- Be prepared for entry-level positions as electrical technicians, linemen, substation electricians or licensed electricians.

Fall Semester

Course Code	Title	TH	LAB	CR
ETEC110M	Electrical Fundamentals I	3	3	4
ETEC120M	AC Fundamentals and Residential Wiring	3	3	4
	Mathematics Elective (MATH135M, MATH151M or higher)	4	0	4
FYE100M	MCC Essentials	1	0	1
	Lab Science Elective	3	3	4
	Sub-Total Credits	**14**	**9**	**17**

Spring Semester

Course Code	Title	TH	LAB	CR
ETEC150M	Power, Transformers and Rotating Machinery	3	3	4
ETEC160M	Commercial and Industrial Wiring	3	3	4
ETEC165M	National Electrical Code Fundamentals	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**13**	**6**	**15-16**

Fall Semester

Course Code	Title	TH	LAB	CR
ETEC210M	Electrical and Electronic Motor Controls	3	3	4
ETEC220M	Commercial and Low Voltage Building Systems	3	3	4
ETEC230M	Electrical Print Reading	3	0	3
	Open Elective (3 credits)	3	0	3
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**15**	**6**	**17**

Spring Semester

Course Code	Title	TH	LAB	CR
ETEC250M	Advanced Controls I – Digital Fundamentals – PLC Basics	3	3	4
ETEC260M	Renewable and Alternative Energy Systems	3	3	4
	Lab Science Elective	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**12**	**9**	**15**
	Total Credits			**62-63**

Electrical Technology - Substation Pathway Associate of Science

Degree Type Associate of Science

Program Overview

MCC's Electrical Technology - Substation Pathway provides students with a combination of both electrician and electronics training. This pathway has been developed in partnership with Eversource to meet growing workforce demands.

The Substation Pathway concentration focuses on the fundamentals of substation hardware and electronics. **Hardware** training includes power lines, insulators, transformers, capacitors, switches, circuit breakers and other mechanical devices. **Electronics** training includes learning about sensors, telemetering, radio transmissions, controls, PLC's, data acquisition, monitoring and central control interfacing.

Program Goals & Outcomes

Depending on the chosen Electrical Technology degree pathway (Licensure, Technician or Substation), students who graduate will:

- Possess the required theory training for an electrician apprenticeship.
- Be well-versed in fundamental electrical theory.
- Demonstrate safe and appropriate use of electrical equipment and tools.
- Possess in-depth knowledge of the National Electrical Code.
- Be prepared for entry-level positions as electrical technicians, linemen, substation electricians or licensed electricians.

Fall Semester

Course Code	Title	TH	LAB	CR
ETEC110M	Electrical Fundamentals I	3	3	4
ETEC122M	Electricity and Electronics	3	0	3
	Lab Science Elective	3	3	4
MATH151M	Intermediate Algebra	4	0	4
FYE100M	MCC Essentials	1	0	1
	Sub-Total Credits	**14**	**6**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ETEC150M	Power, Transformers and Rotating Machinery	3	3	4
ETEC135M	Fundamentals of Industrial Instrumentation and Process Control	3	0	3
MATH155M	College Algebra with Trigonometry	4	0	4
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**14**	**3**	**15-16**

Fall Semester

Course Code	Title	TH	LAB	CR
ETEC210M	Electrical and Electronic Motor Controls	3	3	4
ETEC225M	Electric Power Substation Engineering	3	0	3
ETEC230M	Electrical Print Reading	3	0	3
ETEC270M	Substation Automation Systems	3	0	3
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**15**	**3**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ETEC250M	Advanced Controls I – Digital Fundamentals – PLC Basics	3	3	4
ETEC265M	Troubleshooting Electrical & Electronic Systems	3	2	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Lab Science Elective	3	3	4
	Sub-Total Credits	**12**	**8**	**15**
	Total Credits			**62-63**

Electrical Technology - Technician Pathway Associate of Science

Degree Type Associate of Science

Program Overview

The Electrical Technology - Technician Pathway is for training as a general electrical and electronics technician. This pathway is for those who are not necessarily pursuing licensure but still wish to have a career in the electrical field. Students are prepared to work in fields such as telecom, fire alarm, security, CATV, internet infrastructure, electrical control systems and as engineering assistants.

Program Goals & Outcomes

Depending on chosen Electrical Technology degree pathway (Licensure, Technician or Substation), graduates of this program will:

- Possess the required theory training for an electrician apprenticeship.
- Be well-versed in fundamental electrical theory.
- Demonstrate safe and appropriate use of electrical equipment and tools.
- Possess in-depth knowledge of the National Electrical Code.
- Be prepared for entry-level positions as electrical technicians, linemen, substation electricians or licensed electricians.

Fall Semester

Course Code	Title	TH	LAB	CR
ETEC110M	Electrical Fundamentals I	3	3	4
ETEC122M	Electricity and Electronics	3	0	3
MATH151M	Intermediate Algebra	4	0	4
	Lab Science Elective	3	3	4
FYE100M	MCC Essentials	1	0	1
	Sub-Total Credits	**14**	**6**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ETEC135M	Fundamentals of Industrial Instrumentation and Process Control	3	0	3
ETEC150M	Power, Transformers and Rotating Machinery	3	3	4
MATH155M	College Algebra with Trigonometry	4	0	4
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**14**	**3**	**15-16**

Fall Semester

Course Code	Title	TH	LAB	CR
ETEC210M	Electrical and Electronic Motor Controls	3	3	4
ETEC220M	Commercial and Low Voltage Building Systems	3	3	4
ETEC230M	Electrical Print Reading	3	0	3
	Open Elective (3 credits)	3	0	3
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**15**	**6**	**17**

Spring Semester

Course Code	Title	TH	LAB	CR
ETEC250M	Advanced Controls I – Digital Fundamentals – PLC Basics	3	3	4
ETEC265M	Troubleshooting Electrical & Electronic Systems	3	2	4
	Lab Science Elective	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**12**	**8**	**15**
	Total Credits			**62-63**

Electrical Lineworker Certificate

Degree Type Certificate

Certificate Overview

In partnership with Eversource and the International Brotherhood of Electrical Workers (IBEW), Local Unions 104 and 1837, the MCC Electrical Lineworker certificate program prepares students to work in the electrical-power-utility industry or to transfer credits to the MCC Electrical Technology or Technical Studies degree programs. A key component of this program is an internship with IBEW.

Admissions Requirements

The Electrical Lineworker program is a selective program that requires all students to first attend a specific information session during an MCC Open House. To learn more about upcoming Electrical Lineworker Sessions, go online to mccnh.edu/admissions/information-sessions/.

Electrical Lineworker Certificate Options

The Electrical Lineworker Certificate program is designed to allow you to enter the skilled workforce quickly with the targeted electrical training required to become a Utility Lineworker. Because the training is skilled and targeted, no other training is needed.

Other Electrical Technology Training Options

The mission of MCC's Electrical Technology program is to provide you with the foundation to become a Utility Lineworker, Electrical Technician, Electrical Apprentice or Utility Substation Electrician.
In addition to the Electrical Lineworker certficate program, MCC's Electrical Technology program offers a general Electrical Technology certificate and three Electrical Technology Associate of Applied Scienc (AAS) degree pathways, allowing you to accomplish specific career goals like becoming an Electrical Technician, an Electrical Substation employee, or preparing you to take the exam for State Licensure.
Each degree pathway's curriculum and other details can be explored on our website. Please go to mccnh.edu/programs/electrical-technology.

Certificate Curriculum Requirements

Courses Necessary for the EVERSOURCE Electrical Lineworker Certificate Program

Graduates of this certificate program will be prepared to enter the electrical-power-utility industry or to transfer credits to the MCC Electrical Technology or Technical Studies degree programs. Key to training is a co-op with Eversource.

Semester I

Course Code	Title	TH	LAB	CR
ETEC111M	Electrical Fundamentals I - Line Worker	3	3	4
ETEC140M	Lineworker I	3	6	5
HFIT102M	Occupational Health, Safety, and Wellness	3	0	3
ETEC145M	Commercial Driver Training Theory	6	0	6
	Sub-Total Credits	**15**	**9**	**18**

Semester II

Course Code	Title	TH	LAB	CR
ETEC121M	Electrical Fundamentals II – Line Worker	3	3	4
ETEC142M	Lineworker Co-op		12	1
ETEC146M	Commercial Driver Training Behind the Wheel Range	1	6	4
ETEC147M	Commercial Driver Training Practicum	0	6	3
ETEC240M	Lineworker II	3	6	5
	Sub-Total Credits	**7**	**33**	**17**
	Total Credits			**35**

Electrical Technology Certificate

Degree Type Certificate

Certificate Overview

The Electrical Technology certificate is a streamlined program that meets the state of New Hampshire educational requirements for licensure. Completion of the program will prepare you to work in the field and is also a building block for the Electrical Technology degree. *Go to mccnh.edu/programs for more details about this and other MCC programs and certificates.*

Course Code	Title	TH	LAB	CR
ETEC110M	Electrical Fundamentals I	3	3	4
ETEC120M	AC Fundamentals and Residential Wiring	3	3	4
ETEC150M	Power, Transformers and Rotating Machinery	3	3	4
ETEC160M	Commercial and Industrial Wiring	3	3	4
ETEC165M	National Electrical Code Fundamentals	3	0	3
ETEC210M	Electrical and Electronic Motor Controls	3	3	4
ETEC220M	Commercial and Low Voltage Building Systems	3	3	4
ETEC230M	Electrical Print Reading	3	0	3
ETEC250M	Advanced Controls I – Digital Fundamentals – PLC Basics	3	3	4
ETEC260M	Renewable and Alternative Energy Systems	3	3	4
	Total Credits			**38**

English

English Associate of Arts

Degree Type Associate of Arts

Program Overview

The English program at MCC will do more than just prepare you for transfer to another program or institution; it will help you gain insight into yourself and others. As an English major, you'll learn valuable real-world skills that will empower you to participate meaningfully in intellectual, civic and vocational life. Coursework in English provides foundational skills in how to:

- Think, read and write critically and creatively.

- Comprehend and evaluate readings and understand them as products of historical and cultural contexts.
- Read and write with an appreciation for the aesthetic and expressive possibilities of language.
- Analyze and synthesize complex information.
- Engage ethically with the ideas of others.
- Find high-quality research sources and weed out sources of mis/dis/-mal-information.
- Ethically and effectively leverage the power of AI in research and writing.
- Communicate effectively in writing or speech using varied and appropriate rhetorical approaches.
- Research comprehensively and ethically at every stage of the process from idea generation to presentation of the final product.

Program Goals & Outcomes

One goal of the English program is to help you develop into a future scholar, citizen and professional through coursework in research, rhetoric, writing and literature. Exposure to a wide variety of texts and ideas will help you become a more thoughtful and intellectually curious person, well positioned to move on to additional study

Graduates of this program will have developed:

- **A Versatile Skill Set:** Studying English develops critical thinking, communication and analytical skills that will serve you well in every aspect of your life and vocation.
- **Self and Other-Awareness:** Studying English exposes you to diverse cultures and human experiences through literature. This broadens perspectives and deepens understanding of the world, facilitating both personal growth and professional opportunities.
- **Creativity and Expression:** English studies foster creativity and self-expression, allowing space for you to explore and develop your own voice through poetry, fiction and non-fiction writing. Whether you are looking to get into a creative industry, or you just appreciate the power and beauty of the written word, an English major could be a great fit for you.

Transfer Opportunities

Students in the English degree can successfully transfer to colleges and universities around the country, including:

- Boston University
- Emerson College
- Keene State College
- Plymouth State University
- Rivier University
- Southern NH University
- University of New Hampshire
- University of Massachusetts
- ...and many more!

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; additional information can also be obtained from MCC's Career Development & Transfer Services.

NHTransfer
Connecting New Hampshire's Colleges and Universities

Employment Opportunities

A degree in English can prepare you for potential jobs like:

- Advertising Assistant
- Copywriter
- Corporate Trainer
- Editor
- Educator
- Freelance Writer
- Journalist
- Manager
- Marketing Director
- Project Manager
- Public Relations Manager
- Technical Writer

Fall Semester

Course Code	Title	TH	LAB	CR
FYE100M	MCC Essentials	1	0	1
	Science Elective	3	0	3
	Social Science Elective	3	0	3
	Liberal Arts and Sciences Elective*	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**14**	**0**	**14-15**

Spring Semester

Course Code	Title	TH	LAB	CR
ENGL207M	Introduction to Literary Analysis	3	0	3
	Literature Elective	3	0	3
HUMA110M	Foundations in Liberal Arts Studies	3	0	3
	Mathematics Elective	3	0	3-4
	Social Science Elective	3	0	3
	Sub-Total Credits	**15**	**0**	**15-16**

Fall Semester

Course Code	Title	TH	LAB	CR
ENGL220M	Advanced Composition: Medium, Message, and Mode	4	0	4
	Pre-1800 Literature Elective	3	0	3
	English Elective	3	0	3
	Mathematics Elective	3	0	3-4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**16**	**0**	**16-17**

Spring Semester

Course Code	Title	TH	LAB	CR
	English Elective	3	0	3
	Post-1800 Literature Elective	3	0	3
	Lab Science Elective	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Social Science Elective	3	0	3
	Sub-Total Credits	**15**	**3**	**16**

*Liberal Arts and Sciences Elective: any course with ANTH, ARTS, ASL, BIOL, CHEM, ECON, ENGL, ENVS, ESCI, FREN, GEOG, GEOL, HIST, HUMA, MATH, PHIL, PHYS, POLS, PSYC, SOCI, or SPAN in the course number

**ENGL200M: This course can count as pre- or post-1800 course dependent on topic. Please contact the English Department Chair with questions

	Total Credits	**61-64**

Fine Arts

Fine Arts Associate of Arts

Degree Type Associate of Arts

Program Overview

The Fine Arts degree focuses on creative practice, problem setting, tangential research, play, articulation and exhibition. Students who champion these tenets of a creative practice will be prepared to offer considerable contributions to their

industries, cultures and contexts. In addition to the Fine Arts degree, this program has an Illustration degree pathway which includes the fine art core curriculum with specific illustration courses chosen for electives.

Program Goals & Outcomes

Students who graduate from this program will be able to:

- Apply the skills, tools and vocabulary to create work that exhibits developing technical ability, substance and artistic distinction.
- Articulate ideas, formulate arguments, question assumptions, and demonstrate the ability to evaluate and interpret information through both written and visual mediums.
- Collaborate with peers and professionals in the arts, thereby broadening the student's body of knowledge while developing a personal identity as an artist.
- Demonstrate a developing awareness of global, historical, cultural, philosophical and contemporary contexts, as well as the relationship between artist and community.

Fall Semester

Course Code	Title	TH	LAB	CR
ARTS105M	Introduction to Creative Practice	2	3	3
ARTS120M	Digital Photography	2	3	3
ARTS123M	Drawing I	2	3	3
	ENGL101XM or ENGL101M	4	0	4-5
FYE100M	MCC Essentials	1	0	1
	Mathematics Elective (3 credits)	3	0	3
	Sub-Total Credits	**14**	**9**	**17-18**

Spring Semester

Course Code	Title	TH	LAB	CR
ARTS108M	Visual Language	2	3	3
ARTS210M	Painting I	2	3	3
ARTS117M	Art History I	3	0	3
	Social Science Elective (3 credits)	3	0	3
	English Elective (3 credits)	3	0	3
	Sub-Total Credits	**13**	**6**	**15**

Fall Semester

Course Code	Title	TH	LAB	CR
ARTS107M	Digital Tools for the Artist	2	3	3
	ARTS or GDES (3 credits)	2	3	3
ARTS217M	Art History II	3	0	3
	Mathematics Elective (3 credits)	3	0	3
	Lab Science Elective	3	3	4
	Sub-Total Credits	**13**	**9**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ARTS226M	Portfolio Prep for Fine Arts	2	3	3
ARTS207M	Professional Practice for Fine Arts & Illustration	3	0	3
	ARTS or GDES (3 credits)	2	3	3
	ARTS or GDES (3 credits)	2	3	3
	Lab Science Elective	3	3	4
	Sub-Total Credits	**12**	**12**	**16**

MCC now offers an option for students wishing to explore the discipline of illustration. The suite of courses designed within this pathway equip students with the skills essential for visual storytelling, world building, character design, and more. The pathway prepares students to take on commercial projects, while also giving them the education needed to successfully transfer to other bachelors-level illustration degree programs.

Students in the Illustration Pathway must take the following courses instead of the Fine Arts Elective options within the Fine Arts Degree Program:

First Year Spring Semester

Course Code	Title	TH	LAB	CR
ARTS100M	Introduction to Illustration	2	3	3
	Sub-Total Credits	**2**	**3**	**3**

Second Year Fall Semester

Course Code	Title	TH	LAB	CR
	ARTS205M or ARTS208M	2	3	3
	Sub-Total Credits	**2**	**3**	**3**

Second Year Spring Semester

Course Code	Title	TH	LAB	CR
ARTS216M	Illustration Avenues	2	3	3
	Sub-Total Credits	**2**	**3**	**3**
	Total Credits			**64-65**

Fine Arts - Illustration Pathway Associate of Arts

Degree Type

Associate of Arts

Program Overview

The Fine Arts - Illustration Pathway includes the Fine Art core curriculum with specific illustration courses as electives. Coursework builds a foundational education to transfer to a 4-year illustration or animation degree program or to take on commercial projects.

Program Goals & Outcomes

Students who graduate from this program will be able to:

- Apply the skills, tools and vocabulary of their chosen discipline in order to create work that exhibits developing technical ability, substance and artistic distinction.
- Articulate ideas, formulate arguments, question assumptions, and demonstrate the ability to evaluate and interpret information through both written and visual mediums.
- Collaborate with peers and professionals in the arts, thereby broadening a body of knowledge while developing a personal identity as an artist.
- Demonstrate a developing awareness of global, historical, cultural, philosophical and contemporary contexts, as well as the relationship between the artist and community.

Fall Semester

Course Code	Title	TH	LAB	CR
ARTS105M	Introduction to Creative Practice	2	3	3
ARTS120M	Digital Photography	2	3	3
ARTS123M	Drawing I	2	3	3
FYE100M	MCC Essentials	1	0	1
	Mathematics Elective (3 credits)	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**14**	**9**	**17-18**

Spring Semester

Course Code	Title	TH	LAB	CR
ARTS108M	Visual Language	2	3	3
ARTS210M	Painting I	2	3	3
ARTS117M	Art History I	3	0	3
	Social Science Elective (3 credits)	3	0	3
	English Elective (3 credits)	3	0	3
	Sub-Total Credits	**13**	**6**	**15**

Fall Semester

Course Code	Title	TH	LAB	CR
ARTS107M	Digital Tools for the Artist	2	3	3
	ARTS or GDES (3 credits)	2	3	3
ARTS217M	Art History II	3	0	3
	Mathematics Elective (3 credits)	3	0	3
	Lab Science Elective	3	3	4
	Sub-Total Credits	**13**	**9**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ARTS226M	Portfolio Prep for Fine Arts	2	3	3
ARTS207M	Professional Practice for Fine Arts & Illustration	3	0	3
	ARTS or GDES (3 credits)	2	3	3
	ARTS or GDES (3 credits)	2	3	3
	Lab Science Elective	3	3	4
	Sub-Total Credits	**12**	**12**	**16**

MCC now offers an option for students wishing to explore the discipline of illustration. The suite of courses designed within this pathway equip students with the skills essential for visual storytelling, world building, character design, and more. The pathway prepares students to take on commercial projects, while also giving them the education needed to successfully transfer to other bachelors-level illustration degree programs.

Students in the Illustration Pathway must take the following courses instead of the Fine Arts Elective options within the Fine Arts Degree Program:

First Year Spring Semester

Course Code	Title	TH	LAB	CR
ARTS100M	Introduction to Illustration	2	3	3
	Sub-Total Credits	**2**	**3**	**3**

Second Year Fall Semester

Course Code	Title	TH	LAB	CR
	ARTS205M or ARTS208M	2	3	3
	Sub-Total Credits	**2**	**3**	**3**

Second Year Spring Semester

Course Code	Title	TH	LAB	CR
ARTS216M	Illustration Avenues	2	3	3
	Sub-Total Credits	**2**	**3**	**3**
	Total Credits			**64-65**

Graphic Illustration Certificate

Degree Type Certificate

Certificate Overview

The Graphic Illustration certificate program will reinforce the fundamentals of visual storytelling, while preparing students for a freelance career.

Course Code	Title	TH	LAB	CR
ARTS100M	Introduction to Illustration	2	3	3
ARTS105M	Introduction to Creative Practice	2	3	3
ARTS107M	Digital Tools for the Artist	2	3	3
ARTS120M	Digital Photography	2	3	3
ARTS123M	Drawing I	2	3	3
ARTS205M	Digital Illustration	2	3	3
ARTS207M	Professional Practice for Fine Arts & Illustration	3	0	3
ARTS208M	Comics and Graphic Novels	2	3	3
ARTS210M	Painting I	2	3	3
ARTS216M	Illustration Avenues	2	3	3
ARTS223M	Drawing II	2	3	3
	Total Credits			**33**

Graphic Design

Graphic Design Associate of Applied Science

Degree Type Associate of Applied Science

Program Overview

The Graphic Design Associate of Applied Science (A.A.S.) degree program provides students with a comprehensive educational experience that develops creativity, technical expertise and professional industry knowledge. The program's curriculum integrates theory and practice that fosters the ability to create expressive, effective visual communication.

Program Goals & Outcomes

Graduates of 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 skill-set 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.

Fall Semester

Course Code	Title	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
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**13**	**12**	**17-18**

Spring Semester

Course Code	Title	TH	LAB	CR
GDES122M	Color Theory for Graphic Design	2	3	3
GDES124M	Typography	2	3	3
GDES204M	Digital Publishing Methods	2	3	3
GDES155M	Computer Illustration	2	3	3
ENGL113M	Introduction to Public Speaking	3	0	3
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**14**	**12**	**18**

Fall Semester

Course Code	Title	TH	LAB	CR
GDES105M	History of Graphic Design	3	0	3
GDES205M	Visual Design	2	3	3
GDES213M	Graphic Design II	2	3	3
GDES229M	Professional Practice for Graphic Design	2	3	3
	MATH145M or MATH200M	4	0	4
	Sub-Total Credits	**13**	**9**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
GDES225M	Graphic Design III	2	3	3
GDES228M	Graphic Design Experiential Learning	2	3	3
	Science Elective (3 credits)	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**10**	**6**	**12**
	Total Credits			**63-64**

Graphic Design Certificate

Degree Type Certificate

Certificate Overview

A Graphic Design certificate prepares students for continued growth in their career or for entry-level jobs in advertising agencies, printing companies, publishing firms and companies that maintain in-house graphic design departments.

Course Code	Title	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
GDES204M	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
GDES228M	Graphic Design Experiential Learning	2	3	3
GDES229M	Professional Practice for Graphic Design	2	3	3
	Total Credits			**33**

Health and Exercise Science

Health and Exercise Science Associate of Science

Degree Type Associate of Science

Program Overview

Health and exercise professionals work in various settings filling a multitude of roles in supporting clients to achieve personal health and fitness goals. As coaches, trainers, and fitness professionals who lead by example, we promote, develop, and implement effective lifestyle plans that incorporate physical activity, healthy eating habits, and overall lifestyle management. You can anticipate opportunities in many areas of this field as businesses continue to recognize the benefits of health and fitness programs for their employees and more people take an active role in preventing chronic disease and injury, seeking expert guidance with their health, wellness and athletic goals.

The mission of the Health and Exercise Science program is to equip you with cutting-edge knowledge and skills necessary to excel as leaders in various sectors of the health and wellness industry. Our primary objective is to offer you hands-on learning opportunities that seamlessly integrate effective communication, assessment and programming skills. These skills will enable you to establish and cultivate professional-client relationships, accurately identify clients' needs and goals, and help you devise and implement tailored plans and programs for individuals and groups alike.

Program Goals & Outcomes

Students who graduate from this program will be able to:

- Establish and maintain successful professional-client relationships by demonstrating exceptional rapport-building and communication skills, fostering credibility and trust.
- Safely and effectively assess, develop, and implement tailored health, wellness, and training programs for diverse populations, ensuring optimal outcomes.
- Apply comprehensive knowledge of human body systems to assess, program, and monitor clients' progress accurately and effectively.
- Prepare you to sit for industry-leading national certification exams such as ACSM, ACE, NSCA, NASM, showcasing your proficiency and readiness for professional practice.
- Recognize and appreciate the significance of active involvement in local business, community, and industry organizations, fostering continuous learning, networking and professional growth.

Transfer Opportunities

Completion of the Health and Exercise Science degree also prepares you for transfer to various health programs such as exercise physiology, physical therapy, kinesiology, athletic training, dietitian and health education. With your degree you can transfer to schools like:

- Southern New Hampshire University
- Franklin Pierce University
- New England College
- UNH - University of New Hampshire
- Plymouth State University
- Keene State College
- ...and many more!

Professional Experience

The Professional Experience class requires you to participate in an internship at a leading health facility like one of these:

- Executive Health & Sports Club
- Flexible Assisted
- Stretch
- YMCA

Employment Opportunities

Graduates of this program typically find employment as a:

- Exercise Specialist
- Fitness Director
- Personal Trainer
- Group Fitness Instructor
- Health/Wellness Coach
- Sports Performance Coach

Technical Standards

- If you are seeking a career in health and fitness you should be physically and mentally fit, have passion for health and wellness and be able to withstand a physically active, high paced work environment and have the ability to respond quickly and appropriately as required.
- You are also 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.

Program Requirements

Courses in the Health and Exercise Science and Personal Training Programs are sequenced in a progressive manner and must be taken in the order listed.

- Students wishing to transfer into this program have the option of taking BIOL110M & BIOL120M in place of BIOL106M & BIOL107M. BIOL110M requires successful completion and a "C" or better in High School Biology and Chemistry, therefore it is recommended that you complete those courses prior to entry in the Health and Exercise Science program.
- A grade of "C" or better in HFIT105M is required to continue in the Health and Exercise Science program. You may retake a course once if the minimum grade is not earned.
- Due to physical activity requirements of the program, students must also complete an Informed Consent and a preparticipation screening form prior to participation in any HFIT courses. Based on screening 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 and/or faculty member to discuss the physical activity requirements of the program or specific courses they wish to register for as some of the courses involve high intensity activities.
- Prior to participation in HFIT courses, you must have or purchase the following list of required Fitness Assessment Equipment: a stethoscope, blood pressure cuff, heart rate monitor, tape measure, skinfold caliper and stop watch. Students may purchase these tools individually on their own or a complete Fitness Appraisal Kit can be purchased online. Please consult faculty for more information on the equipment requirements for specific classes.
- You are responsible for any travel to and from all HFIT class that involve off campus site visits including observation sites, professional experience sites and community service sites.
- You are required to purchase a program shirt to be worn during class events, community service and professional experience. Additional information on shirt purchase will be provided in class or consult faculty member for more information.
- You must acquire and maintain American Heart Association Heart Saver CPR/ AED Certification or American Red Cross equivalent throughout the program. The certification is available in HFIT111M for an additional fee and required for participation in Professional Experience.
- A background check may be completed for community service sites and professional experience.
- Students participating in Professional Experience at clinical sites will be required to show proof of physical exam and immunizations.

ACE EDUCATION PARTNER

Fall Semester

Course Code	Title	TH	LAB	CR
HFIT105M	Essentials of Exercise Science	3	0	3
HFIT109M	Nutrition for Health Fitness Professionals	3	0	3
HFIT111M	Introduction to Health Fitness Professions	3	0	3
HFIT112M	Effective Consultation Skills	2	1	2
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**20**	**1**	**20-22**

Spring Semester

Course Code	Title	TH	LAB	CR
HFIT113M	Applied Exercise Physiology	3	2	4
HFIT135M	Functional Assessment and Restorative Exercise	2	3	3
BIOL106M	The Human Body	3	0	3
BIOL107M	The Human Body Lab		3	1
HFIT114M	Nutrition for Health Fitness Professionals Lab		2	1
	MATH145M or MATH145XM	4 - 4	0 - 0	4-4
	Sub-Total Credits	**12**	**10**	**16-16**

Summer Semester

Course Code	Title	TH	LAB	CR
HFIT100M	ACE Personal Trainer Exam Review	1	0	1
HFIT213M	Resistance Training	2	3	3
	Sub-Total Credits	**3**	**3**	**4**

Fall Semester

Course Code	Title	TH	LAB	CR
HFIT220M	Performance Training	2	2	3
HFIT230M	Kinesiology	3	2	4
BUS124M	Entrepreneurship and Small Business Management	3	0	3
	Social Science Elective (3 credits)	3	0	3
HFIT226M	Psychology of Sport and Exercise	3	0	3
	Sub-Total Credits	**14**	**4**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
HFIT218M	Group Exercise Leadership for Special Populations	2	4	3
HFIT221M	Professional Experience	2	4	3
HFIT240M	Management Strategies for the Injured Client	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**10**	**8**	**12**
	Total Credits			**68-70**

Personal Training Certificate

Degree Type Certificate

Certificate Overview

Serving as a foundational stepping stone, this program paves the way for pursuing professional degrees in related disciplines such as Exercise Science, Kinesiology, Physical Therapy and Sports Medicine. Throughout this program, students will gain a comprehensive understanding of exercise principles, nutrition and client assessment techniques, as well as prepare for industry-recognized certification exams, including the ACE Certified Personal Trainer exam and the ACE Health and Wellness Coach exam.

Course Code	Title	TH	LAB	CR
HFIT100M	ACE Personal Trainer Exam Review	1	0	1
HFIT105M	Essentials of Exercise Science	3	0	3
HFIT109M	Nutrition for Health Fitness Professionals	3	0	3
HFIT111M	Introduction to Health Fitness Professions	3	0	3
HFIT112M	Effective Consultation Skills	2	1	2
HFIT113M	Applied Exercise Physiology	3	2	4
HFIT114M	Nutrition for Health Fitness Professionals Lab		2	1
HFIT135M	Functional Assessment and Restorative Exercise	2	3	3
HFIT213M	Resistance Training	2	3	3
	Total Credits			**23**

Heating, Ventilation & Air Conditioning

Heating, Ventilation & Air Conditioning Associate of Applied Science

Degree Type Associate of Applied Science

Program Overview

The Heating, Ventilation and Air Conditioning (HVAC) program will provide students with the education and training to begin careers as a climate control technicians. The program is offered with a two-year or three-year track because of the large number of credits required.

In addition to the HVAC Associate of Applied Science degree, the program also offers the following certificates: Advanced HVAC Certificate, Air Conditioning / Refrigeration Certificate, Heating Services Certificate and HVAC Certificate.

Program Goals & Outcomes

Graduates of 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

Accreditation

Students will obtain the educational training portion of the State of NH Gas Fitters Piping Installer's license while in HVAC134/HVAC135. Upon completion of the classes, students will be offered the opportunity to take the approved State of NH Piping Installer's exam.

Students will obtain the educational training associated with Section 608 (EPA) Certification while in HVAC121. Upon completion of the class, students will be offered the opportunity to obtain their Section 608 (EPA) Certification.

Students will obtain the educational training associated with the NORA Bronze Certification while in HVAC114/HVAC115. Upon completion of the classes, students will be offered the opportunity to obtain their NORA Bronze Certification.

Students who complete all HVAC courses associated with the HVAC Associate degree will also receive 500 hours towards the required 1000 hours of OJT for the State of NH Gas Fitters License.

Fall Semester

Course Code	Title	TH	LAB	CR
	HVAC Elective	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		3	1
HVAC114M	Fundamentals of Heating I Theory	3	0	3
HVAC115M	Fundamentals of Heating I Lab	0	3	1
	Sub-Total Credits	**12**	**9**	**15**

Spring Semester

Course Code	Title	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		3	1
HVAC134M	Fundamentals of Gas Heating and Piping Installation Theory	3	0	3
HVAC135M	Fundamentals of Gas Heating and Piping Installation Lab		3	1
	Mathematics Elective (3 credits)	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**16**	**9**	**19-20**

Fall Semester

Course Code	Title	TH	LAB	CR
HVAC211M	Commercial Refrigeration Theory	3	0	3
HVAC212M	Commercial Refrigeration Lab		6	2
HVAC223M	Warm Air and Steam Systems Theory	3	0	3
HVAC224M	Warm Air and Steam Systems Lab	0	6	2
	Liberal Arts and Science Elective (3 or 4 credit)	3	0	3-4
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**12**	**12**	**16-17**

Spring Semester

Course Code	Title	TH	LAB	CR
HVAC221M	Residential and Commercial Air Conditioning and Heat Pumps Theory	3	0	3
HVAC222M	Residential and Commercial Air Conditioning and Heat Pumps Lab	0	6	2
HVAC213M	Hydronic Systems Theory	3	0	3
HVAC214M	Hydronic Systems Lab	0	6	2
	Science Elective (3 credits)	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**12**	**12**	**16**
	Total Credits			**66-68**

Advanced HVAC Certificate

Degree Type Certificate

Certificate Overview

The Advanced Heating, Ventilation and Air Conditioning certificate prepares students to apply technical knowledge and skills to repair, install, service and maintain the operating condition of heating, air conditioning and refrigeration systems. The certificate curriculum covers diagnostic techniques, the use of testing equipment, and the principles of mechanics, electricity and electronics as they relate to the repair of heating, air conditioning and refrigeration systems. This 20-credit certificate can be completed in one year.

Course Code	Title	TH	LAB	CR
HVAC109M	Related Electricity I Theory	3	0	3
HVAC110M	Related Electricity I Lab	0	3	1
HVAC213M	Hydronic Systems Theory	3	0	3
HVAC214M	Hydronic Systems Lab	0	6	2
HVAC221M	Residential and Commercial Air Conditioning and Heat Pumps Theory	3	0	3
HVAC222M	Residential and Commercial Air Conditioning and Heat Pumps Lab	0	6	2
HVAC223M	Warm Air and Steam Systems Theory	3	0	3
HVAC224M	Warm Air and Steam Systems Lab	0	6	2
HVAC243M	DDC and Building Automation Controls I	3	3	4
HVAC256M	HVAC Equipment- Operation, Maintenance, & Optimization	3	3	4
HVAC258M	Advanced Air & Hydronic Systems	3	3	4
HVAC259M	Mechanical / HVAC Project Cost Estimation	3	0	3
HVAC260M	HVAC Project Management	3	3	4
	Advanced HVAC Elective	3	0	3
	Total Credits			**41**

Air Conditioning/Refrigeration Certificate

Degree Type Certificate

Certificate Overview

The AC/Refrigeration certificate prepares students to apply technical knowledge and skills to repair, install, service and maintain the operating condition of air conditioning and refrigeration systems. Diagnostic techniques and the use of testing equipment are covered; the principles of mechanics, electricity, and electronics as they relate to the repair of air conditioning and refrigeration systems are addressed. The certificate takes two years to complete. Classes may be applied toward the HVAC degree.

Course Code	Title	TH	LAB	CR
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		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		3	1
HVAC211M	Commercial Refrigeration Theory	3	0	3
HVAC212M	Commercial Refrigeration Lab		6	2
HVAC221M	Residential and Commercial Air Conditioning and Heat Pumps Theory	3	0	3
HVAC222M	Residential and Commercial Air Conditioning and Heat Pumps Lab	0	6	2
	Total Credits			**26**

HVAC Certificate Certificate

Degree Type Certificate

Certificate Overview

This certificate provides hands-on technical training in the field of HVAC. Coursework meets various licensure requirements and certifications and is also a building block for the HVAC degree.

First Year

Fall Semester

Course Code	Title	TH	LAB	CR
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		3	1
HVAC114M	Fundamentals of Heating I Theory	3	0	3
HVAC115M	Fundamentals of Heating I Lab	0	3	1
	Sub-Total Credits	**9**	**9**	**12**

Spring Semester

Course Code	Title	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		3	1
HVAC134M	Fundamentals of Gas Heating and Piping Installation Theory	3	0	3
HVAC135M	Fundamentals of Gas Heating and Piping Installation Lab		3	1
	Sub-Total Credits	**9**	**9**	**12**

Summer Semester

Course Code	Title	TH	LAB	CR
HVAC230M	Gas Equipment Installations and Service Theory	4	0	4
	Sub-Total Credits	**4**	**0**	**4**

Second Year

Fall Semester

Course Code	Title	TH	LAB	CR
HVAC211M	Commercial Refrigeration Theory	3	0	3
HVAC212M	Commercial Refrigeration Lab		6	2
HVAC223M	Warm Air and Steam Systems Theory	3	0	3
HVAC224M	Warm Air and Steam Systems Lab	0	6	2
	Sub-Total Credits	**6**	**12**	**10**

Spring Semester

Course Code	Title	TH	LAB	CR
HVAC221M	Residential and Commercial Air Conditioning and Heat Pumps Theory	3	0	3
HVAC222M	Residential and Commercial Air Conditioning and Heat Pumps Lab	0	6	2
HVAC213M	Hydronic Systems Theory	3	0	3
HVAC214M	Hydronic Systems Lab	0	6	2
	Sub-Total Credits	**6**	**12**	**10**
	Total Credits			**48**

Heating Services Certificate

Degree Type Certificate

Certificate Overview

Students will apply technical knowledge and skills to repair, install, service and maintain the operating condition of heating systems. Students will also learn about diagnostic techniques and the use of testing equipment; the principles of mechanics, electricity, and electronics as they relate to the repair of heating, AC and refrigeration systems. The certificate takes two years to complete, and classes may be applied toward the HVAC degree.

Course Code	Title	TH	LAB	CR
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 and Piping Installation Theory	3	0	3
HVAC135M	Fundamentals of Gas Heating and Piping Installation Lab		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
HVAC230M	Gas Equipment Installations and Service Theory	4	0	4
	Total Credits			**30**

Human Services

Human Services Associate of Science

Degree Type Associate of Science

Program Overview

The Human Services degree will provide students with the skills and competencies necessary to offer appropriate care and support to clients and to continue to grow personally and professionally.

The Human Services degree program also offers a number a certificates, within a range of human services fields: Child and Family Support Worker Certificate, Direct Support Services Certificate, Mental Health Support Worker Certificate, Recovery Support Certificate and Substance Misuse Prevention Certificate.

Program Goals & Outcomes

Grads of this program will be qualified for jobs including:

- Advocate
- Case Manager
- Child and Family Services Worker
- Direct Support Worker
- Mental Health Support Worker
- Recovery Support Worker
- Veterans Service Worker

Fall Semester

Course Code	Title	TH	LAB	CR
HSV111M	Introduction to Human Services	3	0	3
HSV116M	Professional Seminar I	2	3	3
PSYC110M	Introduction to Psychology	3	0	3
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**13**	**3**	**14-15**

Spring Semester

Course Code	Title	TH	LAB	CR
HSV114M	Assessment and Planning	3	0	3
HSV117M	Professional Seminar II	2	3	3
	Human Services Technical Elective	3	0	3
SOCI110M	Introduction to Sociology	3	0	3
	MATH145M or MATH145XM	4 - 4	0 - 0	4-4
	Sub-Total Credits	**15**	**3**	**16-16**

Fall Semester

Course Code	Title	TH	LAB	CR
HSV218M	Professional Seminar III	2	3	3
HSV212M	Interpersonal Dynamics	3	0	3
	Human Services Technical Elective	3	0	3
PSYC210M	Human Growth and Development	3	0	3
BIOL106M	The Human Body	3	0	3
BIOL107M	The Human Body Lab		3	1
	Sub-Total Credits	**14**	**6**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
HSV219M	Professional Seminar IV	2	3	3
	Human Services Technical Elective	3	0	3
SOCI250M	Multiculturalism	3	0	3
BIOL150M	Nutrition	3	0	3
BIOL151M	Nutrition Lab		3	1
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**14**	**6**	**16**

Students must take a minimum of three (3) 200 level Human Services courses at MCC to meet residency requirements.

*Human Services Technical Electives - Choose from: HSV205M, HSV206M, HSV208M, HSV210M, HSV213M, PSYC 215M, or PSYC217M

PLEASE NOTE - Students may earn only ONE (1) Human Services certificate in this program and are encouraged to then continue on to the Human Services degree program.

	Total Credits	**62-63**

Child and Family Support Certificate

Degree Type Certificate

Certificate Overview

This certificate was created in response to a growing need for Human Service workers who are trained to work with young children and their families who have experienced trauma. The certificate bridges training and education in Human Services with Child Development to prepare students for entry-level positions in either field - or a straightforward pathway to each degree. Entry-level jobs for this certificate training might include working as parent aide, child and family generalist or family reunification worker. .

Course Code	Title	TH	LAB	CR
ECE100M	Early Childhood Growth and Development	3	0	3
ECE210M	Child, Family and Community Relations	3	0	3
ECE214M	Developmentally Appropriate Guidance and Discipline for Young Children	3	0	3
HSV111M	Introduction to Human Services	3	0	3
HSV116M	Professional Seminar I	2	3	3
HSV117M	Professional Seminar II	2	3	3
HSV212M	Interpersonal Dynamics	3	0	3
	Total Credits			**21**

Direct Support Services Certificate

Degree Type Certificate

Certificate Overview

The Direct Support Services certificate prepares students for entry-level jobs supporting people with developmental disabilities, aiding those in recovery or suffering from substance misuse, assisting veteran or elderly populations, working in mental health, or providing child and family services. Students will acquire the educational background and human services exposure needed to become Direct Support Services workers. The certificate is also a building block for the Human Services degree program.

Course Code	Title	TH	LAB	CR
HSV111M	Introduction to Human Services	3	0	3
HSV114M	Assessment and Planning	3	0	3
HSV116M	Professional Seminar I	2	3	3
HSV117M	Professional Seminar II	2	3	3
HSV212M	Interpersonal Dynamics	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Total Credits			**22-23**

Mental Health Support Worker Certificate

Degree Type Certificate

Certificate Overview

The Mental Health Support Worker certificate provides students with an educational background and general exposure to the Human Services system. It is useful training for those hoping to work in the field of mental/behavioral health providing support to individuals with mental health disorders. This certificate is also building block for the the Human Services degree.

Course Code	Title	TH	LAB	CR
HSV111M	Introduction to Human Services	3	0	3
HSV114M	Assessment and Planning	3	0	3
HSV116M	Professional Seminar I	2	3	3
HSV117M	Professional Seminar II	2	3	3
HSV212M	Interpersonal Dynamics	3	0	3
HSV205M	Mental Health Support	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
PSYC215M	Abnormal Psychology	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Total Credits			**28-29**

Recovery Support Certificate

Degree Type Certificate

Certificate Overview

The Recovery Support Worker certificate provides students with the education, skills and competencies necessary to work with individuals in recovery from substance use disorders. This certificate will prepare students to gain the hours of experience required for application to become a “Certified Recovery Support Worker” (CRSW) through the International Certification and Reciprocity Consortium (IC&RC) as endorsed by the State of New Hampshire.

Course Code	Title	TH	LAB	CR
HSV111M	Introduction to Human Services	3	0	3
HSV114M	Assessment and Planning	3	0	3
HSV116M	Professional Seminar I	2	3	3
HSV117M	Professional Seminar II	2	3	3
HSV212M	Interpersonal Dynamics	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
HSV206M	Recovery Support	3	0	3
PSYC217M	Alcohol and Other Drugs	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Total Credits			**28-29**

Substance Misuse Prevention Certificate

Degree Type Certificate

Certificate Overview

The Substance Misuse Prevention Certificate provides students with the educational background and exposure to the Human Services system needed to work as a professional in the field of substance abuse prevention. Potential jobs include student assistance professionals (SAPs) within school districts, community coalition workers, grants writer/coordinators, family services specialists, mental health service workers, youth counselors and youth diversion workers.Coursework for the certificate will provide students with the education, skills and competencies for assessing, planning and implementing substance abuse prevention education, awareness, and activities within a school, agency and/or community. Finding work in substance abuse prevention will enable students to earn the required hours of experience necessary for application to become a Certified Prevention Specialist (CPS) through the International Certification and Reciprocity Consortium (IC&RC) as endorsed by the State of New Hampshire.

Course Code	Title	TH	LAB	CR
HSV111M	Introduction to Human Services	3	0	3
HSV116M	Professional Seminar I	2	3	3
HSV117M	Professional Seminar II	2	3	3
HSV212M	Interpersonal Dynamics	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
PSYC217M	Alcohol and Other Drugs	3	0	3
HSV210M	Substance Misuse Prevention	3	0	3
ENGL113M	Introduction to Public Speaking	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Total Credits			**28-29**

Interdisciplinary Studies

Interdisciplinary Studies Associate of Science

Degree Type Associate of Science

Program Overview

The Interdisciplinary Studies program is designed to support the diverse needs of skilled workers to obtain an associate degree by offering credit for recognized technical experience, certifications and training.

The Technical Studies program offers three options for study:

- Design a custom degree to meet your educational and career goals.
- Combine a certificate (that does not have a degree option at MCC) with general education requirements to complete a degree.
- Explore various courses before determining a course major.

Program Goals & Outcomes

Students who graduate from this program will be able to:

- Build on applied expertise through selected coursework, gaining knowledge and skills in a specific discipline or clearly articulated interdisciplinary area.
- Attain proficiency in concepts, theories and methods of inquiry pertinent to the courses chosen as related technical electives.
- Integrate knowledge of their technical specialty fields with new knowledge from their chosen related technical electives.
- Advance in the development of skills necessary to interpret facts, solve problems, evaluate issues, develop multiple perspectives and think critically and creatively.

Admissions Requirements

Students coming from recognized apprenticeship programs or those with certifications in a technical field (in an area that MCC does not offer) may receive credits toward an associate degree in Interdisciplinary Studies for industry training and/or certifications. Documented certification exams and/or military experience may also be reviewed for credit.

Course Code	Title	TH	LAB	CR
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Mathematics Elective (3 credits)	3	0	3
	Lab Science Elective	3	3	4
	Social Science Elective (3 credits)	3	0	3
	Liberal Arts and Science Elective (3 or 4 credit)	3	0	3-4
	Sub-Total Credits	**20**	**3**	**21-23**

(One or two courses depending on credits in English, Math and Science Electives)

Sub-Total Credits	**30**
Sub-Total Credits	**10**
Total Credits	**61-63**

Liberal Arts

Liberal Arts Associate of Arts

Degree Type Associate of Arts

Program Overview

For centuries, a Liberal Arts degree has been a place of self-discovery, personal growth, and prolonged vocational discernment. The degree program at MCC encourages students to consider their academic and career path through this lens: Who am I? What do I value? What do I have to offer to my community and the larger world?

The interdisciplinary nature of a Liberal Arts degree creates space for you to engage with multiple approaches to learning and gain a broad base of knowledge upon which to build. As a Liberal Arts student you will take courses across disciplines, including English and Humanities, Social Sciences, Natural Sciences and Mathematics. As you discover areas of interest, you can choose to take electives in those disciplines.

Built into the requirements of the program are touchpoint courses which will ground you in the academic discipline of liberal studies and provide checkpoints for goal setting and reflection, culminating in a comprehensive digital portfolio. The degree program is one of academic and vocational preparation to position you for transfer opportunities and career discernment.

Program Goals & Outcomes

Upon earning the the Liberal Arts A.A. degree students will have acquired a solid introduction to a wide range of disciplines, gaining knowledge and skills that will serve them well in every area of life, vocation and citizenship. Students will also possess the necessary course requirements to support timely transfer to a 4-year institution to complete a baccalaureate degree.

In addition to acquiring a baseline of knowledge across multiple disciplines, students will develop skills that include:

- Close reading
- Analytical thinking
- Critical appreciation of the arts
- Creative and academic writing
- Proficiency in research and information literacy
- Goal setting, self-evaluation, and reflection

Transfer Opportunities

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).

Some of the outgoing transfer opportunities for MCC Liberal Arts degree students include:

- Boston University
- Emerson College
- Keene State College
- New England College (Honors Program Partner)
- Plymouth State University
- Rivier University
- Southern NH University
- University of New Hampshire
- University of Massachusetts
- ...and many more!

Transfer information can be obtained from MCC's Career Development & Transfer Services or on the website at mccnh.edu/academics/transfer-options.

Employment Opportunities

Liberal Arts graduates will find that the knowledge, skills, and habits developed through their program of study are highly valued by employers, who are increasingly seeking "soft skills," such as empathy, situational awareness and interpersonal skills. In addition to communication and writing skills, graduates will have learned strategies around self- and other- awareness that are increasingly rare and vital to the workplace.

Extended Information

The Core of the Curriculum

FIRST YEAR ESSENTIALS
Lay the foundation for experiencing your Liberal Arts degree as a period of personal development and vocational discernment. This course provides both a philosophical framework and practical skills.

FOUNDATIONS IN LIBERAL ARTS STUDIES
Experience the interdisciplinary nature of your program of study by exploring language, culture, history, technology and scholarship through four practical projects.

THE SELF, THE OTHER AND THE ARTS
Embark on a reflective journey of engagement with the arts. Grow in insight and empathy by experiencing literature, art and music as a mirror in which to see the Self and a window through which to see the Other.

COMMUNITY, SCHOLARSHIP AND PROFESSION
Make your degree practical beyond graduation by participating in a community-based internship, compiling a reflective portfolio of your studies, and planning for your future personal and professional development.

Clues Liberal Arts Might Be For You:

YOU AREN'T SURE WHAT YOU WANT TO STUDY.
With Liberal Arts you can take a variety of classes, to explore potential areas of interest.

YOU PLAN TO TRANSFER.
A Liberal Arts degree includes most of your core requirements, saving you time and money when you transfer.

YOU DON'T PLAN TO TRANSFER.
Earning an Associate of Arts degree in Liberal Arts is a valuable credential in its own right, equipping you to be an informed citizen and a lifelong learner.

YOU WANT TO FIND YOUR PURPOSE.
The program is designed to cultivate self-reflection and others awareness, helping you to know who you are and where you fit in the larger world.

YOU WANT TO MAKE A DIFFERENCE.
The program will help you match your abilities and interests to your community's needs.

DID YOU KNOW?

The Liberal Arts program has a Pre-Nursing Pathway! Within the Liberal Arts Program you have the flexibility to take various Science classes and other courses that may then be transferred into MCC's Nursing Program. The Academic Advising Center works closely with Pre-Nursing Pathway students to create semester-by-semester plans to prepare you for your nursing applications. For questions, or to schedule an advising appointment, call 603-206-8140 or email MCCAcademicAdvising@ccsnh.edu.

Fall Semester

Course Code	Title	TH	LAB	CR
	MCC Essentials			
	Science Elective	3	0	3
	Social Science Elective	3	0	3
HUMA110M	Foundations in Liberal Arts Studies	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**13**	**0**	**13-14**

Spring Semester

Course Code	Title	TH	LAB	CR
	Mathematics Elective	3	0	3-4
	Social Science Elective	3	0	3
	Liberal Arts and Sciences Elective or Open Elective	3	0	3
	Liberal Arts and Sciences Elective*	3	0	3
	Liberal Arts and Sciences Elective or Open Elective	3	0	3
	Sub-Total Credits	**15**	**0**	**15-16**

Fall Semester

Course Code	Title	TH	LAB	CR
ENGL220M	Advanced Composition: Medium, Message, and Mode	4	0	4
HUMA206M	The Self, The Other and The Arts	3	0	3
	Mathematics Elective	3	0	3-4
	Liberal Arts and Sciences Elective or Open Elective	3	0	3
	Liberal Arts and Sciences Elective (200 Level)	3	0	3
	Sub-Total Credits	**16**	**0**	**16-17**

Spring Semester

Course Code	Title	TH	LAB	CR
HUMA211M	Liberal Arts: Community, Scholarship, Profession	3	0	3
	Lab Science Elective	3	3	4
	Liberal Arts and Sciences Elective (200 Level)	3	0	3
	Liberal Arts and Sciences Elective (200 Level)	3	0	3
	Social Science Elective	3	0	3
	Sub-Total Credits	**15**	**3**	**16**

*Liberal Arts and Sciences Elective: any course with ANTH, ARTS, ASL, BIOL, CHEM, ECON, ENGL, ENVS, ESCI, FREN, GEOG, GEOL, HIST, HUMA, MATH, PHIL, PHYS, POLS, PSYC, SOCI, or SPAN in the course number.

**Open Elective - any course for which the student meets prerequisite requirements.

**Denotes milestone course which must be taken/passed in the semester indicated to maintain good standing in the degree program.

	Total Credits	**60-63**

Liberal Arts - Pre-Nursing Track Associate of Arts

Degree Type Associate of Arts

Program Overview

As part of the Liberal Arts Associate of Arts degree, MCC offers a Liberal Arts - Pre-Nursing Track. The Pre-Nursing Track gives students the flexibility to take science and other classes while earning transferable academic credit and is ideal for completing any co-requisite nursing requirements.

Program Goals & Outcomes

Upon earning the Liberal Arts A.A. degree, students will have aquired a solid introduction to a wide range of disciplines, gaining knowledge and skills that will serve them well in every area of life, vocation and citizenship. Students will also possess the necessary course requirements to support timely transfer to a 4-year institution to complete a baccalaureate degree.

In addition to acquiring a baseline of knowledge across multiple disciplines, students will develop skills that include:

- Close reading
- Analytical thinking
- Critical appreciation of the arts
- Creative and academic writing
- Proficiency in research and information literacy
- Goal setting, self-evaluation, and reflection

Fall Semester

Course Code	Title	TH	LAB	CR
FYE100PM	MCC Essentials - PreNursing	1	0	1
BIOL110M	Human Anatomy and Physiology I	3	3	4
PSYC110M	Introduction to Psychology	3	0	3
	Liberal Arts and Sciences Elective or Open Elective	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**14**	**3**	**15-16**

Spring Semester

Course Code	Title	TH	LAB	CR
HUMA110M	Foundations in Liberal Arts Studies	3	0	3
	MATH145M or MATH145XM	4 - 4	0 - 0	4-4
PSYC210M	Human Growth and Development	3	0	3
	Liberal Arts and Sciences Elective or Open Elective	3	0	3
	Liberal Arts and Sciences Elective*	3	0	3
	Sub-Total Credits	**16**	**0**	**16-16**

Fall Semester

Course Code	Title	TH	LAB	CR
ENGL220M	Advanced Composition: Medium, Message, and Mode	4	0	4
HUMA206M	The Self, The Other and The Arts	3	0	3
MATH106M	Statistics I – An Introduction to Statistical Reasoning	4	0	4
	Liberal Arts and Sciences Elective or Open Elective	3	0	3
BIOL210M	General Microbiology	3	3	4
	Sub-Total Credits	**17**	**3**	**18**

Spring Semester

Course Code	Title	TH	LAB	CR
HUMA211M	Liberal Arts: Community, Scholarship, Profession	3	0	3
BIOL120M	Human Anatomy and Physiology II	3	3	4
	Liberal Arts and Sciences Elective (200 Level)	3	0	3
	Liberal Arts and Sciences Elective (200 Level)	3	0	3
	Social Science Elective	3	0	3
	Sub-Total Credits	**15**	**3**	**16**

*Liberal Arts and Sciences Elective: any course with ANTH, ARTS, ASL, BIOL, CHEM, ECON, ENGL, ENVS, ESCI, FREN, GEOG, GEOL, HIST, HUMA, MATH, PHIL, PHYS, POLS, PSYC, SOCI, or SPAN in the course number.

**Open Elective - any course for which the student meets prerequisite requirements.

**Denotes milestone course which must be taken/passed in the semester indicated to maintain good standing in the degree program.

	Total Credits	**65-66**

Life Science

Life Science Associate of Science

Degree Type Associate of Science

Program Overview

MCC's Life Science degree provides a foundation in the biological and chemical sciences. The degree will prepare students for transfer, while providing a context in which lessons directly translate to industry standards. A degree in Life Science

is the beginning of a path that leads to a wide range of employment opportunities in the biological sciences in business and industry, hospitals, universities and government positions.

Program Goals & Outcomes

Graduates of 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 4-year degree concentrations for continuing degrees
- Understand and apply the scientific method in research.

Fall Semester

Course Code	Title	TH	LAB	CR
FYE100M	MCC Essentials	1	0	1
BIOL108M	College Biology I	3	3	4
CHEM140M	General Chemistry I	3	3	4
	Math Elective	4	0	4
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**15**	**6**	**17-18**

Spring Semester

Course Code	Title	TH	LAB	CR
BIOL109M	College Biology II	3	3	4
CHEM141M	General Chemistry II	3	3	4
ENGL220M	Advanced Composition: Medium, Message, and Mode	4	0	4
	Math Elective	4	0	4
	Sub-Total Credits	**14**	**6**	**16**

Fall Semester

Course Code	Title	TH	LAB	CR
BIOL210M	General Microbiology	3	3	4
BIOL205M	General Ecology	3	3	4
	Math/Science Elective	3 - 4	0 - 3	4
	Humanities or Fine Arts Elective	3	0	3
	Sub-Total Credits	**12-13**	**6-9**	**15**

Spring Semester

Course Code	Title	TH	LAB	CR
BIOL201M	Principles of Genetics	3	3	4
	Math/Science Elective	3 - 4	0 - 3	4
	Social Science Elective (3 credits)	3	0	3
	Open Elective (3 credits)	3	0	3
	Sub-Total Credits	**12-13**	**3-6**	**14**
	Total Credits			**62-63**

Management

Management Associate of Science

Degree Type Associate of Science

Program Overview

The Management degree delves into finance, marketing, human resources, economics, law and computers. All of these competencies are needed in industry, non-profit and service organizations. The Management degree provides the framework for successful management careers in high-tech industries, manufacturing, banking and finance, healthcare, communications, service industries and non-profit organizations. Students will be encouraged to relate theoretical learning to practice and establish bridges between the classroom and the workplace.

Program Goals & Outcomes

Graduates of 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.

Accreditation

Associate Degrees in Accounting, Business Communications, Business Studies, Management, and Marketing are accredited by the Accreditation Council for Business Schools and Programs (ACBSP). ACBSP is recognized by the Council for Higher Education Accreditation (CHEA). This national accreditation allows MCC graduates to transfer to 4-year colleges and universities in all regions of the country

Fall Semester

Course Code	Title	TH	LAB	CR
BUS114M	Business Management	3	0	3
BUS110M	Introduction to Business	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
	ENGL101XM or ENGL101M	4	0	4-5
FYE100M	MCC Essentials	1	0	1
	Sub-Total Credits	**13**	**2**	**14-15**

Spring Semester

Course Code	Title	TH	LAB	CR
BUS124M	Entrepreneurship and Small Business Management	3	0	3
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
ECON135M	Microeconomics	3	0	3
	Business Elective (ACCT, BUS, ECON, FIN, MKTG)	3	0	3
	MATH145M, MATH145XM or MATH200M	4	0	4
	Sub-Total Credits	**16**	**0**	**16**

Fall Semester

Course Code	Title	TH	LAB	CR
BUS250M	International Business	3	0	3
ACCT113M	Introduction to Accounting and Financial Reporting I	3	0	3
BUS212M	Business Law I	3	0	3
ECON134M	Macroeconomics	3	0	3
MATH106M	Statistics I – An Introduction to Statistical Reasoning	4	0	4
	Sub-Total Credits	**16**	**0**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
ACCT123M	Introduction to Accounting and Financial Reporting II	3	0	3
BUS210M	Business Communications	3	0	3
BUS224M	Human Resource Management	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Science Elective	3	0	3
	Sub-Total Credits	**15**	**0**	**15**
	Total Credits			**61-62**

Human Resource Management Certificate

Degree Type Certificate

Certificate Overview

The Human Resource Management certificate gives students the foundational skills needed to begin a career in HR and also serves as a building block to a Management degree at MCC.

Course Code	Title	TH	LAB	CR
BUS114M	Business 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	Employee Training and Development	3	0	3
	Total Credits			**18**

Management Certificate

Degree Type Certificate

Certificate Overview

You can earn your Management certificate 100% online if you'd like! This certificate will prepare you for entry-level positions in the field or help you advance your business career. It also serves as a building block to the Management A.S. degree. *Go to mccnh.edu/programs for more details about this and other MCC programs and certificates.*

Course Code	Title	TH	LAB	CR
ACCT113M	Introduction to Accounting and Financial Reporting I	3	0	3
ACCT123M	Introduction to Accounting and Financial Reporting II	3	0	3
BUS114M	Business Management	3	0	3
BUS212M	Business Law I	3	0	3
BUS224M	Human Resource Management	3	0	3
	Business Elective 205 or 250	3	0	3
	Total Credits			**18**

Small Business Management Certificate

Degree Type Certificate

Certificate Overview

The Small Business Management certificate prepares students to set up and manage a business. The program 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. Courses may also be transferred into the Management A.S. degree.

Course Code	Title	TH	LAB	CR
ACCT100M	Bookkeeping for Small Businesses	3	0	3
BUS114M	Business Management	3	0	3
BUS124M	Entrepreneurship and 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

Marketing Associate of Science

Degree Type Associate of Science

Program Overview

This program prepares students to understand the marketplace and consumer wants and needs. Marketing classes integrate theory and practical applications, while applying related business knowledge of computers, accounting and management principles.

Program Goals & Outcomes

Graduates of 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 and 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.

Accreditation

Associate Degrees in Accounting, Business Communications, Business Studies, Management, and Marketing are accredited by the Accreditation Council for Business Schools and Programs (ACBSP). ACBSP is recognized by the Council for Higher Education Accreditation (CHEA). MCC's national accreditation allows graduates to transfer to 4-year colleges and universities in all regions of the country

Fall Semester

Course Code	Title	TH	LAB	CR
MKTG125M	Principles of Marketing: A Global Perspective	3	0	3
BUS114M	Business Management	3	0	3
BUS110M	Introduction to Business	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
FYE100M	MCC Essentials	1	0	1
	MATH106, MATH145M, MATH145XM or MATH200M	4	0	4
	Sub-Total Credits	**16**	**2**	**17**

Spring Semester

Course Code	Title	TH	LAB	CR
BUS212M	Business Law I	3	0	3
ECON134M	Macroeconomics	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Business Elective (Choose One):			
	Sub-Total Credits	**13**	**0**	**13-14**

Fall Semester

Course Code	Title	TH	LAB	CR
ACCT113M	Introduction to Accounting and Financial Reporting I	3	0	3
MKTG135M	Global Consumer Behavior	3	0	3
MKTG210M	Advertising	3	0	3
	Science Elective	3	0	3
	English Elective (Choose One)	3	0	3
	Sub-Total Credits	**15**	**0**	**15**

Spring Semester

Course Code	Title	TH	LAB	CR
ACCT123M	Introduction to Accounting and Financial Reporting II	3	0	3
MKTG205M	International Marketing	3	0	3
MKTG224M	Sales and Sales Management	3	0	3
MKTG282M	Marketing Research	3	0	3
BUS210M	Business Communications	3	0	3
	Sub-Total Credits	**15**	**0**	**15**
	Total Credits			**60-61**

Marketing Certificate

Degree Type Certificate

Certificate Overview

The Marketing certificate will prepare students for entry-level positions in the field and also serves as a building block to the Marketing A.S. degree.

Course Code	Title	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
	Total Credits			**18**

Mathematics

Mathematics - Engineering Pathway Associate of Science

Degree Type Associate of Science

Program Overview

The Mathematics Associate of Science degree is structured to offer three distinct degree pathways, each tailored to different career objectives and areas of interest. The degree pathways allow students to align their studies with specific career goals in fields like engineering, research, mathematics education, data analysis, and more. The curriculum for the three Mathematics degree pathways ranges from 60-62 credits with core requirements common to all three degrees.

This program serves as a robust foundation in the fields of mechanical, electrical and civil engineering. This pathway integrates mathematical concepts directly applicable to engineering disciplines. It sets the groundwork for further studies or careers in these various branches of engineering.

The curriculum shown on this page is for the Mathematics - Engineering Pathway

Program Goals & 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.

Fall Semester

Course Code	Title	TH	LAB	CR
MATH204M	Calculus I	4	0	4
PHYS210M	University Physics I	3	3	4
	Open Elective (3 credits)	3	0	3
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**15**	**3**	**16-17**

Spring Semester

Course Code	Title	TH	LAB	CR
MATH214M	Calculus II	4	0	4
PHYS220M	University Physics II	3	3	4
	Mathematics and Engineering Pathway: Choose One - CIS122M, MATH210M, ROBO211M, DATA215M	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**13**	**3**	**14**

Fall Semester

Course Code	Title	TH	LAB	CR
MATH218M	Introduction to Linear Algebra	4	0	4
MATH222M	Multidimensional Calculus	3	2	4
ADMT225M	Statics	3	0	3
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**13**	**2**	**14**

Spring Semester

Course Code	Title	TH	LAB	CR
MATH220M	Differential Equations	4	0	4
ADMT112M	Introduction to Engineering Design and Solid Modeling	3	3	4
	Math Elective	4	0	4
	Lab Science Elective	3	3	4
	Sub-Total Credits	**14**	**6**	**16**

***Liberal Arts and Sciences Elective**: Any course with ANTH, ARTS, ASL, BIOL, CHEM, ECON, ENGL, ENVS, ESCI, FREN, GEOG, GEOL, HIST, HUMA, MATH, PHIL, PHYS, POLS, PSYC, SOCI or SPAN in the course number.

Total Credits		**60-61**

Mathematics - Mathematics Associate of Science

Degree Type Associate of Science

Program Overview

The Mathematics Associate of Science degree is structured to offer three distinct degree pathways, each tailored to different career objectives and areas of interest. The degree pathways allow students to align their studies with specific career goals in fields like engineering, research, mathematics education, data analysis and more. The curriculum for the three Mathematics degree pathways ranges from 60-62 credits with core requirements common to all three degrees.

This program serves as a robust foundation in applied mathematics and mathematics education. This pathway provides the skills necessary for real-world applications of mathematics, preparing students for diverse career opportunities.

The curriculum shown on this page is for the Mathematics - Mathematics Pathway

Program Goals & Outcomes

Graduates of 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

Fall Semester

Course Code	Title	TH	LAB	CR
MATH204M	Calculus I	4	0	4
PHYS210M	University Physics I	3	3	4
	Open Elective (3 credits)	3	0	3
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**15**	**3**	**16-17**

Spring Semester

Course Code	Title	TH	LAB	CR
MATH214M	Calculus II	4	0	4
PHYS220M	University Physics II	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Mathematics and Engineering Pathway: Choose One - CIS122M, MATH210M, ROBO211M, DATA215M	3	0	3
	Sub-Total Credits	**13**	**3**	**14**

Fall Semester

Course Code	Title	TH	LAB	CR
MATH218M	Introduction to Linear Algebra	4	0	4
MATH222M	Multidimensional Calculus	3	2	4
	Social Science Elective (3 credits)	3	0	3
	Open Elective (3 credits)	3	0	3
	Sub-Total Credits	**13**	**2**	**14**

Spring Semester

Course Code	Title	TH	LAB	CR
MATH215M	Mathematical Proof	4	0	4
MATH220M	Differential Equations	4	0	4
MATH299M	Mathematics Capstone	4	0	4
	Lab Science Elective	3	3	4
	Sub-Total Credits	**15**	**3**	**16**
	Total Credits			**60-61**

Mathematics - Physics Pathway Associate of Science

Degree Type Associate of Science

Program Overview

The Mathematics Associate of Science degree is structured to offer three distinct degree pathways, each tailored to different career objectives and areas of interest. The degree pathways allow students to align their studies with specific career goals in fields like engineering, research, mathematics education, data analysis and more. The curriculum for the three Mathematics degree pathways ranges from 60-62 credits with core requirements common to all three degrees.

The curriculum shown on this page is for the Mathematics - Physics Pathway.

This program will provide you with a robust foundation in mathematics, physics and related disciplines. Emphasizing the mathematical aspects of physical theories and applications, this pathway will prepare you for further study or a career in physics and related fields.

Program Goals & Outcomes

Graduates of 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.

Fall Semester

Course Code	Title	TH	LAB	CR
MATH204M	Calculus I	4	0	4
PHYS210M	University Physics I	3	3	4
	Open Elective (3 credits)	3	0	3
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**15**	**3**	**16-17**

Spring Semester

Physics Pathway

Course Code	Title	TH	LAB	CR
MATH214M	Calculus II	4	0	4
PHYS220M	University Physics II	3	3	4
CHEM140M	General Chemistry I	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**13**	**6**	**15**

Fall Semester

Course Code	Title	TH	LAB	CR
MATH218M	Introduction to Linear Algebra	4	0	4
MATH222M	Multidimensional Calculus	3	2	4
PHYS230M	Modern Physics	3	3	4
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**13**	**5**	**15**

Fall Semester

Physics Pathway

Course Code	Title	TH	LAB	CR
MATH220M	Differential Equations	4	0	4
MATH299M	Mathematics Capstone	4	0	4
PHYS225M	Thermodynamics and Statistical Mechanics	4	0	4
MATH210M	Mathematics and Applications in MATLAB	3	2	4
	Sub-Total Credits	**15**	**2**	**16**
	Total Credits			**62-63**

Applied Data Analytics Certificate

Degree Type Certificate

Certificate Overview

The Mathematics Program's Applied Data Analytics Certificate comprises all the academic disciplines related to managing data as a resource. Students will learn about visualization, statistical applications, data mining, predictive analytics and database management. After completing this certificate, students may transfer to a 4-year university.

Course Code	Title	TH	LAB	CR
MATH106M	Statistics I – An Introduction to Statistical Reasoning	4	0	4
MATH212M	Probability and Statistics II	4	0	4
CIS126M	Programming with Python	2	2	3
DATA215M	Applied Data Analytics	3	2	4
	Elective	2 - 3	2 - 3	3-4
	Total Credits			**18-19**

Nursing

Nursing Associate of Science

Degree Type Associate of Science

Program Overview

The Nursing program is for Registered Nurse (RN) training to prepare you to provide direct care to patients in acute care, long-term care and other structured healthcare settings. The program consists of science, general education and nursing courses. Nursing courses include classroom, simulation lab and clinical experiences. Learning experiences and clinical practicum may vary in time and in location and may include days, evenings and/or weekends.

Classroom and clinical components of the nursing courses must be completed concurrently and within four years from the date of entry into the first nursing course. Upon successful completion of the program, you are eligible to apply to the NH Board of Nursing (NHBON) for the National Council Licensing Examination for Registered Nurses (NCLEX-RN).

*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 and Physiology I and II and Microbiology) and a grade of "Pass" in clinical courses in order to continue in the program.

For full details about the MCC Nursing program, please visit our website at mccnh.edu/programs/nursing.

Attend a Nursing Program Information Session!

To learn more about our upcoming Nursing Information Sessions, use this QR code or go online to mccnh.edu/admissions/information-sessions.

Program Goals & Outcomes

Upon successful completion of the Nursing program, students are eligible to apply to the NH Board of Nursing (NHBON) for the National Council Licensing Examination for Registered Nurses (NCLEX-RN) to become a Registered Nurse (RN).

Graduates of this program will be able to:

- Identify, integrate and evaluate current evidence, with consideration of patient preferences, and apply clinical reasoning to practice nursing safely and competently.
- Provide respectful, culturally appropriate patient-centered care to diverse populations by partnering with patient and family members to empower participation in shared decision-making.
- Demonstrate open communication, shared responsibility and mutual respect as a member of the nursing and interprofessional team, to promote quality patient care.
- Implement interventions based on legal and ethical obligations to mitigate the risk of harm related to individuals, organizations and the community.
- Utilize clinical reasoning and critical thinking within the discipline's legal and ethical framework to create a culture of safety that prevents the risk of harm.
- Demonstrate proficiency in technology and application of nursing informatics to enhance, deliver, communicate, integrate and coordinate patient care.

Admissions Requirements

Completed Nursing program applications must be submitted by February 1st to be considered for priority acceptance. Submission of a completed application 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 Nursing Information Session (recommended)
- Complete application for the program (found on our website)
- Proof of satisfactory completion of high school Algebra, high school Biology and high school Chemistry with a grade of C or better. If your transcript indicates a numerical grade point average with no grade equivalent, a minimum of 73.33 is required.
- Complete the Test of Essential Academic Skills (TEAS) of Assessment Technologies Institute (ATI) with a Total Score of 66% or better (see the "Exams" tab above). The TEAS Test evaluates the academic ability of prospective RN students. You are permitted to take this test three times in a calendar year; no sooner than four weeks between attempts. Test scores are valid for a period of two years.
  *NEW: Submission requirement through ATI and test must be taken in person.

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 and the ATI TEAS scores. 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, and for those applicants who have taken their co-requisite and pre-requisite courses at Manchester Community College.
*New consideration criteria.

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 four weeks prior to classes beginning. Students still desiring admission must reapply for the following year.

RN to BSN Degree Pathways

MCC's Nursing program maintains articulation agreements (pre-existing degree pathways) with several other New Hampshire colleges and universities. After receiving your ASN (Associate of Science in Nursing) and becoming a licensed RN, you may choose one of these efficient and affordable pathways to earn your BSN (Bachelor of Science in Nursing). *The following RN to BSN pathway agreements include tuition discounts and the acceptance of up to 90 transfer credits!*

- Colby-Sawyer College RN to BSN
- Franklin Pierce University RN to BSN
- UNH College of Professional Studies RN to BSN
- Rivier University RN to BSN
- Southern New Hampshire University RN to BSN

Transfer Opportunities

The MCC Nursing program holds formal articulation (outgoing transfer) agreements with these colleges and universities:

- Chamberlain University
- Rivier University
- Colby Sawyer College
- Salve Regina University
- Emmanuel College
- SNHU
- Endicott College
- UNH College of Professional Studies
- Franklin Pierce University
- Purdue University
- Walden University

MCC also offers formal degree pathways for licensed RN Nursing graduates to earn a BSN.

Accreditation

The Nursing program is accredited by the Accreditation Commission for Education in Nursing (ACEN) 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.oplc.nh.gov. 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:

- **Accreditation Commission for Education in Nursing**
  3390 Peachtree Road NE, Suite 1400
  Atlanta, Georgia 30326
  Phone: (404) 975-5000

The most recent accreditation decision made by the ACEN Board of Commissioners for the associate nursing program is continuing accreditation. View the public information disclosed by the ACEN regarding this program at http://www.acenursing.com/accreditedprograms/programsearch.htm.

Employment Opportunities

- Acute Care Nurse
- Occupational Health Nurse
- Critical Care Nurse
- Oncology Nurse
- Licensed Practical Nurse
- Public Health Nurse
- Geriatric Nurse
- Surgical Assistant
- Informatics Nurse
- Travel Nurse

Fall Semester

Course Code	Title	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	MCC Essentials	1	0	1
	Sub-Total Credits	**13**	**15**	**18**

Spring Semester

Course Code	Title	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
	Sub-Total Credits	**10**	**18**	**16**

Fall Semester

Course Code	Title	TH	LAB	CR
NURS211M	Nursing III	4	15	9
BIOL210M	General Microbiology	3	3	4
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**11**	**18**	**17-18**

Spring Semester

Course Code	Title	TH	LAB	CR
NURS212M	Nursing IV	3	18	9
	Mathematics Elective	4	0	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	English Elective (3 credits)	3	0	3
	Sub-Total Credits	**13**	**18**	**19**

*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.

	Total Credits	**70-71**

Social Science

Social Science Associate of Arts

Degree Type Associate of Arts

Program Overview

The Social Science degree program provides a solid theoretical and practical foundation in the social sciences to prepare students for transfer to 4-year degree programs, as well as entry-level positions in various fields.

Program Goals & Outcomes

Graduates of 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.

Fall Semester

Course Code	Title	TH	LAB	CR
FYE100M	MCC Essentials	1	0	1
	Mathematics Elective	3	0	3-4
	History Elective	3	0	3
	Behavioral/Social Science Elective	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**14**	**0**	**14-16**

Spring Semester

Course Code	Title	TH	LAB	CR
ENGL113M	Introduction to Public Speaking	3	0	3
GEOG110M	World Geography	3	0	3
	Lab Science Elective	3	3	4
	History Elective	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**15**	**3**	**16**

Fall Semester

Course Code	Title	TH	LAB	CR
MATH106M	Statistics I – An Introduction to Statistical Reasoning	4	0	4
POLS110M	American Government	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	History/Political Science Elective	3	0	3
	Behavioral/Social Science Elective	3	0	3
	Sub-Total Credits	**16**	**0**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
POLS210M	Introduction to Political Science	3	0	3
ENGL220M	Advanced Composition: Medium, Message, and Mode	4	0	4
LSSC299M	Social Science Capstone	3	0	3
	History/Political Science Elective	3	0	3
	Lab Science Elective	3	3	4
	Sub-Total Credits	**16**	**3**	**17**

Students must take a minimum of three (3) 200 level Social Science courses at MCC to meet residency requirements.

***Liberal Arts and Sciences Elective:** any course with ANTH, ARTS, ASL, BIOL, CHEM, ECON, ENGL, ENVS, ESCI, FREN, GEOG, GEOL, HIST, HUMA, MATH, PHIL, PHYS, POLS, PSYC, SOCI, or SPAN in the course number.

**Students may only receive credit for one section of each of the following topics courses: (HIST203M and POLS215M)

***Denotes milestone course which must be taken / passed in the semester indicated to maintain good standing in the degree program

****Students in this program must successfully complete SOCI110M and may not take SOCI109M. Credit will not be awarded for both courses.

	Total Credits	**63-65**

Teacher Education

Teacher Education Associate of Arts

Degree Type Associate of Arts

Program Overview

The Teacher Education degree program provides introductory experiences in education at the elementary, middle and/or high school level and exposes students to a variety of teaching philosophies and approaches to curriculum, classroom management, student engagement and how to meet a student's individual needs. The historical, societal and legal aspects of teacher education are also explored.

Program Goals & 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.

Admissions Requirements

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. Students may incur fees in meeting this requirement.

Fall Semester

Course Code	Title	TH	LAB	CR
TCHE100M	Child and Adolescent Development	3	0	3
TCHE104M	Foundations of Education	3	0	3
PSYC110M	Introduction to Psychology	3	0	3
FYE100M	MCC Essentials	1	0	1
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**17**	**0**	**17-18**

Spring Semester

Course Code	Title	TH	LAB	CR
TCHE101M	Introduction to Exceptionalities	3	0	3
TCHE225M	Curriculum and Instruction for Diverse Learners	3	0	3
PSYC210M	Human Growth and Development	3	0	3
	Mathematics Elective	4	0	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**16**	**0**	**16**

Fall Semester

Course Code	Title	TH	LAB	CR
TCHE215M	Managing Classrooms and Behaviors in the School Setting	3	0	3
	TCHE206M or TCHE220M	3	0	3
	Lab Science Elective	3	3	4
	English Elective (3 credits)	3	0	3
	Open Elective (3 credits)	3	0	3
	Sub-Total Credits	**15**	**3**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
TCHE230M	Teaching, Learning and Assessment	3	0	3
	Social Science Elective	3	0	3
	Lab Science Elective	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Mathematics Elective	4	0	4
	Sub-Total Credits	**16**	**3**	**17**
	Total Credits			**66-67**

Careers In Education Certificate

Degree Type Certificate

Certificate Overview

The Careers in Education Certificate program is designed for students who want to work as paraprofessionals in public schools or want to pursue a subject area degree and have an interest in teaching at the secondary level. The certificate provides a comprehensive foundation in educational practices and content, equipping students with the skills and knowledge necessary to work in various educational roles.

Course Code	Title	TH	LAB	CR
	Careers In Educaton Elective 1	3	0	3
TCHE101M	Introduction to Exceptionalities	3	0	3
TCHE104M	Foundations of Education	3	0	3
TCHE215M	Managing Classrooms and Behaviors in the School Setting	3	0	3
	Careers In Educaton Elective 2	3	0	3
TCHE225M	Curriculum and Instruction for Diverse Learners	3	0	3
	Total Credits			**18**

Welding

Welding Technology Associate of Applied Science

Degree Type Associate of Applied Science

Program Overview

The Welding Technology program provides students with the opportunity to learn a variety of technical skills and expand their knowledge of industry norms. Training is informed by theory and built on an academic foundation that includes mathematics and communication.

Program Goals & Outcomes

Graduates of this program will:

- 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, cost estimation, principles of applied statics and strength of materials.

Fall Semester

Course Code	Title	TH	LAB	CR
WELD101M	Fundamentals of Welding	3	0	3
WELD111M	Gas and Arc Welding Lab	0	10	4
WELD112M	Gas and Arc Welding Theory	3	0	3
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Sub-Total Credits	**11**	**10**	**15-16**

Spring Semester

Course Code	Title	TH	LAB	CR
WELD121M	MIG and TIG Welding Laboratory	0	10	4
WELD122M	MIG and TIG Welding Theory	3	0	3
WELD125M	Manufacturing and Repair Techniques	0	3	1
WELD186M	Blueprint Reading for Welders	3	0	3
CAD113M	Applied CAD for Industry	1	3	2
	MATH111M or MATH111XM	3	0	3
	Sub-Total Credits	**10**	**16**	**16**

Fall Semester

Course Code	Title	TH	LAB	CR
WELD211M	Structural Code Welding Lab		10	4
WELD212M	Code Welding Theory	3	0	3
WELD213M	Metallurgy	2	2	3
MATH135M	Numerical Algebra and Trigonometry	3	0	3
	Social Science Elective (3 credits)	3	0	3
	Sub-Total Credits	**11**	**12**	**16**

Spring Semester

Course Code	Title	TH	LAB	CR
WELD220M	Fabrication Techniques and Estimating	2	2	3
WELD221M	Pipe Code Welding		10	4
WELD224M	Intermediate GTAW of Pipe		4	2
	Science Elective (3 credits)	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Sub-Total Credits	**8**	**16**	**15**
	Total Credits			**62-63**

Welding Technology Certificate Certificate

Degree Type Certificate

Certificate Overview

Successful completion of the Welding Technology certificate provides students with the necessary welding skills required for employment as a non-code combination welder or welder's helper. The certificate is also a building block for the Welding Technology degree.

Course Code	Title	TH	LAB	CR
WELD101M	Fundamentals of Welding	3	0	3
WELD111M	Gas and Arc Welding Lab	0	10	4
WELD112M	Gas and Arc Welding Theory	3	0	3
WELD121M	MIG and TIG Welding Laboratory	0	10	4
WELD122M	MIG and TIG Welding Theory	3	0	3
WELD186M	Blueprint Reading for Welders	3	0	3
	Total Credits			**20**

Welding Technology Professional Certificate

Degree Type Certificate

Certificate Overview

Successful completion of the Welding Technology Professional certificate provides students with the skills to qualify for entry-level employment as a non-code combination welder. Training includes all first-year MCC welding courses, including manufacturing repair and CAD. The professional certificate is also a building block for the Welding Technology degree program.

Course Code	Title	TH	LAB	CR
WELD101M	Fundamentals of Welding	3	0	3
WELD111M	Gas and Arc Welding Lab	0	10	4
WELD112M	Gas and Arc Welding Theory	3	0	3
WELD121M	MIG and TIG Welding Laboratory	0	10	4
WELD122M	MIG and TIG Welding Theory	3	0	3
WELD125M	Manufacturing and Repair Techniques	0	3	1
WELD186M	Blueprint Reading for Welders	3	0	3
CAD113M	Applied CAD for Industry	1	3	2
	MATH111M or MATH111XM	3	0	3
FYE100M	MCC Essentials	1	0	1
	ENGL101XM or ENGL101M	4	0	4-5
	Total Credits			**31-32**

Courses

Accounting

ACCT100M: Bookkeeping for Small Businesses

This hands-on class teaches students the bookkeeping required for a small business. Basic accounting is taught using Quick Books 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.

Theory Hours 3
Lab Hours 0
Credits 3

ACCT113M: Introduction to Accounting and Financial Reporting I

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.

Theory Hours 3
Lab Hours 0
Credits 3

ACCT123M: Introduction to Accounting and Financial Reporting II

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.

Theory Hours 3
Lab Hours 0
Credits 3

ACCT210M: Managerial Accounting

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.

Theory Hours 3
Lab Hours 0
Credits 3

ACCT213M: Cost Accounting I

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.

Theory Hours 3
Lab Hours 0
Credits 3

ACCT215M: Cost Accounting II

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.

Theory Hours 3
Lab Hours 0
Credits 3

ACCT216M: Software System Applications

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.

Theory Hours 2
Lab Hours 2
Credits 3

ACCT220M: Intermediate Accounting I

This first of three classes in intermediate accounting is an extension of topics covered in Accounting and 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.

Theory Hours 3
Lab Hours 0
Credits 3

ACCT221M: Intermediate Accounting II

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.

Theory Hours 3
Lab Hours 0
Credits 3

ACCT222M: Intermediate Accounting III

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.

Theory Hours 3
Lab Hours 0
Credits 3

ACCT243M: Federal Income Taxes - Individuals

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.

Theory Hours 3
Lab Hours 0
Credits 3

ACCT244M: Federal Income Taxes - Corporations and Partnerships

The student will be exposed to a detailed presentation of the theories and practices 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.

Theory Hours 3
Lab Hours 0
Credits 3

ACSP101M: Payroll Fundamentals-Entry Level

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.

Theory Hours 3
Lab Hours 0
Credits 3

ACSP103M: Accounts Payable-Entry Level

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 QuickBooksTM 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.

Theory Hours 2
Lab Hours 1
Credits 2

Advanced Manufacturing Technology

ADMT110M: Manufacturing Processes

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: None

Theory Hours 2
Lab Hours 3
Credits 3

ADMT112M: Introduction to Engineering Design and Solid Modeling

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: None

Theory Hours 3
Lab Hours 3
Credits 4

ADMT115M: Engineering Print Reading

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: None.

Theory Hours 2
Lab Hours 3
Credits 3

ADMT118M: Electrical Fundamentals for Manufacturing

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: None.

Theory Hours 3
Lab Hours 3
Credits 4

ADMT120M: Motor Controls and PLCs for Manufacturing

This course will provide basic coverage of the theory and operation of AC and DC motor and generator controls as well as control systems. Subject matter presented 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 presented in the classroom and lab. Laboratory work will reinforce and promote the application of theoretical concepts.

Theory Hours 3
Lab Hours 3
Credits 4

ADMT135M: Basic Machining Practices

An introductory course in machine shop practices introducing students to the basic machines used in industry relating to Advanced Manufacturing. It is intended to provide the basic concepts of machine tool operation on lathes, millers, power saws, drill presses, hand grinders, and part finishing processes. The 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.

Theory Hours 1
Lab Hours 5
Credits 3
Prerequisites
CBAM110M: Industrial Print Reading and Metrology
ADMT112M: Introduction to Engineering Design and Solid Modeling
CBAM105M: Solidworks and 3D Printing
Prerequisite: CBAM 110M AND (ADMT 112M or CBAM 105M)

ADMT210M: Manufacturing Systems I

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.

Theory Hours 2
Lab Hours 3
Credits 3

ADMT220M: Material Science

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.

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
Prerequisites: MATH155M, (ENGL101M or ENGL101XM)

ADMT225M: Statics

This course is an introduction to statics. 2D and 3D forces systems and concept of equilibrium will be presented. Analysis of trusses, frames, shear and bending moment diagrams, centroids and moments of inertia are studied. Prerequisites: PHYS135M and MATH171M.

Theory Hours 3
Lab Hours 0
Credits 3

ADMT230M: CAD/CAM for Manufacturing

This course introduces students to CAD and CAM (computer-aided- manufacturing) processes used to modern manufacturing environments. Using Mastercam and related design tools, students develop part models, create machining toolpaths, and prepare filed for CNC production. The course emphasizes practical application, problem-solving, and safe, efficient workflow form design to finish part.

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
ADMT135M: Basic Machining Practices
CBAM105M: Solidworks and 3D Printing
ADMT112M: Introduction to Engineering Design and Solid Modeling
Prerequisite: ADMT135 and (CBAM105 or ADMT112)

ADMT240M: Manufacturing Systems II

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.

Theory Hours 3
Lab Hours 6
Credits 5

ADMT245M: Advanced Manufacturing Internship

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.

Theory Hours 3
Lab Hours 3
Credits 4

ADMT299M: Advanced Manufacturing Capstone

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. Must be taken in final semester.

Theory Hours 3
Lab Hours 2
Credits 4

CBAM101M: Manufacturing Career Prep

This course is designed to provide students with the essential skills and knowledge required for a successful career in the manufacturing industry. Focusing on both technical and interpersonal skills, this course covers key areas such as resume writing, interview skills, career exploration and networking. In addition to basic technical training, the course will emphasize the development of workplace communication, teamwork, and critical thinking skills. At the end of the course, students will be prepared to enter the manufacturing workforce, whether in entry-level positions or pursuing further specialization in areas such as machining, production planning, or industrial maintenance. Prerequisite: None

Theory Hours 1
Lab Hours 0
Credits 1

CBAM105M: Solidworks and 3D Printing

This course provides a comprehensive introduction to SolidWorks, a leading computer-aided design (CAD) software widely used in engineering, product design, and manufacturing. Students will learn the fundamentals of 3D modeling, part design, assembly creation, and technical drawing. The course will focus on developing skills to create precise models, understanding design principles, and apply proper CAD techniques to real-world problems. Students will gain hands on experience designing mechanical parts and assemblies, using tools such as sketching, extruding, and component assembling. By the end of the course, students will be able to create functional 3D models for 3D printing, prototyping, or manufacturing.
Prerequisite: None

Theory Hours 2
Lab Hours 3
Credits 3

CBAM110M: Industrial Print Reading and Metrology

This hands-on course provides students with an introduction to mechanical measurement techniques and engineering blueprint reading. Through practical experience and guided instruction, students will learn to accurately interpret mechanical drawings including tolerances, welding symbology, and Geometric Dimensioning & Tolerancing (GD&T), and perform precise measurements using a variety of instruments. Students will engage in real-world scenarios that develop skills critical to the manufacturing industry. The course will emphasize the importance of precision, ensuring students can confidently read engineering blueprints and verify that mechanical components meet design specifications.
Prerequisite: None (Course equivalent ADMT115M Engineering Print Reading)

Theory Hours 2
Lab Hours 3
Credits 3

CBAM115M: Electrical for Manufacturing

Upon completing this course students will be able to explain the functions of basic electrical components found in the manufacturing environment. Students will also be able to build circuits from schematics, wiring diagrams, and work instructions. Students will be able to assess circuits using basic electrical measuring equipment to test circuit function, record data, and locate circuit failures. Students will also be able to define Ohm's Law and circuit theory. Prerequisite: None

Theory Hours 2
Lab Hours 3
Credits 3

CBAM120M: Control Fundamentals with Python

This course introduces the Python programming language and how it relates to controlling a mechatronic system. It is designed for students with little to no prior programming experience. Students will learn the fundamentals of Python, including basic syntax, data structures, control flow, and functions, while also gaining hands-on experience writing, debugging, and running Python programs for a mechatronics system. Prerequisite: None

Theory Hours 2
Lab Hours 3
Credits 3

CBAM125M: Manufacturing Fundamentals

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 allow students 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: None

Theory Hours 2
Lab Hours 3
Credits 3

CBAM240M: Automated Manufacturing Capstone Experience

The automated manufacturing capstone course provides students with the opportunity to apply their knowledge and skills in a comprehensive, hands-on project that simulates real-world manufacturing environments. This course integrates concepts learned throughout the automated manufacturing program, focusing on automation systems, robotics, CNC machines, and lean production. Students will work individually or in teams to design, develop, and optimize an electromechancial system. The course emphasizes critical thinking, problem-solving, and collaboration while providing experience with industry-standard tools, software, and equipment. By the end of the course, students will have completed a fully operational mechatronic prototype, demonstrating their preparedness for careers in automated manufacturing and related technical fields. Prerequisites: 11-13 credits in Automated Manufacturing.

Theory Hours 3
Lab Hours 6
Credits 5

Allied Health

AHLT120M: Introduction to Public Health

This course introduces students to the field of public health: its historical evolution, fundamental theories, concepts and practice in the U.S. The structure of the public health system, the ten essential services, and the core knowledge areas (e.g., social and behavioral sciences, environmental health, and healthcare policy and administration) are covered in order for the students to design and implement effective communication/outreach strategies that promote public health.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: ENGL101M or ENGL101XM.

AHLT123M: Introduction to Pharmacology

This course will provide the allied health professional with the fundamental knowledge necessary for a basic understanding of the principles and practice of pharmacology. Emphasis will be placed on the safe preparation and administration of medications to patients of various age groups. Simulated problems and case scenarios will be based upon situations that the allied health professional may encounter in a general medical office or clinic setting. It is essential that the student have an understanding of basic mathematical processes in order to perform practice problems with accuracy. Prerequisite: AHLT110M and BIOL106M. Note: A grade of "C" is required to pass this course for Medical Assistant and HLIM majors.

Theory Hours 3
Lab Hours 0
Credits 3

AHLT200M: Transcultural Healthcare

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.

Theory Hours 3
Lab Hours 0
Credits 3

AHLT205M: Medical Ethics and Law

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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: Placement into ENGL101M or ENGL101XM

HLTH101M: Medical Terminology

Medical Terminology provides students with a foundational understanding of the language of healthcare and prepares them to communicate accurately and professionally in a variety of clinical and allied health settings. Using a systems-based and clinically realistic approach, students learn the rules for building, analyzing, defining, spelling, and pronouncing medical terms through the study of word parts including prefixes, suffixes, roots, combining forms, and industry-recognized abbreviations. Medical terminology is applied to the structure and function of the human body, with an introduction to basic anatomy, physiology, and common pathologies across all major body systems. Terminology related to diagnosis, treatment, surgery, pathology, and clinical procedures is emphasized.

Theory Hours 3
Lab Hours 0
Credits 3

American Sign Language

ASL110M: American Sign Language I

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)

Theory Hours 3
Lab Hours 0
Credits 3

ASL120M: American Sign Language II

An intermediate course that builds on the foundational language acquisition skills of American Sign Language I, including vocabulary development, grammatical features identification, and conversational and communication skills. There is also an important cultural awareness component to the course through which students will consider the competing perspectives of Deaf communities and the community's rich history. Upon successful completion of ASL II, students are prepared for ASL III. (Fulfills Foreign Language, Fine Arts, and Humanities elective) Prerequisites: A 'C' or better in ASL110M or the equivalent.

Theory Hours 3
Lab Hours 0
Credits 3

Anthropology

ANTH101M: Introduction to Anthropology

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. Students will be required to engage in fieldwork experience. (Fulfills Social Science requirement)

Effective Fall 2023: this is a CCSNH Access course and will display on transcripts, count as credits attempted, and count towards the cumulative grade point average for all seven colleges: Great Bay, Lakes Region, Manchester, Nashua, NHTI, River Valley, and White Mountains. Students cannot receive credit for more than one of the CCSNH Access courses or equivalents and the most recent course on the college transcript will be used in the cumulative grade point average (CGPA) calculation. For graduation residency purposes, only Access courses owned by the campus where the student is matriculated will be used to meet the requirements.

Theory Hours 3
Lab Hours 0
Credits 3

ANTH102M: Introduction to Archaeology

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. Students will be required to engage in fieldwork experience.

(Fulfills Social Science requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101M or ENGL101XM.

Automated Manufacturing Technology

CBAM200M: Topics in Automated Manufacturing

In this Special Topics course, students examine a focused area of automated manufacturing determined by faculty and enhanced through collaboration with industry partners. This course may provide instruction in industry-relevant technologies, specialized processes, or one-time subject areas that may not appear in the regular course rotation. When appropriate, instruction may include proprietary manufacturing methods or system-specific training introduced by collaborating industry partners. Through focused study and applied project work, students develop theoretical understanding and practical competence within the selected area of automated manufacturing.

Theory Hours 2
Lab Hours 3
Credits 3

Automotive Technology

AUTO1011M: Maintenance and Light Repair

AUTO1011M is a comprehensive face-to-face course covering all aspects of general vehicle maintenance and light repair of the latest automobiles and light trucks. Topics include safety, customer service relations, repair documentation, service-department operations, safety inspection, pre-delivery inspection, in-depth preventative maintenance and inspection and common general repairs. Using the various skills and knowledge learned, students will perform the same basic tasks on today's automobiles as an express lane maintenance technician would in a dealership. AUTO1011M is a fall semester course and is a co-requisite to AUTO1012M. Tools identified on the student tool list are required for this course. A minimum grade of C- is required to continue on to the spring semester. Prerequisites: Acceptance into the Automotive Technology degree or certificate program.

Theory Hours 2
Lab Hours 8
Credits 4

AUTO1012M: Electrical Systems

AUTO1012M is a comprehensive face-to-face course covering all aspects of the theory and diagnosis of basic electrical systems of the latest automobiles and light trucks. Topics include: electrical safety, basic electricity theory and electrical systems, circuit diagrams, magnetism, induction, battery technology, semiconductors, automotive electrical systems, electric circuit repair techniques, digital multi meter and other diagnostic equipment, and diagnostic techniques. Using the various skills and knowledge learned, students will perform basic electrical system inspection, diagnosis and repairs on today's automobiles. AUTO1012M is a fall semester course. Tools identified on the student tool list are required for this course. A minimum grade of C- is required to continue on in the program.

Theory Hours 3
Lab Hours 9
Credits 6
Prerequisites
Prerequisites: Acceptance into the Automotive Technology degree or certificate program.

Placement into (MATH111M or MATH111XM) and (ENGL101XM or ENGL101M).
Corequisites
Corequisites: AUTO1011M

AUTO1013M: Automotive Co-op Work Experience I

The Automotive co-op work experience provides an opportunity for practical experience at an approved site. It is a required component of the degree program and students are required to work a minimum of 320 hours. Periodic supervisor evaluations based on performance and other criteria 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. AUTO1031M is a fall semester course. Tools identified on the student tool list are required at the co-op site. A minimum grade of C is required to continue on to AUTO1021M, AUTO1022M, and AUTO1023M. Prerequisites: none, Corequisites: AUTO1011M and AUTO1012M.

Theory Hours 0
Lab Hours 15
Credits 2

AUTO1021M: Steering and Suspension Systems

AUTO1021M is an in-depth study of steering and suspension systems, alignment geometry, and procedures including the service and diagnosis of these systems. This course also includes the latest cutting-edge electronic controlled systems. Using the skills and knowledge learned, students will perform the same procedures, and diagnose system concerns on today's automobiles and light trucks just as a technician would in an automotive service department. AUTO1021M is a spring semester course. Tools identified on the student tool list are required for this course. Note that for the AEP, MCAP, MLR, and SU pathways, on-line training is required to receive credit for this course. A minimum grade of C is required to continue on to AUTO1031M, AUTO1032M, and AUTO1033M.

Theory Hours 3
Lab Hours 6
Credits 5

AUTO1022M: Electronic Controls

An in-depth study of electronic control systems, vehicle communication networks, electronic sensors, output-devices, and operation including diagnosis and repair. Using the skills and knowledge learned, students will perform the same procedures, and diagnose electronic control system concerns on today's automobiles and light trucks just as a technician would in an automotive service department. AUTO1022M is a spring semester course. Tools identified on the student tool list are required for this course. Note that for the AEP, MCAP, MLR, and SU pathways, on-line training is required to receive credit for this course. A minimum grade of C is required to continue on to AUTO1031M, AUTO1032M, and AUTO1033M. Prerequisites: Successful completion of Auto 1011M and Auto 1012M with a minimum grade of C.

Theory Hours 3
Lab Hours 6
Credits 5

AUTO1023M: Automotive Co-op Work Experience II

The Automotive co-op work experience provides an opportunity for practical experience at an approved site. It is a required component of the degree program and students are required to work a minim0um of 320 hours. Periodic supervisor evaluations based on performance and other criteria 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. AUTO1023M is a spring semester course. Tools identified on the student tool list are required at the co-op site. A minimum grade of C is required to continue on to AUTO1031M, AUTO1032M, and AUTO1033M. Prerequisites: Successful completion of AUTO1011M and AUTO1012M with a minimum grade of C.

Theory Hours 0
Lab Hours 15
Credits 2

AUTO1031M: IC Engine and Systems

A comprehensive course including theory, repair and overhaul procedures with an emphasis on diagnosis of internal-combustion engines. This course provides an opportunity to gain the knowledge and skills necessary to diagnose and service today's complex engines and systems. This course includes principles of four-stroke cycle operation, engine related systems, performance diagnosis, service, engine noise diagnosis, and the fundamentals of diesel engine operation. Using the skills and knowledge learned, students will perform the same procedures, and diagnose engine and system concerns on today's automobiles and light trucks just as a technician would in an automotive service department. AUTO1031M is a fall semester course. Tools identified on the student tool list are required for this course. Note that for the AEP, MCAP, MLR, and SU pathways, on-line training may be required to receive credit for this course. A minimum grade of C is required to continue on to AUTO2011M, AUTO2012M, and AUTO2013M. Successful completion of AUTO1011M with a minimum grade of C is required to register for this course. Prerequisites: Successful completion of AUTO1011M with a minimum grade of C.

Theory Hours 2
Lab Hours 6
Credits 4

AUTO1032M: Brake Systems

A comprehensive course including theory, repair and service procedures with an emphasis on diagnosis of cutting-edge braking systems. This course includes principles of hydraulics, service brakes, electronic braking systems and controls. This course provides an opportunity to gain the knowledge and skills necessary to diagnose and service today's complex brake systems. Using the skills and knowledge learned, students will perform the same procedures, and diagnose brake and related system concerns on today's automobiles and light trucks just as a technician would in an automotive service department. AUTO1032M is a summer semester course. Tools identified on the student tool list are required for this course. Note that for the AEP, MCAP, MLR, and SU pathways, on-line training may be required to receive credit for this course. Successful completion of AUTO1011M, AUTO1012M, and AUTO1022M with a minimum grade of C is required to register for this course. Prerequisites: Successful completion of AUTO1011M, AUTO1012M, and AUTO1022M with a minimum grade of C.

Theory Hours 2
Lab Hours 6
Credits 4

AUTO1033M: Automotive Co-op Work Experience III

The Automotive co-op work experience provides an opportunity for practical experience at an approved site. It is a required component of the degree program and students are required to work a minimum of 240 hours. Periodic supervisor evaluations based on performance and other criteria 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. AUTO1033M is a summer semester course. Tools identified on the student tool list are required at the co-op site. A minimum grade of C is required to continue on to AUTO2011M, AUTO2012M, and AUTO2013M. Prerequisites: Authorization from faculty.

Theory Hours 0
Lab Hours 15
Credits 2

AUTO2010M: Automotive Co-op Work Experience IV

The Automotive co-op work experience provides an opportunity for practical experience at an approved site. It is a required component of the degree program and students are required to work a minimum of 320 hours. Periodic supervisor evaluations based on performance and other criteria 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. AUTO2010M is a fall semester course. Tools identified on the student tool list are required at the co-op site. Successful completion of AUTO2011M, AUTO2012M and AUTO2013M with a minimum grade of C is required to register for this course. Prerequisites: Authorization from faculty.

Lab Hours 15
Credits 2

AUTO2011M: Manual Transmissions and Drivetrains

A comprehensive course including theory, repair and service procedures with an emphasis on diagnosis of manual transmissions and drivetrains. This course includes the theory of operation, service and repair, diagnosis and controls. This course provides an opportunity to gain the knowledge and skills necessary to diagnosis and service today's complex transmissions. Using the skills and knowledge learned, students will perform the same procedures, and diagnose transmission, drivetrain and related system concerns on today's automobiles and light trucks just as a technician would in an automotive service department. AUTO2011M is a fall semester course. Tools identified on the student tool list are required for this course. Note that for the AEP, MCAP, MLR, and SU pathways, on-line training may be required to receive credit for this course. Successful completion of AUTO1011M with a minimum grade of C is required to register for this course. Prerequisites: Successful completion of AUTO1011M with a minimum grade of C.

Theory Hours 2
Lab Hours 6
Credits 4

AUTO2012M: Powertrain Management Systems

A comprehensive course including theory, repair and service procedures with an emphasis on diagnosis of modern powertrain management systems. This course includes computers, fuel systems and service, exhaust gas analysis, emission control systems and service. This course provides an opportunity to gain the knowledge and skills necessary to diagnose and service today's complex powertrain systems. Using the skills and knowledge learned, students will perform the same procedures, and diagnose powertrain and related system concerns on today's automobiles and light trucks just as a technician would in an automotive service department. AUTO2012M is a fall semester course. Tools identified on the student tool list are required for this course. Note that for the AEP, MCAP, MLR, and SU pathways, on-line training may be required to receive credit for this course. Successful completion of AUTO1012M, AUTO1022M, and AUTO1031M with a minimum grade of C is required to register for this course. Prerequisites: Successful completion of AUTO1012M, AUTO1022M, and AUTO1031M with a minimum grade of C.

Theory Hours 2
Lab Hours 6
Credits 4

AUTO2013M: Climate Control Systems

A comprehensive course including theory, repair and service procedures with an emphasis on diagnosis of advanced climate control systems. This course includes operating principles of refrigerant systems, air management, electronic controls, micro climates and EPA federal regulations. This course provides an opportunity to gain the knowledge and skills necessary to diagnose and service today's complex climate control systems. Using the skills and knowledge learned, students will perform the same procedures, and diagnose climate control and related system concerns on today's automobiles and light trucks just as a technician would in an automotive service department. EPA certification is also a requirement to complete this course. Auto2013M is a fall semester course. Tools identified on the student tool list are required for this course. Note that for the AEP, MCAP, MLR, and SU pathways, on-line training may be required to receive credit for this course. Successful completion of AUTO1011M, AUTO1012M, and AUTO1022M with a minimum grade of C is required to register for this course. Prerequisites: Successful completion of AUTO1011M, AUTO1012M, and AUTO1022M with a minimum grade of C.

Theory Hours 2
Lab Hours 6
Credits 4

AUTO2021M: Automotive Co-op Work Experience V

The Automotive co-op work experience provides an opportunity for practical experience at an approved site. It is a required component of the degree program and students are required to work a minimum of 320 hours. Periodic supervisor evaluations based on performance and other criteria 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. AUTO2021M is a spring semester course. Tools identified on the student tool list are required at the co-op site. Successful completion of AUTO2011M, AUTO2012M and AUTO2013M with a minimum grade of C is required to register for this course. Prerequisites: Authorization from faculty.

Lab Hours 15
Credits 2

AUTO2022M: Automatic Transmission and Transaxles

A comprehensive course including theory, service and overhaul procedures with an emphasis on diagnosis of automatic transmission, transaxles and electronic controls. This course includes operating principles of hydraulics, mechanical, and electronic controls. This course provides an opportunity to gain the knowledge and skills necessary to diagnosis and service today's complex transmissions and control systems. Using the skills and knowledge learned, students will perform the same procedures, and diagnose automatic transmission and related system concerns on today's automobiles and light trucks just as a technician would in an automotive service department. AUTO2022M is a spring semester course. Tools identified on the student tool list are required for this course. Note that for the AEP, MCAP, MLR, and SU pathways, on-line training may be required to receive credit for this course. Prerequisites: Successful completion of AUTO1011M, AUTO1012M, and AUTO1022M with a minimum grade of C.

Theory Hours 2
Lab Hours 8
Credits 4

AUTO2023M: Vehicle Performance Diagnosis

AUTO2023M is a comprehensive course including theory, repair and service procedures with an emphasis on diagnosis of modern powertrain management systems. AUTO2023M is a course focused on diagnosis and resolving problems with today's advanced vehicles and systems. This course includes diagnosis techniques, the diagnostic process, and finding the root cause of customer concerns. This course includes computers, fuel systems and service, exhaust gas analysis, emission control systems and service. This course also provides an opportunity to gain the knowledge and skills necessary to diagnosis and correct problems with today's complex vehicles. Using the skills and knowledge learned, students will perform the same procedures, and diagnose concerns on today's automobiles and light trucks just as a technician would in an automotive service department. AUTO2023M is a spring semester course. Tools identified on the student tool list are required for this course. Note that for the AEP, MCAP, MLR, and SU pathways, on-line training may be required to receive credit for this course.

Theory Hours 2
Lab Hours 9
Credits 5
Prerequisites
AUTO1022M: Electronic Controls

Biology

BIOL099M: Foundations in Biology

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.

Theory Hours 2
Lab Hours 2
Credits 3

BIOL101M: General Concepts in Biology

This is 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. Prerequisites: High School Biology or equivalent with a C or better and placement into ENGL 110M. (Fulfills lab science elective.)

Theory Hours 3
Lab Hours 3
Credits 4

BIOL103M: Fundamentals of Health and Wellness

This course will familiarize students with the importance of various elements relevant to their personal health. Topics will provide insight on aspects related to overall health and wellness including physical activity, nutrition, and stress management. Additionally, throughout the course, students will analyze many dimensions of personal health and discover how they relate to their career choice and have an effect on their job performance. Finally, students will be given the tools, knowledge and hands-on experience required to feel confident in leading a healthy and active lifestyle.

Theory Hours 3
Lab Hours 0
Credits 3

BIOL106M: The Human Body

This one-semester course introduces the structure and function of the human body. It includes the anatomy and physiology of each of the organ systems of the human body and practical discussions of disease and health.

(Fulfills lab science elective when taken with BIOL107M). Offered every semester.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: placement into ENGL101M or ENGL101XM.

BIOL107M: The Human Body Lab

A series of laboratory experiences designed to enhance and reinforce the concepts studied in The Human Body (BIOL106M).

(Fulfills lab science elective when taken with BIOL106M). Offered every semester.

Lab Hours 3
Credits 1
Prerequisites
Prerequisites: Placement into ENGL101XM or ENGL101M or permission of the instructor.

BIOL108M: College Biology I

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.

(Fulfills Lab Science elective)

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
Prerequisites: High school biology and chemistry with a grade of "C" or better and placement into ENGL101M or ENGL101XM or permission of the instructor.

BIOL109M: College Biology II

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.

(Fulfills Lab Science elective)

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
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 ENGL101M or ENGL101XM, or permission of the instructor.

BIOL110M: Human Anatomy and Physiology I

A comprehensive introduction to the structure and function of human anatomy and physiology. The course begins with an overview of body systems, homeostasis, and anatomical terminology, then covers the chemical, cellular, and tissue levels. Organ systems studied include integumentary, skeletal, muscular, nervous, and sensory systems. Laboratory work parallels lecture content and emphasizes active exploration of anatomical structures and physiological processes through microscopy, anatomical models, dissection, and experimental activities.

(Fulfills Lab Science elective) Offered every semester.

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
Prerequisites: Successful completion of high school-level biology and chemistry with a grade of "C" or better.

BIOL120M: Human Anatomy and Physiology II

A continuation of Human Anatomy and Physiology I, this course examines additional body systems and their interrelationships in maintaining homeostasis. Topics include the endocrine, blood and cardiovascular, lymphatic and immune, respiratory, digestive, urinary, and reproductive systems, along with fluid, electrolyte, and acid–base balance. Laboratory work parallels lecture content and emphasizes active exploration of anatomical structures and physiological processes through microscopy, anatomical models, dissection, and experimental activities.

(Fulfills Lab Science elective)

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
BIOL110M: Human Anatomy and Physiology I
Prerequisite: BIOL110M with a grade of "C" or better, or permission of the instructor.

BIOL130M: Marine Biology

This course is designed as an extension to topics covered in biology, with special emphasis on life in the oceans. Topics to be covered will include oceanography, marine ecology, anatomy and physiology of marine life, and environmental issues affecting marine life. Students are expected to demonstrate proper scientific data collection skills, as well as effective formal and informal communication of processes and concepts.

(Fulfills Lab Science elective)

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
Prerequisites: High School Biology with a "C" or better and placement into ENGL101M or ENGL101XM or permission of the instructor.

BIOL150M: Nutrition

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

Theory Hours 3
Lab Hours 0
Credits 3

BIOL151M: Nutrition Lab

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). Corequisite: BIOL150M.

Lab Hours 3
Credits 1

BIOL201M: Principles of Genetics

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.

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
Prerequisite: Completion of (BIOL108M or BIOL110M) with a grade of "C" or better, and placement into (ENGL101M or ENGL101XM) and (MATH145M or MATH145XM), or permission of the instructor.

BIOL205M: General Ecology

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.

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
Prerequisite: Completion of BIOL109M with a C or better, and placement into ENGL101M or ENGL101XM and MATH145M or MATH145XM, or permission of the instructor.

BIOL210M: General Microbiology

This course introduces the principles of microbiology, focusing on the structure, function, classification, and genetics of microorganisms. Topics include microbial metabolism, growth, genetics, diversity, methods for microbial control, and interactions with hosts, including pathogenicity, epidemiology, and immune responses. Laboratory work focuses on aseptic techniques, microscopy, and identification using staining and biochemical tests.

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
Prerequisite: BIOL108M or BIOL110M and (ENGL101M or ENGL101XM) with a grade of "C" or better.

BIOL220M: Pathophysiology

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.

(Does not fulfill Lab Science elective)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: Successful completion (with a grade of "C" or better) of BIOL110M and BIOL120M or BIOL111M and BIOL121M and placement into ENGL101M or ENGL101XM or permission of the instructor.

Building Construction

BLDG225M: Blueprint Reading/ Estimating

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.

Theory Hours 3
Lab Hours 3
Credits 4

Business

BUS110M: Introduction to Business

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS114M: Business Management

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS120M: Introduction to Communications Media

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS124M: Entrepreneurship and Small Business Management

This course gives students comprehensive knowledge in the development and management of small businesses. Sales, production, personnel management, and financial management are examined from the point of view of the small business entrepreneur or manager. Using case studies, students will be introduced to effective techniques for: starting a business; obtaining 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 create and develop a business plan for a real or fictitious organization of their choice.

Theory Hours 3
Lab Hours 0
Credits 3

BUS155M: Retail Management

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS200M: Team Building

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS205M: Leadership

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS210M: Business Communications

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.

This course can be used to fulfill an English or Business requirement.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ENGL101M: College Composition
ENGL101XM: College Composition with Corequisite Support
Prerequisites: ENGL101M or ENGL101XM

BUS212M: Business Law I

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS213M: Business Law II

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS216M: Organizational Behavior

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS220M: Operations Management

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS221M: Business Finance

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS224M: Human Resource Management

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS225M: Effective Human Relations

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS226M: Employment and Labor Law

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS227M: Employee Training and Development

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS228M: Seminar in Strategic Human Resource Management

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.

Theory Hours 3
Lab Hours 0
Credits 3

BUS231M: Self Assessment

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.

Theory Hours 1
Lab Hours 0
Credits 1

BUS250M: International Business

This course provides an overview of global business management principles, practices, and challenges. Students will explore the complexities of managing businesses in an international context, focusing on cultural, economic, and political factors that influence global operations.

No pre-requisites and co-requisites,

Theory Hours 3
Lab Hours 0
Credits 3

BUS291M: Internship

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.

Lab Hours 9
Credits 3

Chemistry

CHEM090M: Foundations of Chemistry

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.

Theory Hours 2
Lab Hours 2
Credits 3

CHEM140M: General Chemistry I

General Chemistry I introduces the student to the principles of chemistry included in the first semester of a two-semester chemistry course. The course will include topics such as components of matter, stoichiometry, chemical reactions, gas and kinetic-molecular theory, thermochemistry, quantum theory and atomic structure, chemical periodicity, chemical bonding, and molecular geometry. Principles taught in lectures will be reinforced in laboratory experiments.

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
MATH155M: College Algebra with Trigonometry
Pre-Rec: College Algebra (MATH155M) or higher with a grade of C or better, or Permission of Department Chair.

CHEM141M: General Chemistry II

General Chemistry II designed to introduce the student to the principles of chemistry included in the second semester of a two-semester chemistry course. This course will include topics such as intermolecular forces, properties of solutions, kinetics, chemical equilibrium, acid-base equilibrium, electrochemistry, and thermodynamics. Principles taught in lectures will be reinforced in laboratory experiments.

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
CHEM140M: General Chemistry I
Pre-Rec: General Chemistry 1 with C or higher

Computer Aided Design

CAD110M: CAD I Fundamentals

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.

Theory Hours 2
Lab Hours 2
Credits 3

CAD113M: Applied CAD for Industry

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.

Theory Hours 1
Lab Hours 3
Credits 2

CAD120M: CAD II Intermediate

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

Theory Hours 2
Lab Hours 2
Credits 3

CAD210M: CAD III Advanced

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 and 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.

Theory Hours 2
Lab Hours 2
Credits 3

CAD220M: Inventor® Fundamentals

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.

Theory Hours 2
Lab Hours 3
Credits 3

CAD225M: Design Project for Rapid Prototyping

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.

Theory Hours 2
Lab Hours 6
Credits 4

Computer Information Systems XR

CISXR100M: Introduction to XR

This course creates an understanding of meaning of the terms used in the XR world and defines the scope of XR in the current environment as well as the limitations of current technology. The course also introduces students to modern XR Development engines.

Theory Hours 2
Lab Hours 2
Credits 3

CSXR100M: Introduction to XR

This course creates an understanding of meaning of the terms used in the XR world and defines the scope of XR in the current environment as well as the limitations of current technology. The course also introduces students to modern XR Development engines.

Theory Hours 2
Lab Hours 2
Credits 3

CSXR120M: XR Development

This course will teach students to utilize tools needed in the creation of assets in an XR environment. These tools include the use of a modern 3D modeling design tools to create realistic renderings of 3D assets. Students will create assets from images and videos the students create and transform them into 3D Assets.

Theory Hours 2
Lab Hours 2
Credits 3
Prerequisites
CISXR100M: Introduction to XR

CSXR120M: XR Development

This course will teach students to utilize tools needed in the creation of assets in an XR environment. These tools include the use of a modern 3D modeling design tools to create realistic renderings of 3D assets. Students will create assets from images and videos the students create and transform them into 3D Assets.

Theory Hours 2
Lab Hours 2
Credits 3

CSXR210M: The XR Metaverse

This course teaches students to research and investigate current Meta platforms and to create Meta environments for business. These can include the creation of meeting, training and classroom environments.

Theory Hours 2
Lab Hours 2
Credits 3
Prerequisites
CISXR100M: Introduction to XR

CSXR210M: The XR Metaverse

This course teaches students to research and investigate current Meta platforms and to create Meta environments for business. These can include the creation of meeting, training and classroom environments. Pre-Requisite CSXR100M

Theory Hours 2
Lab Hours 2
Credits 3

Computer Science and Innovation

CIS097M: Computer Fundamentals

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.

Lab Hours 2
Credits 1

CIS102M: A+ Prep/Hardware

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS103M: A+ Prep/Software

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS104M: Introduction to Video

This course introduces students to the fundamentals of video production. Through individual video projects and course work, students will learn technical and esthetic basics for producing video. This includes introductions to shooting, editing, lighting and sound and the associated equipment required for these individual disciplines.

Theory Hours 2
Lab Hours 2
Credits 3

CIS105M: Introduction to Computer Science

This course introduces students to the foundational principles of computer science using the Python programming language. Students explore algorithms, problem-solving strategies, data types, control structures, and modular design while learning the fundamentals of coding, debugging, and documentation. Emphasis is placed on writing clear, efficient, and well-structured Python programs that illustrate core computer science concepts.

Theory Hours 3
Lab Hours 0
Credits 3

CIS107M: Introduction to Program Development

In this course, students will explore the basics of logical reasoning, crucial for problem-solving in computer science. They will be introduced to fundamental programming concepts with a focus on understanding and implementing loops, a key structure in coding.

The course may utilize block programming or similar techniques as an intuitive and visual approach to simplify complex concepts, making them accessible and engaging, especially for beginners. This method offers a smooth to traditional text-based coding, enhancing students' ability to write and understand code in widely-used programming languages.

Students will engage in challenging exercises and projects that foster critical thinking and problem-solving skills, applying logical concepts to real-world scenarios. The course also encourages a collaborative learning environment, with group activities and discussions designed to share diverse perspectives. Co-requisites: CIS105M

Theory Hours 2
Lab Hours 2
Credits 3

CIS108M: Introduction to Windows Apps Development

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS109M: Operating Systems and Desktop Problems Resolution

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS110M: Microsoft® Computer Applications I

This is a one semester course that introduces the student to the world of MS Applications Office Suite. Topics will include the use of 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. (This course cannot be used toward graduation requirements for Computer Science majors.)

Theory Hours 2
Lab Hours 2
Credits 3

CIS113M: Database Design and Management Using SQL

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

Theory Hours 3
Lab Hours 3
Credits 4

CIS116M: Network + Preparation

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.

Theory Hours 3
Lab Hours 3
Credits 4

CIS117M: Introduction to iOS Application Development

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS118M: Introduction to Programming using .NET Core

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 program design as they complete lab work and assignments in the .NET Core environment. Prerequisite: CIS107M or CIS108M.

Theory Hours 2
Lab Hours 2
Credits 3

CIS120M: Microsoft® Computer Applications II

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).

Theory Hours 2
Lab Hours 2
Credits 3

CIS122M: C++ Programming I

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS123M: Microsoft Access®

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS124M: Web Programming I

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS126M: Programming with Python

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.

Theory Hours 2
Lab Hours 2
Credits 3
Prerequisites
CIS107M: Introduction to Program Development
CIS108M: Introduction to Windows Apps Development
MATH215M: Mathematical Proof

CIS129M: Network Security

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS146M: Linux I

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 and Administration. Installing Joomla!, an open source content management system, is also covered.

Theory Hours 2
Lab Hours 2
Credits 3

CIS148M: Introduction to Programming using JAVA

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS158M: Introduction to Programming using C#

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS207M: Windows® Server

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS210M: Data Structures and Elementary Algorithms

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.

Theory Hours 3
Lab Hours 3
Credits 4

CIS220M: Object-Oriented Programming

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS221M: Advanced Word®

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).

Theory Hours 2
Lab Hours 2
Credits 3

CIS224M: Web Programming II

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS230M: Embedded Database Programming

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS231M: Advanced Worksheets

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).

Theory Hours 3
Lab Hours 3
Credits 4

CIS233M: Oracle® Database Administration I

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS234M: PHP and MySQL Web Development

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS240M: Computer Science Internship

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.

Theory Hours 1
Lab Hours 8
Credits 3

CIS243M: Oracle® Database Administration II

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS274M: XML Programming I

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.

Theory Hours 2
Lab Hours 2
Credits 3

CIS291M: Capstone Senior Seminar

Required for all A.S. 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.

Theory Hours 2
Lab Hours 2
Credits 3

CSAI100M: Introduction to Artificial Intelligence

The future of our society is interwoven with the future of data-driven thinking, and AI plays a crucial part in reshaping all aspects of it

Review what AI is, how it evolved, and where it currently stands in its development

How AI impacts current technology, society, economy, and the political spheres

Theory Hours 2
Lab Hours 2
Credits 3

CSCN210M: Computer Science in Action I: Technology Innovation

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.

Theory Hours 3
Lab Hours 3
Credits 4

CSCN220M: Entrepreneurship in Computer Science

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.

Theory Hours 3
Lab Hours 3
Credits 4

CSCN225M: Computer Science in Action II: Quality Assurance & Security

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.

Theory Hours 3
Lab Hours 3
Credits 4

CSCN290M: Computer Science and Innovation Internship

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.

Theory Hours 1
Lab Hours 8
Credits 3

CSXR100M: Introduction to XR

This course creates an understanding of meaning of the terms used in the XR world and defines the scope of XR in the current environment as well as the limitations of current technology. The course also introduces students to modern XR Development engines.

Theory Hours 2
Lab Hours 2
Credits 3

CSXR120M: XR Development

This course will teach students to utilize tools needed in the creation of assets in an XR environment. These tools include the use of a modern 3D modeling design tools to create realistic renderings of 3D assets. Students will create assets from images and videos the students create and transform them into 3D Assets.

Theory Hours 2
Lab Hours 2
Credits 3

CSXR210M: The XR Metaverse

This course teaches students to research and investigate current Meta platforms and to create Meta environments for business. These can include the creation of meeting, training and classroom environments. Pre-Requisite CSXR100M

Theory Hours 2
Lab Hours 2
Credits 3

Computer Science Artificial Intelligence

Artificial Intelligence (AI) is transforming nearly every industry, from healthcare and finance to cybersecurity, robotics, manufacturing, and education. The Computer Science Artificial Intelligence (CSAI) Degree prepares students with the technical knowledge and practical skills needed to develop intelligent software systems and understand the technologies shaping the future.

Students in the CSAI program build a strong foundation in computer programming, algorithms, data structures, and software development while exploring specialized topics such as machine learning, natural language processing, computer vision, and generative AI. Through hands-on projects, students learn to design, train, evaluate, and deploy AI models using modern programming languages and industry-standard tools.

Graduates will be prepared to:

- Develop AI-powered applications and intelligent software solutions.
- Analyze and interpret data using machine learning techniques.
- Build and evaluate predictive models.
- Understand the ethical and societal implications of artificial intelligence.

CSAI100M: Introduction to Artificial Intelligence

The future of our society is interwoven with the future of data-driven thinking, and AI plays a crucial part in reshaping all aspects of it

Review what AI is, how it evolved, and where it currently stands in its development

How AI impacts current technology, society, economy, and the political spheres

Theory Hours 2
Lab Hours 2
Credits 3

CSAI130M: Natural Language Programming

This course introduces students to the principles of natural language programming and the technologies that allow computers to interpret, generate, and interact through human language. Students explore text processing, tokenization, sentiment analysis, and the use of language models in real-world applications. The course emphasizes practical experience using prebuilt AI and NLP tools to build interactive systems such as chatbots and text classifiers, while examining the ethical and cultural implications of AI language use.

Theory Hours 3
Lab Hours 0
Credits 3

Computer Science Artificial Intelligence for Cybersecurity

CSAI100M: Introduction to Artificial Intelligence

The future of our society is interwoven with the future of data-driven thinking, and AI plays a crucial part in reshaping all aspects of it

Review what AI is, how it evolved, and where it currently stands in its development

How AI impacts current technology, society, economy, and the political spheres

Theory Hours 2
Lab Hours 2
Credits 3

CSAI120M: Generative AI for Computer Science

This course introduces students to the foundational concepts and real-world applications of Generative Artificial Intelligence in computer science. Topics include large language models (LLMs), prompt engineering, AI-assisted coding, and ethical design considerations. Students will learn to analyze, apply, and evaluate AI tools to support problem-solving, automation, and creative development.

Prerequisite: none. Corequisite: None. Semester Offered: Fall and Spring. Formats: Face-to-face, hybrid, and online.

Theory Hours 3
Lab Hours 0
Credits 3

CSAI130M: Natural Language Programming

This course introduces students to the principles of natural language programming and the technologies that allow computers to interpret, generate, and interact through human language. Students explore text processing, tokenization, sentiment analysis, and the use of language models in real-world applications. The course emphasizes practical experience using prebuilt AI and NLP tools to build interactive systems such as chatbots and text classifiers, while examining the ethical and cultural implications of AI language use.

Theory Hours 3
Lab Hours 0
Credits 3

CSAI240M: Artificial Intelligence for Computer Vision

This course introduces students to the principles and applications of Artificial Intelligence in Computer Vision. Students explore how machines interpret visual data through image processing, pattern recognition, and object detection. Topics include image classification, facial recognition, feature extraction, and visual data ethics. Students will gain hands-on experience using pre-trained models and APIs to analyze and interpret image and video data for real-world scenarios.

Theory Hours 3
Lab Hours 0
Credits 3

CSAI260M: Ethics & AI Integration

This course examines ethical, social, and practical issues surrounding the integration of Artificial Intelligence (AI) into real-world systems. Students will analyze case studies, regulations, and frameworks guiding responsible AI development and deployment. Topics include transparency, bias, privacy, accountability, and the societal impact of automation. The course emphasizes developing ethical reasoning and policies that align AI implementation with human values and professional standards.

Theory Hours 3
Lab Hours 0
Credits 3

SPCL101M: Generative AI for CS Students

This course introduces the fundamentals of artificial intelligence with a focus on generative AI and its applications in modern computing. Students will explore the relationship between AI, machine learning, deep learning, and generative models, gaining insight into when and how to apply each approach.

Key topics include the structure of foundation models, effective prompt engineering, and evaluation techniques for large language models. The course also emphasizes responsible AI practices, including fairness, security, and compliance considerations.

Lab activities serve to guide learners in designing prompts, tuning model outputs, and exploring generative use cases. The course concludes with an overview of generative AI development workflows and pathways to industry-recognized certification.

Theory Hours 2
Lab Hours 2
Credits 3

Computer Science eXtended Reality

CSXR105M: XR for Communication & Collaboration

This course explores the use of Extended Reality (XR) technologies to enhance communication, collaboration, and teamwork in professional environments. Students gain practical experience using XR platforms to conduct meetings, presentations, and group interactions in immersive spaces. Emphasis is placed on accessibility, user experience, and the evaluation of XR's effectiveness as a collaboration tool in business and education.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
CIS105M: Introduction to Computer Science
Prerequisite: CIS105M – Introduction to Computer Science or instructor approval.

CSXR209M: Designing Accessible XR Experiences

This course prepares students to design and evaluate Extended Reality (XR) environments through the lens of accessibility and universal design. Students will learn to identify and address barriers faced by users with sensory, mobility, or cognitive disabilities in immersive applications. Topics include ADA and WCAG compliance, inclusive interface design, and usability testing within XR platforms. The course culminates in an accessibility audit and inclusive prototype demonstrating best practices for equitable digital experience design.

Theory Hours 3
Lab Hours 0
Credits 3

CSXR211M: XR Content Creation with No-Code Tools

This course teaches students to design and publish immersive Extended Reality (XR) content using no-code development platforms. Students will learn to build 3D scenes, add interactivity, and deploy experiences that support business communication, training, or visualization goals. Emphasis is placed on accessibility, design thinking, and platform comparison. By the end of the course, students will have created a complete no-code XR project showcasing practical, professional applications of immersive media.

Theory Hours 3
Lab Hours 0
Credits 3

CSXR212M: XR & Workforce Integration

This course explores how Extended Reality (XR) technologies are integrated into workforce systems and business operations. Students analyze case studies across industries to identify opportunities, challenges, and return-on-investment (ROI) considerations associated with immersive tools. Topics include project planning, XR adoption strategies, workflow transformation, and user training. Through consulting-style projects, students will design implementation strategies that align XR technologies with productivity, collaboration, and organizational goals.

Theory Hours 3
Lab Hours 0
Credits 3

CSXR215M: Ethics & Privacy in XR

This course examines ethical, legal, and societal issues surrounding the development and deployment of Extended Reality (XR) systems. Students will explore privacy, surveillance, data ownership, identity, and representation in immersive technologies. Case studies and debates will guide analysis of emerging regulations and corporate policies related to XR. Emphasis is placed on designing ethical frameworks and recommendations that promote responsible innovation and protect user rights within immersive environments.

Theory Hours 3
Lab Hours 0
Credits 3

Cybersecurity

CYBD100M: Introduction to Cybersecurity

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.

Theory Hours 2
Lab Hours 2
Credits 3

CYBD110M: Investigations and Evidence Recovery

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.

Theory Hours 3
Lab Hours 3
Credits 4

CYBD200M: Certified Ethical Hacker

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.

Theory Hours 3
Lab Hours 3
Credits 4

CYBD210M: Operating System Artifacts

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.

Theory Hours 3
Lab Hours 3
Credits 4

CYBD215M: Digital Forensics

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.

Theory Hours 3
Lab Hours 3
Credits 4

CYBD220M: Security + Preparation

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

Theory Hours 3
Lab Hours 3
Credits 4

CYBD225M: Cybersecurity Internship

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.

Theory Hours 1
Lab Hours 8
Credits 3

CYBD230M: Mobile and Emerging Device Analysis

This course explores Mobile Device Analysis where students learn methodologies for extraction of data 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 store their data and the techniques to understand how the tools available differ in the amount and types of 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.

Theory Hours 3
Lab Hours 3
Credits 4

CYBD235M: Network Intrusions

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.

Theory Hours 3
Lab Hours 3
Credits 4

Early Childhood Education

ECE100M: Early Childhood Growth and Development

This course provides an in-depth study of typical growth and development from conception through age 8 with an emphasis on the specific needs and characteristics of each developmental level as described in developmental milestones charts and the NH Early Learning Standards. The experiences in this course will focus attention on how observation, documentation, and assessment can be used to inform understandings about children and the practice of teaching. Focused instruction is given on learning how to observe, document, and analyze children's thinking and developmental processes. Insights gleaned from this learning will be enhanced by theories and research on child development. Prominent theories of child psychology, including but not limited to Piaget, Erikson, Maslow and Bronfenbrenner, will be introduced. ***At least 15 hours of observation of children in childcare settings is required***.
Prerequisites: none

Theory Hours 3
Lab Hours 0
Credits 3

ECE104M: Foundations of Early Childhood Education

This course takes an in-depth look at the 6 guidelines of Developmentally Appropriate Practice, as described by the National Association for the Education of Young Children (NAEYC), with a strong emphasis on play as the foundation of learning. The course also provides an overview of the field of Early Childhood Education, including the history of child care and current/ future trends in the field. Students will be introduced to the NH Early Learning Standards, the Pyramid Model, and the NH Child Care QRIS system. **Observation of two different early learning programs is required.**
Prerequisites: None

Theory Hours 3
Lab Hours 0
Credits 3

ECE106M: ECE Curriculum: The Arts & Emergent Literacy

This course focuses on the principles, methods, and materials for teaching emergent literacy and the creative arts through process-oriented experiences. Understanding of the developmental milestones for creative expression, language, and emergent literacy is emphasized. Developmentally appropriate creative activities will be planned and presented for all activity areas, including art, movement, music, dramatic play, language, and literacy. Emphasis is placed on appropriate use of resources, the interaction of the arts and children's literature, creating supportive environments for diverse children; and family/school relationships. Students will need access to young children to complete required assignments. **Prerequisites: ECE 100M & ECE 104M**

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ECE100M: Early Childhood Growth and Development
ECE104M: Foundations of Early Childhood Education

ECE111M: Infant/Toddler Practicum: Nurturing Environments

This course is an introductory practicum that includes observation, participation, and teaching in an infant/toddler setting (students choose to take ECE111M ***OR*** ECE 112M as their first practicum). The manner in which a "prepared environment" leads to learning through play and stimulating the development of children will be the focus of the course. Students will observe the effects of space, equipment, materials, and relationships upon play, learning, and discovery. Students will plan and implement developmentally appropriate lesson plans based on the NH Early Learning Standards. Incorporating and documenting routine care as an integral part of the curriculum will be emphasized. Students will attend a weekly three hour practicum placement at an assigned site as well as a weekly seminar class. Students must pass this course with a C or better to move on to the next practicum course, ECE 202M. **Prerequisites: none**

Theory Hours 2
Lab Hours 3
Credits 3

ECE112M: Introduction to Play-Based Curriculum and Learning Environments

This course focuses on preparing and using the classroom environment as the "third teacher" in a play-based curriculum. Students will explore the foundational role of play in early childhood development and learning and examine how intentional teaching strategies—such as scaffolding, differentiation, and Universal Design for Learning (UDL) practices: support diverse learners within inclusive settings. Emphasis will be placed on meeting individual and group needs through the thoughtful use of materials, relationships, and routines that encourage play and exploration.

Through weekly observations of young children, students will evaluate learning environments and develop lesson plans that support age-appropriate learning goals grounded in developmentally appropriate practices and the NH Early Learning Standards. Students will practice designing and adapting learning experiences that promote active engagement, autonomy, and equitable access for all children. Through observation, reflection, and lesson implementation, students will deepen their understanding of the educator's role in guiding and enhancing play through intentional interactions and responsive teaching. The course also encourages critical reflection on personal and cultural beliefs about play, helping students align their teaching practices with developmentally effective and inclusive approaches.

Theory Hours 3
Lab Hours 0
Credits 3

ECE116M: Child Health, Safety and Nutrition

This course focuses on the physical and psychological safety, health, and nutritional needs of children from birth to age 8 and how to meet children's needs in group settings. Topics include physical and mental health, standards and licensing guidelines, safe and healthy environments, preventing and responding to emergencies, child abuse and neglect, planning educational experiences, and partnering with families. Students will be required to complete 10 online health and safety training modules through the New Hampshire Health & Safety Training Program, which is mandated by the Child Care Licensing Bureau, in order to be eligible to work in any early childhood program. It should be noted that CPR and First Aid information is covered in this course; however, certification is NOT part of the course.
Prerequisites: None

Theory Hours 3
Lab Hours 0
Credits 3

ECE200M: ECE Curriculum: Math, Science, and Creative Thinking

This course focuses on methods for teaching STEAM (science, technology, engineering, arts, and mathematics) concepts to young children birth through age 8. Grounded in current theoretical and developmental frameworks, students will examine how young children build conceptual understanding in math and science through inquiry, hands-on experiences, and play. Emphasis will be placed on learning trajectories and Universal Design for Learning (UDL) principles to guide instructional planning that aligns with children's developmental progressions and diverse learning needs. Students will design and implement developmentally appropriate, culturally and linguistically responsive activities which move beyond memorization to meaningful explorations that promote curiosity, creativity, and critical thinking for all learners, including those with disabilities and dual language learners. Connections between math, science, literacy, and the arts will be explored to support integrated, accessible, and inclusive learning experiences in early childhood settings. Access to young children is required to complete observation and implementation-based assignments. **Students are required to purchase a Taskstream electronic portfolio subscription.**

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ECE100M: Early Childhood Growth and Development
ECE104M: Foundations of Early Childhood Education
Prerequisites: ECE100M & ECE104M.

ECE201M: Children's Individual and Special Needs

The course will focus on the unique characteristics of young children with disabilities, delays, and/or risks and their families, including communication disorders, sensory impairments, physical and health related disabilities, child abuse, stress, and trauma. Room arrangement plans, accommodations and modifications based on unique learning characteristics will be explored. Screening, assessment, early intervention, individual education plans, inclusive education, community resources and family issues will also be presented and discussed. **Students are required to purchase a Taskstream electronic portfolio subscription.** Prerequisites: ECE 100M, ECE 104M

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ECE100M: Early Childhood Growth and Development
ECE104M: Foundations of Early Childhood Education

ECE202M: Student Teaching Practicum

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 (approximately 9 hours/week). 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 and two different settings across the two senior level practicum courses (ECE 202M & ECE 212M). Note that a grade of C or better is required in this class in order to move on to the final practicum, ECE 212M. **A Taskstream electronic portfolio subscription is required**. Prerequisites: ECE100M, ECE104M, and a grade of C or better in ECE111M or ECE112M.

Theory Hours 1
Lab Hours 9
Credits 4
Prerequisites
ECE111M: Infant/Toddler Practicum: Nurturing Environments
ECE112M: Introduction to Play-Based Curriculum and Learning Environments

ECE204M: Developmentally Appropriate Curriculum for Infants and Toddlers

This course focuses on developmentally appropriate care and education of infants and toddlers, birth to age three, in group settings. Following a review of infant/toddler development, students will be introduced to evidenced-based practices including responsive relationship-based caregiving, routines as curriculum, the importance of play-based learning, and collaborative relationships with families. Students will learn about age appropriate environments, materials and activities, and teaching/guidance techniques based upon the standards of NAEYC and the NH Bureau of Child Care Licensing regulations. **Community Service will be a part of the course with students expected to observe/volunteer in an infant and/or toddler program for 8 hours**. Prerequisites: ECE 100M & ECE104M or permission of the instructor

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ECE100M: Early Childhood Growth and Development
ECE104M: Foundations of Early Childhood Education

ECE210M: Child, Family and Community Relations

This course will focus on how children develop within the context of their family, school/center, community and society, with a special emphasis on Bronfenbrenner's Ecological Systems Theory. In addition to theoretical, students will study the cultural and generational perspectives, as well as a variety of other influences on the child and family. Through the use of evidence-based practices, students will focus on the benefits, barriers and strategies to partner with and engage families in their child's education. Emphasis will be on the development of advocacy skills as students learn about community resources and family needs. A community service project will be required. **Students are required to purchase a TASKSREAM electronic portfolio subscription.** Prerequisites: ECE100M, ECE104M.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ECE100M: Early Childhood Growth and Development
ECE104M: Foundations of Early Childhood Education

ECE212M: Professional Development Practicum: ECE Capstone

Typically taken during the student's last semester, this course will provide students with an opportunity to build on the knowledge gained in their previous coursework and practica by moving from a thematic focused curriculum planning process in ECE202 to an Emergent Curriculum approach. Students will study the Reggio Emelia approach to teaching and learning and will plan lessons and a unit focused on the principle of children being collaborative partners in their learning. In addition, students will practice and develop professional teaching skills such as observing, analyzing, classroom management, working as a part of a team, and self-reflection under the mentorship of classroom teachers. Students will complete a minimum of 117 hours of teaching in a college-approved early childhood setting. ***Students are required to purchase a TASKSTREAM electronic portfolio subscription.***

Course Pre-requisites/Co-requisites: C or better in ECE 202M.

Theory Hours 1
Lab Hours 9
Credits 4
Prerequisites
ECE202M: Student Teaching Practicum

ECE214M: Developmentally Appropriate Guidance and Discipline for Young Children

The emphasis of this course is on the role of positive child guidance in preparing young children to become competent, confident and cooperative individuals. The Center on the Social and Emotional Foundations of Early Learning (CSEFEL) pyramid model will serve as the conceptual framework for evidence-based practices and intervention approaches. The course will focus on three main overarching themes: promotion of all children's social and emotional development, prevention strategies for at risk children, and individual & intensive interventions for children with persistent challenges. Access to an Early Childhood program is required in order to complete an ongoing and in-depth case study. **Students are required to purchase a Taskstream electronic portfolio subscription.** Prerequisites: ECE 100M & ECE 104M

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ECE100M: Early Childhood Growth and Development
ECE104M: Foundations of Early Childhood Education

ECE250M: Childcare Administration and Management

This course is designed to provide an overview of the skills and techniques required to effectively manage early care and education programs. Topics include program philosophy, policies and procedures, business planning, personnel and fiscal management, and NAEYC Code of Ethical Conduct. Students explore diverse programs available to the community and examine state and federal licensing regulations, as well as national accreditation standards. Students critically analyze the degree to which financial issues of marketing, accounting, and funding affect the management of the center or family childcare home. In addition, students identify components of a healthy organization that manages people and resources in a positive, supportive manner. This course is required by NH State licensing rules for center directors**. Prerequisite: ECE 100M and ECE 104M or *Permission of the instructor***

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ECE100M: Early Childhood Growth and Development
ECE104M: Foundations of Early Childhood Education

Earth Science/ Environmental Science

ENVS115M: Current Issues in Environment

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.

(Does not fulfill lab science elective) Offered every fall semester.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101M or ENGL101XM. High school biology recommended.

ENVS125M: Introduction to Environmental Science

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.

(Fulfills Lab Science elective) Offered every spring semester.

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
Prerequisites: High school biology with a grade of "C" or better, Placement in ENGL101M or ENGL101XM.

ESCI110M: Earth Science

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.

(Fulfills Lab Science elective) Offered every semester.

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
Prerequisite: placement into ENGL101M or ENGL101XM or permission of the instructor.

Economics

ECON134M: Macroeconomics

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)

Theory Hours 3
Lab Hours 0
Credits 3

ECON135M: Microeconomics

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. (Fulfills Social Science Requirement)

Theory Hours 3
Lab Hours 0
Credits 3

ECON136M: International Economics

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)

Theory Hours 3
Lab Hours 0
Credits 3

Electrical Technology

ETEC102M: Introduction to Electricity and Electronics for Technicians and Building Professionals

This course is structured to focus on the basics of electrical and electronic fundamentals and to meet the demands of the changing electric and electronic environment of today's Facilities Management and Maintenance personnel, Electrical/Electronic, Fire Alarm, Security and CATV technicians and technical careers. This course does not fulfill the requirements of the State of NH Electricians Apprenticeship educational requirements, rather it is intended to educate technician level individuals not wishing to pursue formal electrical licensure. However, this course may be used as a continuing education course if such is required by the State of NH Electrician's Licensing Board. Prerequisite: Placement into MATH135M.

Theory Hours 3
Lab Hours 0
Credits 3

ETEC110M: Electrical Fundamentals I

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.

Theory Hours 3
Lab Hours 3
Credits 4

ETEC111M: Electrical Fundamentals I - Line Worker

This course provides an introduction to basic electrical concepts, practices, and procedures. The material presented includes electrical safety, an introduction to the National Electrical Code, basic DC electrical theory, electrical formulas and calculations, test equipment, testing procedures, and electrical diagrams. Laboratory work will provide reinforcement and application of theoretical concepts. Prerequisites: Acceptance into the Lineworker program.

Theory Hours 3
Lab Hours 3
Credits 4

ETEC120M: AC Fundamentals and Residential Wiring

The material presented includes AC theory, electrical distribution, wiring methods and requirements, branch circuits and feeders, grounding and bonding, and overcurrent protection of residential wiring installations. The material presented in this course satisfies NH Electrical Apprentice training requirements. Laboratory work provides for reinforcement and application of theoretical concepts. Prerequisites: Placement into MATH135M. Corequisites: ETEC110M and MATH135M.

Theory Hours 3
Lab Hours 3
Credits 4

ETEC121M: Electrical Fundamentals II – Line Worker

This course provides an introduction to basic AC electrical concepts, practices, and procedures. The material presented includes electrical safety, an introduction to transformers, basic AC electrical theory, basic first aid/CPR/AED procedures, electrical formulas and calculations, OSHA 10 policies and best practices, advanced test equipment, advanced testing procedures, and advanced electrical diagrams. Laboratory work will provide reinforcement and application of theoretical concepts. Prerequisites: Completion of ETEC111M.

Theory Hours 3
Lab Hours 3
Credits 4
Prerequisites
ETEC111M: Electrical Fundamentals I - Line Worker

ETEC122M: Electricity and Electronics

This course will provide in-depth coverage of the theory of electricity and electronics. Subject matter will include the science of electricity and electronics, instruments and measurements, electrical circuit materials, energy, electrical sources and power supplies, series, parallel and combination circuits, magnetism, AC & DC generators and motors, inductive, capacitive and tuned circuits, semiconductors, transistors, amplifiers, integrated and digital circuits, oscillators, radio communications, electronic display systems, fiber optics and lasers, electronic networking, wireless technology, and microcontrollers. This course is not intended for State of NH electrician's apprenticeship training. However, this course may be taken as a continuing education course for renewal of State of NH licensure. This course is a theory course only with no lab component. Prerequisites: Placement into MATH155 (or higher). Corequisites: ETEC110M or Permission of Program Coordinator or Department Chair.

Theory Hours 3
Lab Hours 0
Credits 3
Corequisites
ETEC110M: Electrical Fundamentals I

ETEC135M: Fundamentals of Industrial Instrumentation and Process Control

This course will provide in-depth coverage of industrial controls and instrumentation. Subject matter will discuss concepts of pressure, level, flow, temperature, humidity, position, safety and alarms, instruments and conditioning, regulators, valves and actuators, process control, documentation and symbols, signal transmission, logic gates, PLC and motor control basics. Since this course is a theory course only, it is not intended for State of NH electrician's apprenticeship training but may be taken to satisfy the State of NH electrician's requirements for continuing education. However, students will be expected to perform the Substation Co-Op hours as part of the overall program completion. Prerequisites: ETEC110M. Corequisites: None.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ETEC110M: Electrical Fundamentals I

ETEC140M: Lineworker I

This course provides an introduction to basic lineworker electrical concepts, practices, and procedures. The material presented includes electrical safety, an introduction to climbing, test equipment, testing procedures, and electrical diagrams. The material presented in this course satisfies NH Lineworker Apprentice training requirements. Laboratory work will provide reinforcement and application of theoretical concepts. Prerequisite: Placement into MATH135M or permission of Department Chair.

Theory Hours 3
Lab Hours 6
Credits 5

ETEC142M: Lineworker Co-op

The Lineworker 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 200 hours. A log of all work will be completed for review by the co-op coordinator 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. Prerequisites: ETEC140M.

Lab Hours 12
Credits 1

ETEC145M: Commercial Driver Training Theory

ETEC145M can be taken in person or Online. It is a practical course that provides a comprehensive study of the basics and application of Commercial Driving, with a focus on the required theory curriculum of safe, legal, and professional operation of Class A Commercial Motor Vehicles for which commercial licensure is a prerequisite. This course also focuses on the skills and behavioral characteristics of a professional commercial driver. Specific instructions are provided to prepare students for learner's permit testing. The course also covers preparation and the study for additional endorsements. Prerequisite: Acceptance into Electrical Line Worker program.

Theory Hours 6
Lab Hours 0
Credits 6

ETEC146M: Commercial Driver Training Behind the Wheel Range

ETEC146M is a hands-on, comprehensive lab study where a student will learn and practice the physical operation of Class A, Commercial Motor Vehicle, Behind-the-Wheel "Range" skills and knowledge. A focus on the safe, legal, and professional operation of a variety of vehicles for which commercial licensure is a prerequisite. This course also focuses on the skills and behavioral characteristics of a professional commercial driver. Specific instructions are provided to prepare students for learner's permit testing. The course also covers preparation and the study for additional endorsements. Prerequisite: ETEC145M, Commercial Driver Training Theory.

Theory Hours 1
Lab Hours 6
Credits 4
Prerequisites
ETEC145M: Commercial Driver Training Theory

ETEC147M: Commercial Driver Training Practicum

ETEC147M practicum provides actual Commercial Motor Vehicle Class A drive time on public roads, in combination with ETEC145M and ETEC146M, is a comprehensive study of the basics and application of Commercial Driving, with a focus on the safe, legal, and professional operation of a variety of vehicles for which commercial licensure is a prerequisite. This course also focuses on the skills and behavioral characteristics of a professional commercial driver. Specific instructions are provided to prepare students for learner's permit testing. The course also covers preparation and the study for additional endorsements. Prerequisites: ETEC145M.

Theory Hours 0
Lab Hours 6
Credits 3
Prerequisites
ETEC145M: Commercial Driver Training Theory

ETEC150M: Power, Transformers and Rotating Machinery

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 and MATH135M, or permission of the Program Coordinator.

Theory Hours 3
Lab Hours 3
Credits 4

ETEC160M: Commercial and Industrial Wiring

This course presents comprehensive coverage of the requirements and methods for wiring 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 these 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 and MATH135M or permission of Program Coordinator. Corequisite: MATH151M.

Theory Hours 3
Lab Hours 3
Credits 4

ETEC165M: National Electrical Code Fundamentals

This course covers content of the National Electrical Code (NEC®). Subject matter includes the history and revision process, NEC® structure and chapters, and how to apply the code to branch circuits, box and conduit fill, conductor sizing, services, taps, grounding, and service calculations. This is a theory course only with no lab component. Prerequisites: None Corequisites: None

Theory Hours 3
Lab Hours 0
Credits 3

ETEC210M: Electrical and Electronic Motor Controls

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: ETEC150M or Permission of Program Coordinator or Department Chair.

Theory Hours 3
Lab Hours 3
Credits 4

ETEC220M: Commercial and Low Voltage Building Systems

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 MATH151M or MATH155M or permission of Program Coordinator.

Theory Hours 3
Lab Hours 3
Credits 4

ETEC225M: Electric Power Substation Engineering

This course will provide in-depth coverage of the engineering concepts regarding utility substations and high voltage transmission. Subject matter will include substation types, switching, electronics, interfacing, integration, automation, containment, cybersecurity and animal infestation considerations, grounding, lightning protection, seismic considerations, fire protection, communication, smart grids, and energy storage. This course is a theory course only. However, students will be expected to perform the Substation Co-Op hours as part of the overall program completion. Prerequisites: ETEC150M. Corequisites: None

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ETEC150M: Power, Transformers and Rotating Machinery

ETEC230M: Electrical Print Reading

This course covers the concepts of print reading for electrical installations. Subject matter includes print reading fundamentals, symbols, plans, diagrams, various wiring, power and control systems, and wiring methods. This course is not intended for State of NH electrician's apprenticeship training. However, this course may be taken as a continuing education course for renewal of State of NH licensure. This is a theory course only with no lab component. Prerequisites: ETEC110M or permission of ETEC Program Coordinator or Chair. Corequisites: None

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ETEC110M: Electrical Fundamentals I

ETEC240M: Lineworker II

This course is a continuation of Lineworker I. It will include more in depth components of basic lineworker electrical concepts, practices, and procedures. The material presented expands on electrical safety, climbing, test equipment, testing procedures, and electrical diagrams. The material presented in this course partially satisfies NH Lineworker Apprentice training requirements. Laboratory work will provide reinforcement and application of theoretical concepts. Prerequisite: ETEC140M.

Theory Hours 3
Lab Hours 6
Credits 5

ETEC250M: Advanced Controls I – Digital Fundamentals – PLC Basics

This course covers the fundamentals of digital logic, digital circuit components, computer number systems, Boolean algebra, all basic logic gates, timer chips, Schmitt triggers, digital to analog converters, analog to digital converters, binary coded decimal encoders, basic microcomputer architecture, an introduction to programmable logic controllers (PLCs), and ladder logic in mechatronic systems. The basics of digital logic control, basic PLC modules and components, analog and digital I/O, programming concepts in ladder logic with reference to IEC61131 specification (an industry accepted programming standard for PLC's), and PLC system components will be covered. Students will learn the role digital components and PLCs play within an electronic / mechatronic system or subsystem. They will also learn basic elements of PLC functions by implementing / reviewing small programs and testing these programs logically and / or on an actual system. Students will learn to identify malfunctioning PLCs and digital circuits, as well as to apply troubleshooting strategies to identify and localize problems found in digital systems and PLC's. Prerequisite: ETEC210M and ETEC220M or permission of the instructor.

Theory Hours 3
Lab Hours 3
Credits 4

ETEC260M: Renewable and Alternative Energy Systems

This course will be a presentation of the theory, installation, maintenance, and operation of primary types of renewable and alternative energy systems. Primary focus will be on photovoltaic systems, wind generating systems, and backup generators. Prerequisites: ETEC210M and ETEC220M or permission of Program Coordinator.

Theory Hours 3
Lab Hours 3
Credits 4

ETEC265M: Troubleshooting Electrical & Electronic Systems

This course covers the aspects of troubleshooting electrical and electronic systems. Subject matter includes electrical and electronic system applications, step-by-step troubleshooting procedures, and reinforcement of the concepts presented. This course is not intended for State of NH electrician's apprenticeship training. However, this course may be taken as a continuing education course for renewal of State of NH licensure. This course is designed for online delivery has both a theory and lab component.

Theory Hours 3
Lab Hours 2
Credits 4
Prerequisites
ETEC110M: Electrical Fundamentals I
Prerequisites: ETEC110M or permission of ETEC Program Coordinator or Chair.

ETEC270M: Substation Automation Systems

This course will provide in-depth coverage of Substation Automation Systems (SAS) design and implementation. Subject matter will discuss automation system evolution, main functions, IEC 61850 standards impact, switchyard level, equipment and interfaces, *Bay* controllers, station level facilities and functions, system functionalities, inputs, outputs, engineering, communication, attributes, SAS component testing, acceptance, commissioning, training, planning, quality, and future technological trends. This course is not intended for State of NH electrician's apprenticeship training. This course is a theory course only. However, students will be expected to perform the Substation Co-Op hours as part of the overall program completion. Prerequisites: ETEC210M. Corequisites: None

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ETEC210M: Electrical and Electronic Motor Controls

English

ENGL095M: Integrated Reading and Writing

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 College 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. A grade of "C" or better is required to advance to ENGL110M. Prerequisite: Placement by Advisor.

Students can elect to take the English Language Learners section of ENGL095M. This section approaches reading and writing from the perspective of students whose first language is not English.

Theory Hours 4
Lab Hours 0
Credits 4

ENGL101M: College Composition

College Composition introduces students to academic writing as a process of inquiry, reflection, and communication. Through reading, discussion, and research, students explore relevant issues from multiple perspectives and develop informed, evidence-based positions. Along with the writing process, the course reinforces critical reading, critical thinking, and formal documentation as foundational to academic inquiry, with emphasis on curiosity-driven learning, information literacy, and ethical research practices.

Theory Hours 4
Lab Hours 0
Credits 4
Prerequisites
Prerequisites: Placement into or permission of department.

ENGL101XM: College Composition with Corequisite Support

College Composition introduces students to academic writing as a process of inquiry, reflection, and communication. Through reading, discussion, and research, students explore relevant issues from multiple perspectives and develop informed, evidence-based positions. Along with the writing process, the course reinforces critical reading, critical thinking, and formal documentation as foundational to academic inquiry, with emphasis on curiosity-driven learning, information literacy, and ethical research practices.

College Composition with Corequisite Support provides comprehensive, just-in-time support for students enrolled in ENGL 101, addressing both academic skill development and the executive functioning strategies needed for college success. Through integrated activities that connect directly to course content, scaffolded practice, and individualized support, students build the academic and non-cognitive competencies needed to meet course outcomes alongside their peers.

Theory Hours 4
Lab Hours 2
Credits 5
Prerequisites
Prerequisite: Placement into or permission of department

ENGL113M: Introduction to Public Speaking

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.)

Students can elect to take the English Language Learners section of ENGL1113M. This section approaches public speaking from the perspective of students whose first language is not English.

Theory Hours 3
Lab Hours 0
Credits 3

ENGL200AM: Topics in Literature: American Horror

Horror is one of America's oldest and most popular genres in literature, cinema, visual arts, and even music (think of Rob Zombie, Alice Cooper, and many others). Part of the appeal is escapism: It's safer to scare oneself over things that go bump in the night than to ponder often terrifying real-life problems. Horror also provides a lens through which to view essential life themes, such as man's role in the world, an individual's struggle to assert themselves in a hostile society, and the inner conflicts of the mind and soul. In this course, the student will address such themes through short stories by Nathaniel Hawthorne, Edgar Allan Poe, Flannery O'Connor, Shirley Jackson, Charlotte Perkins Gilman, and yes, Stephen King. Rather than horror for the sake of horror, the themes presented in the readings will provide the basis for class discussions and short, critical essays. Please note that students can take ENGL200M only ONE time for credit but may take multiple sections that have different 2-digit course numbers. (Fulfills English or Humanities requirement). Prerequisite: ENGL110M or ENGL110XM

Theory Hours 3
Lab Hours 0
Credits 3

ENGL200M: Topics in Literature

In this course, students will examine a literary theme proposed by faculty. Exploration of the texts and their contexts allow students to build a theoretical foundation for the interpretation of literature, including meaning, form, voice and tone, character, and the uses and meanings of language. Students will apply critical context(s) and practice various literary theoretical approaches to readings. Students will also evaluate texts through modern lenses and recent scholarship. Students are encouraged to bring their own learned experience to literary analysis and develop critical thinking through discussion and written articulation of ideas.

Prerequisite: ENGL 110M or ENGL 110X. (Fulfills English or Humanities requirement.)

(Please note that students can take ENGL200M only ***ONE*** time for credit but may take multiple sections that have different 2-digit course numbers.)

Theory Hours 3
Lab Hours 0
Credits 3

ENGL200M: Topics in Literature: Encountering the Unknowable: Cosmic Horror

Explore humanity's insignificance in an indifferent, often incomprehensible universe—where knowledge itself can be dangerous, and reality is far stranger than we can grasp. Will you keep a firm grip on your sanity?

This course examines the tradition of cosmic horror from its origins to contemporary works, focusing on themes of existential dread, forbidden knowledge, and the limits of human perception. While acknowledging progenitor H. P. Lovecraft, students will explore more modern takes on the genre, tracing how cosmic horror has evolved across cultures and through time from the early 1900s to the present day.

Please note that students can take ENGL200M only ONE time for credit but may take multiple sections that have different 2-digit course numbers. (Fulfills English or Humanities requirement).

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ENGL101M: College Composition
ENGL101XM: College Composition with Corequisite Support
Prerequisite: ENGL101M or ENGL101XM

ENGL203M: Introduction to Journalism

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.

(Fulfills English elective requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101M or ENGL101XM.

ENGL204M: Children's Literature

In this course, students will read, discuss, and evaluate an array of classic and contemporary children's literature. In addition to identifying works by genre, students will consider these works as literature and focus on their role in both shaping and reflecting changing concepts of children and childhood.

(Fulfills English or Humanities requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101XM or ENGL101M.

ENGL205M: The Novel

In this course students study the novel, one of the major forms creative writing can take. This is not a survey course attempting to exhaust the topic. Rather, students read, interpret, and analyze a variety of novels (selected by the instructor and approved by the department), applying critical contexts and practicing various theoretical approaches to the readings. Students will organize their assessments of aspects such as (but not limited to) genre, voice, style, plot, and theme into critical essay(s). These essays will demonstrate understanding of the readings and communication of ideas.

(Fulfills English or Humanities requirement.)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Grade of C or better in ENGL101M or ENGL110XM, or permission of the instructor.

ENGL207M: Introduction to Literary Analysis

In this course students learn to do close, detailed readings of literary texts and respond critically, applying modern lenses and recent scholarship. Students will develop a critical vocabulary to describe the formal elements of a text and learn how to build a text-based argument advancing an interpretive point of view. Students will also learn how formal and stylistic elements as well as historical context shape the meaning and significance of literature. Students are encouraged to bring their own learned experience to literary analysis and develop critical thinking through discussion and written articulation of ideas.

(Fulfills English or Humanities requirement.)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: ENGL101M or ENGL101XM.

ENGL208M: Modern World Poetry: A Conversation Across Cultures

This course encourages students to explore poetic voice and vision and to "break bread" with the world, to paraphrase W.H. Auden, by reading and discussing poems of various cultures and languages (translated into English). Students will read, analyze, and form perspectives on a selection of poems from Latin America, Asia, Africa, Central and Eastern Europe, and other regions. The final project in the course focuses on research, analysis, and presentation of poets from a culture of the student's choice.

(Fulfills English or Humanities requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101XM or ENGL101M

ENGL209M: Heroes and Villains of the Middle Ages

This course designed to explore the ideas of heroes and villains by reading a variety of literary and historical texts. What makes for a hero in the Middle Ages? A villain? How are they presented, celebrated, and punished in medieval texts? What themes and characteristics are still present in today's society (e.g., ideas of chivalry and religious faith) and which ones are peculiar to the Middle Ages? Through a discussion of medieval texts, we get to explore our shared values and identify significant differences, and this course will offer some historical background for later developments in literary tastes and trends.

(Fulfills English or Humanities requirement and a pre-1800 literature course for English majors)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Grade of "C" or better in ENGL101XM or ENGL101M or permission from the English Department Chair.

ENGL210M: Science Fiction: Evolution, Ethics, and Technology

For centuries Science Fiction has addressed the big questions of human existence: Who are we? What does it mean to be human? What is the definition of life? Where do we as a species go from here? At its best Science Fiction is the "literature of ideas" and explores the changes that face us, the consequences of these changes, and possible solutions. In this course students will examine literature that contends with the definition of humanness, contemporary ethical issues, and the relationship between technology and humanity. Course readings will help students explore key questions about the human condition that become increasingly relevant as science and technology evolve in our fast-changing world.

(Fulfills English or Humanities requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101XM or ENGL101M.

ENGL211M: Introduction to Technical Writing

This course introduces students to the basic principles and procedures of technical writing in what is popularly known as the "information" or "communications age." It teaches students to focus on the audience's need for useful information and not the writer's own need for creative self-expression. Students will learn to create useful workplace communications (including instructions, proposals, reports, online documents, microblog posts, wikis, and product/service information) for both print and web-based mediums. While the focus is on writing, the development of critical thinking skills is heavily emphasized and forms an important component of the course. Using an audience-centered approach, students will learn the difference between readers and users, and how that affects the technical writer's approach to researching and presenting information.

(Fulfills English or Humanities requirement.)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101XM or ENGL101M.

ENGL213M: Creative Writing

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.

Theory Hours 3
Lab Hours 0
Credits 3

ENGL214M: Creative Nonfiction

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.

(Fulfills English or Humanities requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101XM or ENGL101M.

ENGL218M: Short Story

In this course, students study the short story as a major form of creative writing. Exploration of the texts and their contexts allow students to build a theoretical foundation for the interpretation of literature, including meaning, form, voice and tone, character, and the uses and meanings of language. Students will apply critical context(s) and practice various literary theoretical approaches to readings. Students will also evaluate texts through modern lenses and recent scholarship. Students are encouraged to bring their own learned experience to literary analysis and develop critical thinking through discussion and written articulation of ideas.

(Fulfills English or Humanities requirement.)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: ENGL101M or ENGL110XM.

ENGL220M: Advanced Composition: Medium, Message, and Mode

From ads to memes to media, persuasion is everywhere, and learning to recognize and evaluate it is an essential skill for the 21st century. College Composition II builds on the foundation of research, writing, and rhetoric established in College Composition I, but goes deeper into the study of rhetoric – the use of speech, writing, and visual images to persuade, motivate, and inform a target audience. Topics of study include the rhetorical situation, classical and modern persuasive appeals, and the ethics of argumentation. We'll look at how rhetoric shapes our daily lives, and how we can use it to navigate power and produce social change. We'll consider the impact of medium on messaging, and how to select and organize information effectively for various modes of expression. In addition to skill-building assignments, students will create three substantial persuasive projects using written, spoken, and visual rhetoric.

(*Fulfills English or Humanities requirement*)

Theory Hours 4
Lab Hours 0
Credits 4
Prerequisites
ENGL101M: College Composition
ENGL101XM: College Composition with Corequisite Support
Prerequisites: ENGL 101M/101XM with a grade of C or better.

ENGL227M: Survey of African American Literature

This course will examine the written and oral works produced by African-Americans over their 400-year history and place these works in historical context. Students will read a wide selection of non-fiction and fiction including, but not limited to, slave narratives, poetry, plays, short stories, novel excerpts, and speeches. Students will apply critical thinking skills to the readings supported, when possible, by audio and video presentations. This course contains a strong historical perspective and students will be encouraged to discuss how this literature reflects on the past while relating to current racial issues. Course themes will include identity, authenticity, double-consciousness, passing, and protest.

(Fulfills English or Humanities requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: ENGL101XM or ENGL101M.

ENGL228M: Satirical Literature

For millennia, satire has used wit and wordcraft to speak truth to power. From Aristophanes to South Park, satire exposes the follies, vices, and abuses of social institutions like government, education, and religion. This course traces satire's path from ancient times through the end of the 18th century, noting that across centuries, continents, and cultures, satire's role has remained constant. These texts speak truth to power by making corrupt individuals and institutions appear absurd. We'll see how satire has caused citizens to wake up and pay attention to what's going on right in front of them and take action to correct injustice. Although our readings will all date prior to 1800, we will put these texts alongside examples of current satire to demonstrate the point that there is truly "nothing new under the sun."

(Fulfills English or Humanities requirement and pre-1800 requirement for English majors).

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ENGL101M: College Composition
ENGL101XM: College Composition with Corequisite Support
Prerequisite: ENGL101XM or ENGL101M.

ENGL229M: Mythology as Literature

In this course students will examine how mythology influences a wide range of contemporary literature and art such as the modern novel, film, poetry, and song. Students will read, analyze, and research classical myths, poetry that reflects these classical myths, and modern novels that use mythology to examine everyday humanity. The course will also explore the creation of modern mythology in its most recent incarnation through the comic book hero.

(Fulfills English or Humanities requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101XM or ENGL101M.

ENGL248M: British Literature, Middle Ages to 1800

British Literature, Middle Ages to 1800 surveys the major works of British literature from its Anglo-Saxon origins to 1800, including poetry, fiction, essays, and drama. By reading closely and analyzing critically, students explore these texts in relation to their cultural, social, historical, political, and literary contexts.

(Fulfills English or Humanities requirement).

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ENGL101M: College Composition
ENGL101XM: College Composition with Corequisite Support
Prerequisites: Successful completion of ENGL101M or permission of the instructor.

ENGL249M: British Literature: 1800 to the Present

British Literature: 1800 to the 21st Century surveys the major works of British literature from 1800 to the 21st Century, including poetry, fiction, essays, and drama. By reading closely and analyzing critically, students explore these texts in relation to their cultural, social, historical, political, and literary contexts. (Fulfills English or Humanities requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ENGL101M: College Composition
ENGL101XM: College Composition with Corequisite Support
Prerequisite: ENGL 101/101X or permission of the department.

ENGL258M: American Literature, Origins through Civil War

American Literature, Origins to Civil War surveys the works of American literature from its Pre-Colonial influences through the Civil War, emphasizing themes that have contributed to the development of an American consciousness. By reading closely and analyzing critically, students explore these works from various literary periods and movements in relation to their cultural, social, historical, political, and aesthetic contexts.

(Fulfills English or Humanities requirement).

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: Successful completion of ENGL101M or ENGL101XM or permission of the instructor.

ENGL259M: American Literature: Civil War to the Present

American Literature: Civil War to the Present surveys the works of American literature from the Civil War period up to the 21st century, emphasizing themes that have contributed to the development of an American consciousness. Pre-Civil War text may be considered for context. Reading these works closely and analyzing them critically, students gain exposure to various literary periods and movements, seeing them through the lens of their cultural, social, historical, political, and aesthetic contexts. (Fulfills English or Humanities requirement.)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ENGL101M: College Composition
ENGL101XM: College Composition with Corequisite Support
Prerequisite: ENGL101M or 101XM.

ENGL288M: Shakespeare

Shakespeare exposes students to the works of the playwright, with emphasis on his plays. Students study the major genres (tragedy, comedy, history, and romance), which give them ways to analyze and interpret drama and its elements. The course introduces students to the social and cultural characteristics of the Early Modern Period and to the biography of the author. No previous knowledge of Shakespeare is assumed.

(Fulfills English or Humanities requirement).

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: Successful completion of ENGL101M or ENGL101XM or permission of the instructor.

HUMA207M: The Female Body

The Female Body dives into US American representations of women's bodies through two lenses: The perspective of entities who seek to control perceptions of and potentially oppress women, and the perspective of those women who protest, push-back, and shatter those oppressive expectations. We will explore topics such as bodily autonomy, oppression, rebellion, rhetoric, history, and art. As a Humanities course, we will investigate contextualizing history through readings, art in various mediums, and historical analysis. We will dive into women and medicine, women in the workforce, the Equal Rights Movement, and women's bodies in the Classics through various historical context lenses.

Prerequisites
ENGL101M: College Composition
ENGL101XM: College Composition with Corequisite Support
Pre-requisites: Completion of ENGL101M/ ENGL101XM

Facilities Management

FMGT250M: Project Management

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.

Theory Hours 3
Lab Hours 0
Credits 3

FMGT260M: Facilities Management

Core facilities management skills and competencies include planning, sustainability, budgeting, design build cycle, basic blueprint reading, problem-solving, communication, maintenance, project management, vendor relations, staffing and emergency preparedness are covered. This course should be taken in the student's last semester.

Theory Hours 4
Lab Hours 0
Credits 4

FMGT299M: Facilities Management Capstone Seminar

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.

Theory Hours 3
Lab Hours 2
Credits 4

Finance

FIN120M: Personal Financial Management

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.

Theory Hours 3
Lab Hours 0
Credits 3

FIN130M: Money and Banking

This course introduces students to the fundamental role of money, financial institutions, and the banking system within the U.S. and global economy. Students will explore how money is created, how interest rates are determined, and how financial markets operate. Emphasis is placed on the structure and function of the Federal Reserve System, monetary policy tools, and the impact of banking regulations on economic stability. By the end of the course, students will understand how financial institutions support economic growth, manage risk, and influence everyday financial decisions.

Theory Hours 3
Lab Hours 0
Credits 3

FIN210M: Principles of Investments

This course provides an introduction to investment concepts, financial market operations, and portfolio-building strategies. Students will learn the fundamentals of stocks, bonds, mutual funds, ETFs, and alternative investments, as well as risk–return trade-offs and diversification principles. Using real or simulated financial data, students will complete a semester-long Investment Portfolio Project, in which they design, manage, and evaluate a diversified investment portfolio.

Theory Hours 3
Lab Hours 0
Credits 3

Fine Arts

ARTS100M: Introduction to Illustration

This course will introduce and develop the method, process, and applied techniques utilized in creating visual narratives. Whether it's comic art, concept art, or storyboarding, this course places heavy emphasis on interpreting written concepts, ideation, composition planning, and crafting a finished product. Students will explore a variety of traditional mediums while creating assignment based narrative imagery within structured deadlines. Prerequisite: ARTS123M. (Fulfills Fine Arts requirement)

Theory Hours 2
Lab Hours 3
Credits 3

ARTS105M: Introduction to Creative Practice

A creative practice can be described as all of the intense research, efforts and initiatives creative people engage with to create works of art that elicit a response from the viewer. Whether it's exhibiting paintings in a gallery, or creating illustrations for a client, this course teaches students how to foster the rigorous engagement necessary to position oneself within the creative economy. Students will be taught how artists function within a studio through engaging with the fundamental tenets of creative practice - problem setting, tangential research, play, articulation, exhibition and conversation. Corequisite: ARTS123M. (Fulfills Fine Arts requirement)

Theory Hours 2
Lab Hours 3
Credits 3

ARTS107M: Digital Tools for the Artist

An introduction to digital skill development within the creative process. Emphasis is placed on the application of digital skills in relation to the hands-on nature of studio art practices necessary for fine artists and illustrators. Topics may include: preparing images for a digital portfolio, building a promotional artist's website, creating storyboards for an illustrated book, and creating digital art based on traditional hand rendering/building techniques. Drawing and creating by hand are also key aspects of the course. (Fulfills Fine Arts Requirements)

Theory Hours 2
Lab Hours 3
Credits 3

ARTS108M: Visual Language

This course introduces the fundamental elements of art and principles of organization in visual art through a survey of concepts, techniques, and material practices. Emphasis is placed on critical thinking and creative problem solving through investigations of compositional arrangement, visual perception, studio practice, and the intersections of form and concept in two-dimensional space.

Theory Hours 2
Lab Hours 3
Credits 3

ARTS110M: Welding for the Artist

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)

Theory Hours 1
Lab Hours 4
Credits 3

ARTS117M: Art History I

This course surveys the history of art and design in Western and non-Western traditions from the prehistoric to the dawn of Modernism. Each module is oriented around a core question that enables the class to make connections across the timeline of art history. This course emphasizes 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 a Social Science or Fine Arts requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101XM or ENGL101M.

ARTS120M: Digital Photography

This course provides an introduction to the principles and application of pixel-based photography and **students are required to provide their own DSLR camera or equivalent**. Utilizing digital equipment, industry standard editing applications that correspond with traditional darkroom techniques and rules of composition, students will produce creative images based on modern and traditional photographic genres. A brief history of photography will be introduced with emphasis in critique and contemporary issues. Students will utilize today's industry standard applications as the primary image-editing tool. The lab component includes both editing and off-campus/individual photography assignment completion. (Fulfills Fine Arts requirement).

Theory Hours 2
Lab Hours 3
Credits 3

ARTS123M: Drawing I

Explores various drawing media and techniques. Assignments are designed to build drawing observation skills necessary for visual communications. (Fulfills Fine Arts requirement)

Theory Hours 2
Lab Hours 3
Credits 3

ARTS125M: Watercolors I

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)

Theory Hours 2
Lab Hours 3
Credits 3

ARTS205M: Digital Illustration

This course concentrates on merging traditional drawing and art-making techniques with Photoshop. The instructor will mentor students through the use of utilizing this industry-standard, digital program as a tool for enhancing the concept design, research, and ideation processes of the illustrator. Students will gain an understanding of how to use many of Photoshop's assets as drawing and painting tools. Prerequisites: ARTS100M and ARTS105M (Fulfills Fine Arts requirement)

Theory Hours 2
Lab Hours 3
Credits 3

ARTS207M: Professional Practice for Fine Arts & Illustration

In this class, fine art and illustration students will focus on acquiring the essential skills they will need to be successful creative professionals. They will practice communication skills, and learn to budget their time to accomplish their goals and thrive. Basic accounting skills including taxes, cash flow statements, as well as other personal finance topics will be explored. They will learn about self-promotion, social media marketing, and various essential legal criteria such as contracts will be discussed. Market research will be explored and students will work to define their real world career goals beyond their education. Prerequisite: ARTS105M.

Theory Hours 3
Lab Hours 0
Credits 3

ARTS208M: Comics and Graphic Novels

Students of this course will study theories behind comic illustration by reading excerpts from some of the best examples of graphic literature today. Topics studied include visual metaphor, story arcs, plot development, character design, panel structure, word placement, storyboarding, word versus image, and page design. These elements will serve students as they develop their own story, design characters and settings, and create thumbnails for finished pages of a minicomic, web comic, or first chapter of a longer work.

(Fulfills Fine Arts requirement)

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
Prerequisites: ARTS100M and placement into ENGL101XM or ENGL101M.

ARTS210M: Painting I

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)

Theory Hours 2
Lab Hours 3
Credits 3

ARTS212M: Painting II

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)

Theory Hours 2
Lab Hours 3
Credits 3

ARTS216M: Illustration Avenues

This capstone course focuses on five distinct areas of the illustration marketplace: Editorial, Institutional, Advertising, Concept/Character Design, and Book Illustration. The course is designed to give students real world experiences creating artwork for prospective clientele. Guest speakers offer different views, and share their experience of the art direction, freelance experience, and the overall illustration profession.Prerequisite: ARTS100M and ARTS205M. Corequisite: ARTS207M

Theory Hours 2
Lab Hours 3
Credits 3

ARTS217M: Art History II

This course focuses on American and European art produced since 1945, although art from other cultures will also be considered. Students will critically examine works of art and their cultural circumstances, with the goal of recognizing, understanding, and discussing various art forms in their broader contexts. The course centers on themes that run through contemporary art, including issues of identity, the art object, and the avant-garde. Prerequisite: ARTS117M (Fulfills a Social Science or Fine Arts requirement)

Theory Hours 3
Lab Hours 0
Credits 3

ARTS220M: Watercolors II

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)

Theory Hours 2
Lab Hours 3
Credits 3

ARTS223M: Drawing II

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)

Theory Hours 2
Lab Hours 3
Credits 3

ARTS226M: Portfolio Prep for Fine Arts

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.

Theory Hours 2
Lab Hours 3
Credits 3

First Year Essentials

FYE100AM: MCC Essentials – Business Studies

Whether you are a recent or not-so-recent high school graduate, MCC Essentials will introduce you to the people, resources, and services that will help you reach your goal of career or transfer. The class covers academic and career planning; options for financing college and their impact on your short and long-term financial well-being; the supports and resources available to help you become a proactive learner with strong self-advocacy skills. Strategies to help you make the most of your time and tuition dollars are introduced. Most importantly, the course is about helping you create a strong campus community and a healthy support system by connecting you to your faculty, your advisors, and your peers. This course is required in the first semester for new students. Students transferring in 15+ college credits with a CGPA of 3.0 or better may elect to waive the course. Prerequisites: None

Theory Hours 1
Lab Hours 0
Credits 1

FYE100LM: MCC Essentials - Liberal Arts

A Liberal Arts education is about more than acquiring skills to do a job. It is about developing as a human being and engaging with humanity in the context of community, scholarship, and profession. This course will invite students to embark on a journey of reflection and exploration, laying the foundation for their Liberal Arts education. We will explore the difference between work and vocation, asking ourselves: who am I, and where do I fit into my community and my world? We will examine values around finances and work-life balance. We will explore the concept of being part of a learning community, asking what do I need, and what do I have to offer to others? In addition to providing a philosophical framework for the degree, this course will build practical skills, including academic and career planning, financial literacy, and accessing campus resources.

This course is required in the first semester for new students. Students transferring in 15+ college credits with a CGPA of 3.0 or better may elect to waive the course. Prerequisites: None

Theory Hours 1
Lab Hours 0
Credits 1

FYE100M: MCC Essentials

Whether you are a recent or not-so-recent high school graduate, MCC Essentials will introduce you to the people, resources, and services that will help you reach your goal of career or transfer. The class covers academic and career planning; options for financing college and their impact on your short and long-term financial well-being; the supports and resources available to help you become a proactive learner with strong self-advocacy skills. Strategies to help you make the most of your time and tuition dollars are introduced. Most importantly, the course is about helping you create a strong campus community and a healthy support system by connecting you to your faculty, your advisors, and your peers. This course is required in the first semester for new students. Students transferring in 15+ college credits with a CGPA of 3.0 or better may elect to waive the course. Prerequisites: None

Theory Hours 1
Lab Hours 0
Credits 1

FYE100PM: MCC Essentials - PreNursing

Whether you are a recent or not-so-recent high school graduate, MCC Essentials will introduce you to the people, resources, and services that will help you reach your goal of career or transfer. The class covers academic and career planning; options for financing college and their impact on your short and long-term financial well-being; the supports and resources available to help you become a proactive learner with strong self-advocacy skills. Strategies to help you make the most of your time and tuition dollars are introduced. Most importantly, the course is about helping you create a strong campus community and a healthy support system by connecting you to your faculty, your advisors, and your peers. This course is required in the first semester for new students. Students transferring in 15+ college credits with a CGPA of 3.0 or better may elect to waive the course. Prerequisites: None

Theory Hours 1
Lab Hours 0
Credits 1

French

FREN110M: French I

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)

Theory Hours 3
Lab Hours 2
Credits 4

General Studies

GA101M: Assessment of Prior Learning

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.

Theory Hours 1
Lab Hours 0
Credits 1

Geography

GEOG110M: World Geography

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)

Theory Hours 3
Lab Hours 0
Credits 3

Geology

GEOL110M: General Geology

This course provides an introduction to physical geology that deals with minerals, rocks, internal structures and the surface processes that make the Earth a very dynamic and active planet. The focus of this course is on discovering why processes such as volcanoes, plate tectonics and earthquakes occur and how these processes shape the Earth's surface on a daily basis. Major themes examined include understanding the Earth's age, the rock cycle, identification of rock types and geologic features, and the interactions of atmosphere and ocean with the geological environment. Coursework will include lecture, homework, oral presentations, laboratory exercises, a field trip and in-class discussions.

Theory Hours 3
Lab Hours 2
Credits 4
Prerequisites
Prerequisite: MATH090M. Corequisite: ENGL101M or ENGL101XM

Graphic Design

GDES105M: History of Graphic Design

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.

Theory Hours 3
Lab Hours 0
Credits 3

GDES110M: Page Layout and Design

Introduces the principles, skills and equipment used in the electronic publishing process. Students will produce pre-designed and original publications using Adobe InDesign®.

Theory Hours 2
Lab Hours 3
Credits 3

GDES114M: Graphic Design I

Provides an in-depth study of design creation relevant to the discipline of graphic design. Students will develop and expand their vocabularies in visual communication while exploring design principles and elements for solving communication problems. Assignments and discussions include creative problem solving, working to specifications, investigating alternative solutions, and the presentation of their own design pieces. Can be used as either an ARTS elective or Graphic Design course.

Theory Hours 2
Lab Hours 3
Credits 3

GDES115M: Digital Imaging

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. Can be used as either an ARTS elective or Graphic Design course.

Theory Hours 2
Lab Hours 3
Credits 3

GDES122M: Color Theory for Graphic Design

Provides an in-depth study of the color theory as it relates to graphic design, with an emphasis on the psychological and compositional effects of color, color interactions, and color schemes. Assigned projects will explore how color can be used as an effective tool for strengthening visual communication in graphic design.

Theory Hours 2
Lab Hours 3
Credits 3

GDES124M: Typography

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.

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
GDES110M: Page Layout and Design
Pre-requisite: GDES110M

GDES155M: Computer Illustration

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. Can be used as either an ARTS elective or Graphic Design course.

Theory Hours 2
Lab Hours 3
Credits 3

GDES204M: Digital Publishing Methods

This course introduces students to printing terminology, methods, and theories, with an emphasis on multiple-page layouts and impositions. Key topics include prepress practices, file preparation, and workflow methods as they relate to professional print production.

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
GDES110M: Page Layout and Design
GDES115M: Digital Imaging
GDES124M: Typography
GDES155M: Computer Illustration
Prerequisites: GDES110M, GDES115M, GDES124M, and GDES155M

GDES205M: Visual Design

Through this course, students will have the opportunity to choose from a variety of design projects with the goals to educate, inform, persuade, and entertain the audience through visual communication design. Types of projects will include educational posters, infographics, avatar design, and children's book illustrations. Student will also have the opportunity to propose their own visual communication project. Prerequisites: ARTS123M, GDES110M, GDES114M, GDES115M, GDES122M, GDES124M, GDES150M, GDES155M.

Theory Hours 2
Lab Hours 3
Credits 3

GDES213M: Graphic Design II

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.

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
GDES204M: Digital Publishing Methods
Prerequisite: GDES204

GDES225M: Graphic Design III

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.

Theory Hours 2
Lab Hours 3
Credits 3

GDES228M: Graphic Design Experiential Learning

This course will provide opportunities for students to work with clients on actual graphic design projects, in a professional environment, through experiential activities and/or internships with professional organizations and businesses. The experiences are paired with in-class learning activities. The final grade for the course will take into account participation, evidence of learning, thoroughness and quality of assignments, and supervisory feedback.

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
GDES204M: Digital Publishing Methods
Prerequisites: GDES204

GDES229M: Professional Practice for Graphic Design

This course is a practical study of professional practices for graphic designers. Emphasis is placed on preparation for internship and employment opportunities in the graphic design field. Students work on real-world projects to assess their strengths and weaknesses, create a personal brand, and interact with various working professionals. Topics also include self-promotion, contracts, and professional networking.

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
GDES204M: Digital Publishing Methods
Prerequisites: GDES204M

Health and Exercise Science

HFIT100M: ACE Personal Trainer Exam Review

Designed to help prepare students to take and successfully pass the ACE Personal Trainer Certification Exam.

Theory Hours 1
Lab Hours 0
Credits 1

HFIT102M: Occupational Health, Safety, and Wellness

This course examines health, safety, and wellness for the occupational athlete, emphasizing injury prevention, performance optimization, and long-term well-being. Students will explore nutrition's role in chronic disease prevention, energy management, and hydration, while evaluating the impact of supplements and dietary choices. The course covers functional movement, ergonomic techniques, and workplace injury prevention, along with strategies for sleep, recovery, and professional longevity. Additionally, students will develop career readiness skills through practical applications, they will gain the knowledge to maintain health, enhance performance, and sustain a successful career.

Theory Hours 3
Lab Hours 0
Credits 3

HFIT105M: Essentials of Exercise Science

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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101M or ENGL101XM

HFIT109M: Nutrition for Health Fitness Professionals

This course will provide the Health Fitness Professional with a background in general and exercise nutrition, energy balance and weight management concepts while emphasizing the use of practical information to help guide clients towards healthier lifestyle choices. Through examining the role nutrition plays in health, fitness and exercise performance and investigation of current nutrition trends and research, the Health Fitness Professional will be able to sort through nutritional misinformation so that they may provide clients with sound nutritional coaching within their scope of practice.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: Placement into ENGL101M or ENGL101XM and placement into MATH145M.

HFIT111M: Introduction to Health Fitness Professions

As an introduction to various organizations and careers within the Health Fitness Profession, during off-campus site visits students will have the opportunity to observe and question professionals employed in various Health Fitness 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 will focus on professional responsibilities including scope of practice, communication, leadership, behavior change, legal issues and business fundamentals.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101M or ENGL101XM.

HFIT112M: Effective Consultation Skills

This course will introduce 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 how to administer health assessments such as BMI, resting heart rate, blood pressure and body composition. Prerequisite: Placement into MATH145M Corequisite: HFIT111M or permission of the instructor.

Theory Hours 2
Lab Hours 1
Credits 2

HFIT113M: Applied Exercise Physiology

This course focuses on the interrelationship of the respiratory, cardiovascular and metabolic systems at rest and during physical activity related to health, fitness and performance. Theory knowledge will be applied in hands on lab work including, maximal and submaximal assessment of the pulmonary, cardiovascular and metabolic systems and the development of individualized cardiorespiratory programs designed to facilitate specific physiological adaptation. Assessments and programming tools will be utilized in the different cardiorespiratory training phases to progress clients from sedentary to performance level. Prerequisites: HFIT105M with a grade of "C" or better; HFIT109M.

Theory Hours 3
Lab Hours 2
Credits 4

HFIT114M: Nutrition for Health Fitness Professionals Lab

This course will focus on the nutritional coaching process and the role and scope of practice of the Health Fitness Professional in guiding clients to reach their health fitness goals. The course concentrates on hands-on learning in which students will experience leading clients through the nutritional coaching process, from gathering information and conducting assessments to helping client's implement and achieve S.M.A.R.T goals through the use of behavior change and nutritional strategies. Whether it is guiding clients in making healthier food choices or incorporating physical activity into their day, students will learn how to help client's turn small changes into long term habits. Prerequisites: HFIT109M, HFIT112M.

Lab Hours 2
Credits 1

HFIT135M: Functional Assessment and Restorative Exercise

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: HFIT105M with a grade of"C"or better; HFIT112M.

Theory Hours 2
Lab Hours 3
Credits 3

HFIT213M: Resistance Training

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: HFIT105M, HFIT135M.

Theory Hours 2
Lab Hours 3
Credits 3

HFIT218M: Group Exercise Leadership for Special Populations

This course is designed to prepare students to understand how group exercise, small group training and effective leadership techniques can address the physical and psychosocial needs that various populations face throughout the lifespan. Through discussion, observation, teaching lab and a service-learning experience, students will put theory into practice and develop confidence in the ability to design and modify group exercise programs and communicate effectively to motivate participants. Prerequisites: HFIT105M, HFIT112M, HFIT113M, HFIT135M, HFIT213M, HFIT220M.

Theory Hours 2
Lab Hours 4
Credits 3

HFIT220M: Performance Training

This 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: HFIT105M, HFIT113M, HFIT135M, HFIT213M.

Theory Hours 2
Lab Hours 2
Credits 3

HFIT221M: Professional Experience

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. Prerequisites: HFIT100M, HFIT105M, HFIT111M, HFIT112M, HFIT113M, HFIT135M, HFIT213M, HFIT220M, HFIT225M, HFIT230M. Corequisites: HFIT218M, HFIT240M or permission of instructor.

Theory Hours 2
Lab Hours 4
Credits 3

HFIT225M: Mastering Communication Skills for Health Fitness Professionals

This course will provide the students with the opportunity to practice and refine effective verbal and non-verbal communication and rapport building skills with a diverse population in a work-related setting through volunteer hours at a community wellness facility. Students will learn and create ways at which they can be effective at enhancing a positive client experience aiding in adherence and retention. Students are required to complete volunteer paperwork which includes background check prior to registering. Students will be required to have up to date CPR/AED certification and provide transportation to/from the facility. Prerequisites: HFIT112M, HFIT113M, HFIT135M, HFIT213M.

Theory Hours 0
Lab Hours 2
Credits 1

HFIT226M: Psychology of Sport and Exercise

This course covers applied and theoretical issues related to the psychology of physical activity and exercise. Theories of exercise behavior and motivation are examined in relation to the increasing problems of exercise adherence and physical inactivity. Other topics discussed include psychological and psychobiological responses to exercise, exercise patterns in different populations, the relationship between exercise and mental health, strategic interventions that promote physical activity, and problems associated with excessive exercise.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
HFIT100M: ACE Personal Trainer Exam Review
Prerequisites: Completion of 100-level HFIT coursework or permission of the instructor.

HFIT230M: Kinesiology

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: BIOL106M and BIOL107M or BIOL110M, HFIT105M, HFIT135M, HFIT213M.

Theory Hours 3
Lab Hours 2
Credits 4

HFIT240M: Management Strategies for the Injured Client

The course will focus on the Health Fitness Professional's role in working with clients who have experienced and/or suffer from common musculoskeletal injuries. Primary emphasis will be placed on how to recognize, address and implement pre and post-rehabilitative strategies to help limit exposure to further injury allowing clients to maintain physical activity. Prerequisites: HFIT105M, HFIT112M, HFIT135M, HFIT213M, HFIT230M.

Theory Hours 3
Lab Hours 0
Credits 3

Heating, Ventilation & Air Conditioning

HVAC101M: Introduction to HVAC Systems

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. (Fulfills Open Elective requirement).

Theory Hours 3
Lab Hours 0
Credits 3

HVAC102M: Refrigeration and Air Conditioning Systems for Non-HVAC Majors

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.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC103M: Heating Systems for Non-HVAC Majors

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.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC109M: Related Electricity I Theory

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. Students must be simultaneously enrolled in HVAC110M. It is recommended that students have successfully completed or are simultaneously enrolled in HVAC101M.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC110M: Related Electricity I Lab

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. Students must be simultaneously enrolled in HVAC109M. It is recommended that students have successfully completed or are simultaneously enrolled in HVAC101M.

Theory Hours 0
Lab Hours 3
Credits 1

HVAC111M: Fundamentals of Refrigeration I Theory

This course provides an introduction to the principles of heat and its transfer, with emphasis on the refrigeration compression cycle and its major components. Students must be simultaneously enrolled in HVAC112M. Students must have successfully completed or be simultaneously enrolled in HVAC109M and HVAC110M. It is recommended that students have successfully completed or are simultaneously enrolled in HVAC101M.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC112M: Fundamentals of Refrigeration I Lab

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. Students must be simultaneously enrolled in HVAC111M. Students must have successfully completed or be simultaneously enrolled in HVAC109M and HVAC110M. It is recommended that students have successfully completed or are simultaneously enrolled in HVAC101M.

Lab Hours 3
Credits 1

HVAC114M: Fundamentals of Heating I Theory

A through 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. Students must be simultaneously enrolled in HVAC115M. It is recommended that students have successfully completed or are simultaneously enrolled in HVAC101M, HVAC109M and HVAC110M.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC115M: Fundamentals of Heating I Lab

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. Students must be simultaneously enrolled in HVAC114M. It is recommended that students have successfully completed or are simultaneously enrolled in HVAC101M, HVAC109M and HVAC110M.

Theory Hours 0
Lab Hours 3
Credits 1

HVAC119M: Related Electricity II Theory

An in-depth study of operation, installation and troubleshooting of specific controls used in heating and cooling systems. To better understand how these controls affect system operation. Basic mechanical functions of these systems will be covered. A review of electrical motors will be conducted to ensure students are well prepared for future HVAC classes. Students must be simultaneously enrolled in HVAC120M.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
HVAC109M: Related Electricity I Theory
HVAC110M: Related Electricity I Lab
Prerequisites: HVAC109M and HVAC110M.

HVAC120M: Related Electricity II Lab

A lab based continuation of HVAC110M covering electrical circuit controls commonly found in air conditioning and heating systems. Students must be simultaneously enrolled in HVAC119M.
Prerequisites: HVAC109M and HVAC110M.

Theory Hours 0
Lab Hours 3
Credits 1

HVAC121M: Fundamentals of Refrigeration II Theory

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. Students must be simultaneously enrolled in HVAC122M. Prerequisite: HVAC111M, HVAC112M.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC122M: Fundamentals of Refrigeration II Lab

A continuation of Fundamentals of Refrigeration I. This course covers: electrical meter testing of controls; motors and circuits; reading wiring diagrams; troubleshooting and repair various system problems. Students must be simultaneously enrolled in HVAC121M. Prerequisites: HVAC111M, HVAC112M.

Lab Hours 3
Credits 1

HVAC134M: Fundamentals of Gas Heating and Piping Installation Theory

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 installations 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. Students must be simultaneously enrolled in HVAC135M. It is recommended that students have successfully completed or are simultaneously enrolled in HVAC101M, HVAC109M and HVAC110M.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC135M: Fundamentals of Gas Heating and Piping Installation Lab

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. Students must be simultaneously enrolled in HVAC134M. It is recommended that students have successfully completed or are simultaneously enrolled in HVAC101M, HVAC109M and HVAC110M.

Lab Hours 3
Credits 1

HVAC211M: Commercial Refrigeration Theory

This course covers: system design and layout, selection of proper components, pipe sizing and layout, wiring, controls and troubleshooting. Students must be simultaneously enrolled in HVAC212M. Prerequisite: HVAC119M, HVAC120M, HVAC121M, HVAC122M.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC212M: Commercial Refrigeration Lab

This lab covers installation of complete refrigeration systems found in small stores, restaurants and supermarkets. Students will develop a stock list of required electrical and mechanical components, calculate pipe and component sizes, and learn charging procedures. Students must be simultaneously enrolled in HVAC211M. Prerequisite: HVAC119M, HVAC120M, HVAC121M, HVAC122M.

Lab Hours 6
Credits 2

HVAC213M: Hydronic Systems Theory

Topics include; forced hot water system components, piping layout, selection of system components, and problem solving, which involves troubleshooting and replacement. Various methods of heating domestic hot water are also studied. Students must be simultaneously enrolled in HVAC214M. Prerequisite: HVAC114M, HVAC115M, HVAC119M, HVAC120M, HVAC134M, HVAC135M.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC214M: Hydronic Systems Lab

This lab is an in-depth study of residential forced hot water 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. Students must be simultaneously enrolled in HVAC213M. Prerequisite: HVAC114M, HVAC115M, HVAC119M, HVAC120M, HVAC134M, HVAC135M.

Theory Hours 0
Lab Hours 6
Credits 2

HVAC221M: Residential and Commercial Air Conditioning and Heat Pumps Theory

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. Special requirements and components of heat pumps. Students must be simultaneously enrolled in HVAC222M. Prerequisite: HVAC119M, HVAC120M, HVAC121M, HVAC122M.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC222M: Residential and Commercial Air Conditioning and Heat Pumps Lab

This lab covers: installation and start-up of central air conditioning systems and heat pumps; troubleshooting and mechanical/electrical repair of various makes and models; pricing components and billing procedures. Students must be simultaneously enrolled in HVAC221M. Prerequisites: HVAC119M, HVAC120M, HVAC121M, HVAC122M.

Theory Hours 0
Lab Hours 6
Credits 2

HVAC223M: Warm Air and Steam Systems Theory

Residential steam and warm air system components are introduced, 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. Students must be simultaneously enrolled in HVAC224M. Prerequisite: HVAC114M, HVAC115M, HVAC119M, HVAC120M, HVAC134M, HVAC135M.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC224M: Warm Air and Steam Systems Lab

This lab is a continuation of HVAC 214 and covers installation of steam and warm air systems, layout and make up of ductwork, multi-fuel units, and gas heating. Students must be simultaneously enrolled in HVAC223M. Prerequisite: HVAC114M, HVAC115M, HVAC119M, HVAC120M, HVAC134M, HVAC135M.

Theory Hours 0
Lab Hours 6
Credits 2

HVAC226M: Air and Water Testing and Balancing

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.

Theory Hours 3
Lab Hours 0
Credits 3

HVAC227M: Advanced Air System

This course is designed to teach the basic and essential techniques for the testing and balancing of air for HVAC systems. The course will cover the fundamentals of testing and balancing (TAB), including the mathematics, fan characteristics, and the basic electrical systems. Details of fan curves, motor drives, and related electrical systems will be covered. TAB instruments and their use are covered, including measurements and analysis. Required TAB procedures are covered, including preliminary air procedures, as well as the TAB required report forms, system evaluation, and troubleshooting. Prerequisites: HVAC211M, HVAC212M, HVAC213M, HVAC214M, HVAC221M, HVAC222M, HVAC223M, HVAC224M, or permission of full time HVAC faculty.

Theory Hours 2
Lab Hours 2
Credits 3

HVAC228M: Advanced Hydronic Systems

This course is designed to teach the basic and essential techniques for the testing and balancing of fluid for HVAC systems. The course will cover the fundamentals of testing and balancing (TAB), including the mathematics, pump characteristics, and the basic electrical systems. Details of pump curves, motor drives, and related electrical systems will be covered. Testing and balancing instruments and their use, including measurements and analysis are covered. Required TAB procedures are covered, including preliminary hydronic procedures, as well as the TAB required report forms, system evaluation, and troubleshooting. Prerequisites: HVAC211M, HVAC212M, HVAC213M, HVAC214M, HVAC221M, HVAC222M, HVAC223M, HVAC224M, or permission of full time HVAC faculty.

Theory Hours 2
Lab Hours 2
Credits 3

HVAC230M: Gas Equipment Installations and Service Theory

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 or corequisite: HVAC134M, HVAC135M.

Theory Hours 4
Lab Hours 0
Credits 4
Prerequisites
HVAC134M: Fundamentals of Gas Heating and Piping Installation Theory
HVAC135M: Fundamentals of Gas Heating and Piping Installation Lab
Corequisites
HVAC134M: Fundamentals of Gas Heating and Piping Installation Theory
HVAC135M: Fundamentals of Gas Heating and Piping Installation Lab

HVAC243M: DDC and Building Automation Controls I

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.

Theory Hours 3
Lab Hours 3
Credits 4

HVAC244M: DDC and Building Automation Controls II

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.

Theory Hours 3
Lab Hours 3
Credits 4

HVAC256M: HVAC Equipment- Operation, Maintenance, & Optimization

This course is designed as an overview of the concepts and principles that apply to complex HVACR (heating ventilation and air conditioning refrigeration) equipment found in the HVAC industry. Topics include an overview of commercial / industrial HVAC equipment as well as preventative maintenance, rigging and service strategies for this equipment. Pre-requisites: HVAC211M, HVAC212M, HVAC213M, HVAC214M, HVAC221M, HVAC222M, HVAC223M, HVAC224M, or permission of full time HVAC faculty.

Theory Hours 3
Lab Hours 3
Credits 4

HVAC257M: Advanced HVAC II

This course is designed as an overview of the concepts and principles that apply to complex HVACR (heating ventilation and air conditioning refrigeration) systems found in the HVACR industry. Topics include an overview of service strategies for commercial / industrial HVAC systems. This course will require the students to draw on the knowledge gained in previously completed advanced HVACR courses to solve complicated HVACR system wide service problems and procedures. Prerequisites: HVAC227M, HVAC228M, HVAC243M, HVAC244M, HVAC256M.

Theory Hours 1
Lab Hours 3
Credits 2

HVAC258M: Advanced Air & Hydronic Systems

This course is designed to teach the essential principles, procedures, and techniques for testing and diagnosing HVAC air and hydronic systems. The course utilizes both written and hands-on procedural methods for HVAC air and hydronic systems diagnostics, troubleshooting, performance testing, and evaluation. Details of required mathematics, system characteristics, fan and pump curves, affinty laws, motor drives, capacity control, variable volume systems, and related electrical control systems will be covered. Students will learn to perform live measurements and analyze test data results using state of the art HVAC testing instruments. In addition, required systems testing procedures are covered, including preliminary testing, test data reporting, troubleshooting, system evaluation, and prescribing corrective actions.

Prerequisites: HVAC213M, HVAC214M, HVAC221M, HVAC222M, HVAC223M, HVAC224M, HVAC256M or permission of full time HVAC faculty.

Theory Hours 3
Lab Hours 3
Credits 4

HVAC259M: Mechanical / HVAC Project Cost Estimation

This course is a survey of the Mechanical / HVAC Project Estimation from intial conception to completion. Students will study the "Estimating Process" from types of estimates, takeoff procedures, required permitting, cost analysis, bidding stratigies, purchasing, scheduling, and project management techniques. Various types of projects from new construction, renovations, retrofits, to repairs will be covered. After building a conceptural base, students will apply their knowledge to simulated Mechanical / HVAC projects.

Prerequisites: HVAC256M or permission of full time HVAC faculty.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
HVAC256M: HVAC Equipment- Operation, Maintenance, & Optimization

HVAC260M: HVAC Project Management

This course is a survey of HVAC Project Management process from initial conception to completion. Topics include feasibility analysis, storage / staging issues, software application, personnel management, contractual procedures, and project site safety. Students will be introduced to basic HVAC contractor operations, project planning and scheduling. After building a conceptual base, students will apply their knowledge to simulated HVAC projects.

Theory Hours 3
Lab Hours 3
Credits 4

History

HIST102M: United States History to 1877

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.

Theory Hours 3
Lab Hours 0
Credits 3

HIST104M: United States History: 1877 to the Present

This course covers the political, social, and cultural development of the United States from the period of 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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101M or ENGL101XM

HIST105M: History and Culture of American Theatre

This course will connect students to both historical and cultural aspects of American Theatre. Students will explore the history of theater in the United States from colonial times to the present and will learn about significant events such as the Astor Place Riot of 1849, the sale of Babe Ruth to help pay for a theatrical production, union strikes, and the development of Broadway as the theatrical capital of the world. Important plays and musicals, as well as specific playwrights, producers, directors, and actors who contributed to America's theatrical identity will be reviewed. The social, political, and economic climate of the United States during various time periods will be woven into the history. A wide range of social issues and concepts connecting attitudes, values, and beliefs will be explored, along with the role of diversity, equity, and inclusion within the American theatrical arena. American theatre's impact on social change will be investigated. (This course will satisfy a Behavioral/ Social Science elective.)

Theory Hours 3
Lab Hours 0
Credits 3

HIST120M: Western Civilization to 1500

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.

(Fulfills Social Sciences or Humanities Requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101M or ENGL101XM

HIST130M: Western Civilization 1500 to the Present

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.

(Fulfills Social Sciences or Humanities requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101M or ENGL101XM.

HIST203M: Topics in History

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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101M or ENGL101XM with a grade of "C" or better.

HIST215M: World Religions

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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101M or ENGL101XM with a grade of "C" or better.

Human Services

HSV111M: Introduction to Human Services

This course will provide an introduction to the historical information and concepts necessary to understand the theory and practice of Human Services. Ethical concerns, clients' rights, guardianship and natural support networks will be reviewed. Principles of normalization, community integration and quality of life will be explored along with the most recent trends in the practice of work within the field of Human Services. Prerequisite: Placement into ENGL095M.

Theory Hours 3
Lab Hours 0
Credits 3

HSV114M: Assessment and Planning

This course reviews the process for assessment, design, and implementation of treatment plans and support services for Human Services clients with varying issues. Presentation and discussion will include current and evolving models for assessment and planning, as well as the factors that influence achievement of individual plans. Prerequisite: Placement into ENGL095M. Corequisite: HSV111M.

Theory Hours 3
Lab Hours 0
Credits 3

HSV116M: Professional Seminar I

This course is designed to provide initial exposure to the field of Human Services, specifically area agencies, programs, and their clients. The student will survey various Human Services agencies and programs in the area in order to become familiar with a variety of service populations and the services offered. The student will explore potential areas of interest, learn skills required of human service workers, and develop in the area of professionalism. Students may be required to obtain physical exams and a state police criminal records check, and will spend 45 hours in site observations. Prerequisite: Placement into ENGL095M.

Theory Hours 2
Lab Hours 3
Credits 3

HSV117M: Professional Seminar II

This course will introduce students to the field culture of human services. The focus of this skill-building course will be to maximize the fit between the students as potential Human Services providers and the current and future needs of Human Service agencies. The course will include professional skill development; review and expansion of leadership, conflict, negotiation, and group dynamic skills. Students will improve upon professional relationship skills and legal knowledge. Students may be required to obtain physical exams and a state police criminal records check and will spend 45 hours at an area Human Services agency.

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
Prerequisites: HSV116M with a grade of "C" or better AND placement into ENGL101M or ENGL101XM.

HSV205M: Mental Health Support

This course is designed for students interested in working with people who are living with mental health disorders. The course will focus on an integrated approach to care and treatment of the whole person. Social determinants of health, the eight dimensions of wellness, cultural concerns, and issues of adjustment in mental health will be reviewed. The goals of support, types of support offered, and roles/limitations of the mental health support worker will be included. Boundaries and ethical guidelines for support workers will be explored in depth. The stages of change model, motivational interviewing techniques, and a trauma informed approach will be reviewed. In addition, suicide education and prevention will be addressed. Prerequisite: Placement into ENGL110M
Corequisite: PSYC215M Abnormal Psychology.

Theory Hours 3
Lab Hours 0
Credits 3

HSV206M: Recovery Support

This course is designed for students interested in working with people who are seeking recovery from various substance use disorders. The course will focus on the current guiding principles and various aspects of recovery, including the eight dimensions of wellness and cultural concerns. The goals of recovery support, types of support offered, and roles/limitations of the recovery support worker will be included. Boundaries and ethical guidelines for support workers will be explored in depth. The stages of change model, motivational interviewing techniques, and a trauma informed approach will be reviewed. In addition, HIV/AIDS and suicide education and prevention will be addressed.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101M or ENGL101XM.
Corequisites
Corequisite: HSV217M

HSV208M: Special Topics in Human Services

This course will vary by semester. Human Services topics will reflect faculty and/or student interests and will focus on an in-depth coverage of specific human services topics. All courses will focus on various aspects of human services; concepts, events, client concerns, family concerns, treatments, services, and ideas and values shaping the contemporary world. Critical thinking, speaking and writing skills will be emphasized, as well as the ability to analyze resources.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: HSV111M and ENGL101XM or ENGL101M with a grade of "C" or better.

HSV210M: Substance Misuse Prevention

The course will focus on the concepts of substance abuse prevention for today's society. The connection between the science of prevention and the practice of prevention will be thoroughly examined in order that the student may learn what does and does not work. The course will cover the basics of alcohol, tobacco, and other drugs of abuse, as well as the attitudes of society that help to perpetuate problems with each. Theoretical concepts of prevention and prevailing strategies will be discussed and incorporated into hands-on work that will include creating a prevention program, developing a logic model and evaluation tool, preparing a media campaign and communication strategy, searching for and writing a grant for program funding, and presenting an original program concept at a public forum.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: ENGL101XM or ENGL101Mand HSV111M with a grade of "C" or better.

HSV212M: Interpersonal Dynamics

This course provides an awareness and general practice of interactional communication skills expected in a supportive/helping relationship. Supportive communication will be taught through verbal instructions, role-playing activities, videotaping, class discussions, case studies, and peer and self-assessment. Observation and evaluation methods will be incorporated to assess the student's communication skills. Prerequisites: Placement into ENGL095M. Corequisite: HSV111M.

Theory Hours 3
Lab Hours 0
Credits 3

HSV213M: Developmental Disabilities

This course is designed to serve as an overview of various developmental disabilities and the care and treatment of individuals with these disorders. The major types of developmental disabilities, their causes, detection, and treatment are discussed. The physical, psychological, and social impact of having a developmental disability is explored. In addition, roles and responsibilities of the family and service providers are reviewed in detail, along with the legal rights of the client and related laws.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: Placement into ENGL101M or ENGL101XM and satisfactory completion of HSV111M with a grade of "C" or better.

HSV218M: Professional Seminar III

Professional Seminar III builds upon the boundaries established through work in both previous Professional Seminar semesters. The course integrates prior academic and placement experience in an individualized format through an in-depth study of a field placement using participant-observer methodologies. Students may be required to obtain physical exams and a state police criminal records check and will spend 45 hours at an area Human Services agency.

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
Prerequisite: Successful completion of (ENGL101M or ENGL101XM) , HSV111M, HSV116M and HSV117M with a grade of "C" or better.

HSV219M: Professional Seminar IV

This course will enable students to develop a personally integrated career portfolio and engage in a job search. Classes will be devoted to active exploration of personal styles assessment, documentation of transferable skills, documentation of academic history, networking, interviewing, job search skills and the formulation of long range career/life plans and resume development. Students may be required to obtain physical exams and a state police criminal records check and will spend 45 hours at an area Human Services agency.

Theory Hours 2
Lab Hours 3
Credits 3
Prerequisites
Prerequisite: Successful completion of (ENGL101M or ENGL101XM), HSV111M, HSV116M, HSV117M and HSV218M with a grade of "C" or better.

Humanities

HUMA105M: Introduction to Music

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)

Theory Hours 3
Lab Hours 0
Credits 3

HUMA106M: History of American Popular Music

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 and 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)

Theory Hours 3
Lab Hours 0
Credits 3

HUMA108M: Introduction To Music Production

This course will teach students the fundamentals of music production, including the use of DAWs (digital audio workstations), recording techniques, and collaborative project creation. This course combines hands-on practice with an exploration of how production influences music, fostering both technical skills and creative expression. Prerequisite: Placement into ENGL 110/110X or permission of the instructor. Fulfills a humanities requirement.

Theory Hours 3
Lab Hours 0
Credits 3

HUMA110M: Foundations in Liberal Arts Studies

A Liberal Arts education provides students with the opportunity to engage in interdisciplinary coursework with the goal of discovering who they are, what they value, and how they might contribute to the human community through meaningful work. With that goal in mind, this course creates practical points of entry into Liberal Arts scholarship. Students will be introduced to the way language functions, how scholarship is produced, how canons are formed, and the integration of generative Artificial Intelligence into their academics and future profession.

Theory Hours 3
Lab Hours 0
Credits 3

HUMA126M: Introduction to Film

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)

Theory Hours 3
Lab Hours 0
Credits 3

HUMA150M: Critical Thinking

This is a reading, writing, speaking, and listening course that presents the skills and methods of critical thinking as a way to explore and evaluate ideas. Formative skills such as distinguishing fact and opinion, making inferences, detecting biases, reasoning inductively and deductively, and spotting logical fallacies are introduced sequentially, then applied to analyzing and evaluating selected readings. Stress is also placed on having students develop greater confidence in their ability to make rational choices about political, moral, and social issues. (Fulfills Humanities requirement)

Theory Hours 3
Lab Hours 0
Credits 3

HUMA200M: Film and American Culture

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.

(Fulfills Humanities requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: (ENGL101M or ENGL101XM) or equivalent, or permission of the instructor.

HUMA205M: Special Topics in the Humanities

The Humanities explores what it means to be human within a contemporary or historical context. The Humanities provide us with the broad frameworks within which enduring questions of existence, relationships, values, and aesthetics can be examined from multiple perspectives. The Special Topics in the Humanities course changes thematically each semester and may explore ideas around evil, love, race, gender, sport, spirituality, and those strands which connect us and make us human.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: completion of ENGL101M or ENGL101XM.

HUMA206M: The Self, The Other and The Arts

The Humanities discipline considers what it means to be human within a contemporary or historical context. The Humanities provide us with the broad frameworks within which enduring questions of existence, relationships, values, and aesthetics can be examined from multiple perspectives. It is the basis of a Liberal Arts education. This course proceeds from the premise that in order to identify with and feel empathy for the Other, one must first know oneself and be secure in one's own identity. If I am not in tune with my own humanness, how can I connect with the humanness in Another? The Arts (literature, music, painting) can help us see ourselves and others in a deeper way. The Arts provide us with two things: (1) A record of the individual artist's exploration of themselves and the world and (2) An opportunity to recognize ourselves in their art. In this course, students will be exposed to a wide assortment of paintings, poems, literature, music, and drama/film, looking at both the author/composer/artists and their work. For the Liberal Arts student, this course contains a strong interdisciplinary component that will provide a unifying thread to their studies, while modeling the significance of the humanities across the curriculum. Students will engage in a series of guided journal reflections in a research essay focused on an author/composer/artist or theme of their choosing, and compile a thoughtfully curated digital gallery making thematic connections among various genres of art. Prerequisite: None

Theory Hours 3
Lab Hours 0
Credits 3

HUMA211M: Liberal Arts: Community, Scholarship, Profession

A popular criticism of academia is summed up in the term "Ivory Tower." The image is one of distance and aloofness, and implies that a college education, particularly in the Liberal Arts, has little real-world application. Students will trace the through line across their interdisciplinary courses and connect concepts to the communities in which they will live, vote, and work. They will reflect upon coursework, applications of education, and investigation of career paths. Faculty will also mentor students through the process of setting future-oriented goals for continued personal and professional development.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
ENGL101M: College Composition
Prerequisites: ENGL101M or ENGL101XM

HUMA215M: Giving Voice: Human Communication in Nursing

The Human Communication in Nursing course seeks to prepare students entering the healthcare field with essential communication, conflict management, and relationship skills. The course serves as a preceptorship class in which students will learn the skills necessary to serve as a preceptor, to navigate difficult conversations, and to communicate clearly with a multidisciplinary team during an emergency. Upon successful completion of the course, students will enter the field with the skills necessary to serve as a preceptor once they have received the proper orientation and skillset at an organization.

The course is also one steeped in the Humanities. Students will consider how the narrative form (story) and reflection intersect with healthcare, specifically the nursing profession and patient care. Through this exploration students will hone their communication skills and reflect on the humanity of their practice. The course employs literature, film, autoethnography, journaling, and creative nonfiction to shape the relationship of both caregiver and patient. In addition to preceptorship preparation, students will engage in scholarship and story composition through the construction of a memoir.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: Completion of ENGL101M or ENGL101XM and Licensure as an LNA, MA, LPN or RN and or successful completion of NURS111M.

Interior Design

INTD123M: The Built Environment: Codes and Standards

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.

Theory Hours 2
Lab Hours 3
Credits 3

Keyboarding

ADMN122M: Executive Keyboarding

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.

Theory Hours 2
Lab Hours 2
Credits 3

Liberal Arts

LBSC299M: Behavioral Science Capstone

Taken in a student's final semester of study, the 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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Completion of a minimum of 48 credits including (ENGL101M or ENGL101XM), PSYC210M, PSYC215M, PSYC225M, SOCI250M and two Psychology/Sociology electives from PSYC217M, 220M, 234M, 235M, SOCI135M, 145M, 210M) with a grade of "C" or better.

LIBA101M: Personal Framework for Career Exploration

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 relate 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.

Theory Hours 1
Lab Hours 0
Credits 1

LIBA102M: Purposeful Learning, Earning and Living

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.

Theory Hours 1
Lab Hours 0
Credits 1

LIBA103M: Career Marketing Strategies

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.

Theory Hours 1
Lab Hours 0
Credits 1

LIBA104M: Introduction to Acting

This introductory acting course will cover a range of topics designed to provide students with a foundational understanding of acting and the development of basic acting skills. It will explore methods and theories of acting and their application to the portrayal of various characters in diverse styles of scripts. The curriculum will include an exploration of the fundamentals of acting, character development, stage presence, scene study, and script analysis. Students will be introduced to vocal and physical acting techniques, the expression of emotions, the use of body language, and stage movement. Students will be actively involved in acting exercises. No prior acting experience is required. (This course will satisfy a humanities elective.)

Theory Hours 2
Lab Hours 3
Credits 3

LSSC299M: Social Science Capstone

Taken in a student's final semester of study, the 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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Completion of a minimum of 48 credits including (ENGL101M or ENGL101XM) POLS110M, POLS210M, GEOG110M, and HIST203M or HIST215M or SOCI250M, with a grade of "C" or better.

Life Science

LSCI299M: Life Science Capstone

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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: Completion of a minimum of 48 credits including (ENGL101M or ENGL101XM), BIOL109M, BIOL120M, BIOL201M, BIOL210M, BIOL220M, CHEM116M with a grade of "C" or better.

SPCL115M: Applied Biotechnology Skills and Industry Practices

This course equips students with foundational knowledge and hands-on experience in biotechnology, focusing on the essential skills required for entry-level laboratory positions and further study in the field. Students will train in molecular biology, microbiology, and biomanufacturing techniques, including DNA extraction and analysis, protein quantification, PCR, aseptic technique, and cell culture.
Emphasis is placed on laboratory safety, documentation, and technical communication, as well as industry practices such as current Good Manufacturing Practices (cGMP), quality control, data integrity principles, and regulatory expectations. Students will maintain laboratory notebooks, write technical reports, and complete structured exercises that reflect real-world laboratory workflows and standard operating procedures (SOPs).

Theory Hours 3
Lab Hours 3
Credits 4

Marketing

MKTG125M: Principles of Marketing: A Global Perspective

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.

Theory Hours 3
Lab Hours 0
Credits 3

MKTG135M: Global Consumer Behavior

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.

Theory Hours 3
Lab Hours 0
Credits 3

MKTG150M: Sports and Entertainment Marketing

The world of sports and entertainment is not immune to market forces that necessitate the application of sound marketing practices. Students will study successful and unsuccessful marketing efforts of actual entities ranging from sports to music to cinema. Students will be required to analyze the effectiveness of several sports and entertainment marketing programs via field study exercises and case studies. Students will also complete detailed marketing projects for a sports or entertainment franchise of their choice.
Prerequisites: none

Theory Hours 3
Lab Hours 0
Credits 3

MKTG205M: International Marketing

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.

Theory Hours 3
Lab Hours 0
Credits 3

MKTG210M: Advertising

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.

Theory Hours 3
Lab Hours 0
Credits 3

MKTG224M: Sales and Sales Management

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.

Theory Hours 3
Lab Hours 0
Credits 3

MKTG282M: Marketing Research

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.

Theory Hours 3
Lab Hours 0
Credits 3

Mathematics

DATA210M: Introduction to Data Mining

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.

Theory Hours 3
Lab Hours 2
Credits 4

DATA215M: Applied Data Analytics

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: MATH212M with a grade of "C" or better.

Theory Hours 3
Lab Hours 2
Credits 4

MATH090M: Foundations for College Mathematics

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.

Theory Hours 3
Lab Hours 0
Credits 3

MATH106M: Statistics I – An Introduction to Statistical Reasoning

Recognizing that data and variability impact our daily decisions, *Statistics I: An Introduction to Statistical Reasoning* focuses on developing statistical literacy through an investigative process of problem-solving and decision-making. Students participate in the statistical process by formulating questions, analyzing data, and interpreting results, learning to become critical consumers of statistical information. The course introduces students to descriptive and inferential statistics. Topics include statistical distributions, linear regression and correlation, surveys and experiments, sampling distributions, probability, confidence intervals and hypothesis testing. A variety of statistical tools and software are used to explore concepts and deepen students' conceptual understanding of the topics. Prerequisites: Grade of C or higher in high school algebra

Theory Hours 4
Lab Hours 0
Credits 4

MATH111M: Numerical Geometry

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.

Theory Hours 3
Lab Hours 0
Credits 3

MATH111XM: Numerical Geometry - Corequisite

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, and selected subtopics related to the student's major field of study. Numerical Geometry - Corequisite is designed for students who need practice in foundational skills while engaging in college-level study of mathematics and problem solving skills. Weekly lab sessions will reinforce skills and topics directly related to the lecture and assignments.

Theory Hours 3
Lab Hours 2
Credits 4

MATH114R: Mathematics Investigations-Great Ideas in Mathematics

Mathematical Investigations is an introduction to various branches of mathematics, including number theory, functions and modeling, geometry, and probability and statistics. The course will focus on some of the most interesting ideas in the history of mathematics and various applications, including the infinitude of the primes, the non-denumerability of the real numbers, different sizes of infinity, golden rectangles, non-Euclidean geometry, and measuring risk. Students will complete research projects in areas such as cryptography, platonic solids, topology, chaos and fractals, and different voting methods. The course emphasizes mathematical thinking, habits of the mind, and problem solving. These strategies will allow you to apply mathematics to real-life situations. Along the way, you will confront issues that challenge your intuition and even experience mathematical questions that have remained unsolved for hundreds of years. The course is student centered and focuses on activity-based instruction that integrates technology. Prerequisites: (1) SAT Mathematics Score ≥ 530 OR (2) SAT Mathematics Score ≥ 450 with required mathematics workshop OR (3) Successful completion (with a grade of "C" or better) of Fundamentals of Mathematical Literacy or Fundamentals of Mathematical Literacy for STEM Fields OR (4) written permission of mathematics advisor.

This is a CCSNH Access course and will display on transcripts, count as credits attempted, and count towards the cumulative grade point average for all seven colleges: Great Bay, Lakes Region, Manchester, Nashua, NHTI, River Valley, and White Mountains. Students cannot receive credit for more than one of the CCSNH Access courses or equivalents and the most recent course on the college transcript will be used in the cumulative grade point average (CGPA) calculation. For graduation residency purposes, only Access courses owned by the campus where the student is matriculated will be used to meet the requirements.

Theory Hours 4
Lab Hours 0
Credits 4

MATH132M: Business Mathematics

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, placement or permission from the Mathematics Program Coordinator, the Department Chair, or a full time mathematics faculty member.

Theory Hours 3
Lab Hours 0
Credits 3

MATH135M: Numerical Algebra and Trigonometry

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 and 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.

Theory Hours 3
Lab Hours 0
Credits 3

MATH145M: Quantitative Reasoning

This course is designed to expose the student to a wide range of mathematics topics. 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 Set Theory, Logic, Number Theory and Systems, Equations and Functions, Personal Finance, Geometry and Measurement, Probability and Statistics, and selected subtopics related to the student's major field of study. Prerequisite: Placement or permission of the full time mathematics faculty.

Theory Hours 4
Lab Hours 0
Credits 4

MATH145XM: Quantitative Reasoning - Corequisite

This course is designed to expose the student to a wide range of mathematics topics. 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 Set theory, Logic, Number Theory and Systems, Equations and Functions, Personal Finance, Geometry and Measurement, Probability and Statistics, and selected subtopics related to the student's major field of study. Quantitative Reasoning - Corequisite is designed for students who need practice in foundational skills while engaging in college-level study of mathematics and problem solving skills. Weekly lab sessions will reinforce skills and topics directly related to the lecture and assignments. Prerequisite: Placement or permission of the full time mathematics faculty.

Theory Hours 4
Lab Hours 2
Credits 5

MATH151M: Intermediate Algebra

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, placement or permission from the Mathematics Program Coordinator, the Department Chair, or a full time mathematics faculty member.

Theory Hours 4
Lab Hours 0
Credits 4

MATH151XM: Intermediate Algebra - Corequisite

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. Intermediate Algebra — Corequisite is designed for students who need practice in foundational skills while simultaneously engaging in college-level mathematics and problem solving skills. Weekly lab sessions will reinforce skills and topics directly related to the lecture and assignments. Prerequisite: Placement or permission of the full time mathematics faculty.

Theory Hours 4
Lab Hours 2
Credits 5

MATH155M: College Algebra with Trigonometry

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 or MATH151XM with a grade of "C" or better, placement or permission from the Mathematics Program Coordinator, the Department Chair, or a full time mathematics faculty member.

Theory Hours 4
Lab Hours 0
Credits 4

MATH170M: Discrete Mathematics

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: Placement as defined by mathematics faculty; MATH155M with a grade of "C" or better, or permission of the instructor. Offered spring semester only.

Theory Hours 4
Lab Hours 0
Credits 4

MATH171M: Pre-Calculus

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: Placement as defined by mathematics faculty, MATH155M with a grade of "C" or better, or permission of the instructor. Offered every semester.

Theory Hours 4
Lab Hours 0
Credits 4

MATH200M: Finite Mathematics

This course covers mathematical ideas important to students of business and social sciences. Topics include a review of linear equations, systems of equations and inequalities, mathematics of finance, sets and counting, an introduction to probability, matrix algebra, linear programming. This course may include other topics such as logic or game theory when time permits.

Prerequisites: Satisfactory placement.

Theory Hours 4
Lab Hours 0
Credits 4

MATH204M: Calculus I

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: Placement or MATH171M with a grade of "C" or better or permission of the instructor.

Theory Hours 4
Lab Hours 0
Credits 4

MATH210M: Mathematics and Applications in MATLAB

This course focuses on the theory and application of numerical techniques using MATLAB, reinforcing and building off a student's prior mathematics skills. The course allows the student to preview and gain intuitive understanding of more advanced mathematical concepts and explore the power and limitations of modern computation through real world applications and demonstrates the ways in which mathematical algorithms and computation influence society. Using MATLAB students will use state-of-the-art computational tools for error analysis, matrix manipulation, interpolation, data visualization, numerical integration, curve fitting, statistical analysis, and numerical methods of solutions of linear differential equations. Computer solutions are emphasized. Prerequisite: MATH170M, MATH171M, or MATH202M with a grade of C or better.

Theory Hours 3
Lab Hours 2
Credits 4

MATH212M: Probability and Statistics II

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.

Theory Hours 4
Lab Hours 0
Credits 4

MATH214M: Calculus II

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: Placement or MATH204M with a grade of "C" or better or permission of the instructor.

Theory Hours 4
Lab Hours 0
Credits 4

MATH215M: Mathematical Proof

An introduction to mathematical language through reading and writing mathematical proofs with a focus on set theory and logic. This is a writing intensive course with topics selected from various branches of mathematics such as discrete, number theory, modern algebra, linear algebra, and real analysis. Prerequisite: Calculus I with a grade of "C" or higher or permission of the instructor.

Theory Hours 4
Lab Hours 0
Credits 4

MATH218M: Introduction to Linear Algebra

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.

Theory Hours 4
Lab Hours 0
Credits 4

MATH220M: Differential Equations

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.

Theory Hours 4
Lab Hours 0
Credits 4

MATH222M: Multidimensional Calculus

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.

Theory Hours 3
Lab Hours 2
Credits 4

MATH299M: Mathematics Capstone

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.

Theory Hours 4
Lab Hours 0
Credits 4
Prerequisites
Prerequisites: Completion of a minimum of 48 credits including (ENGL101M or ENGL101XM), MATH220M, MATH222M and CIS122M (C++ Programming) with a grade of "C" or better.

Nursing

NURS111M: Nursing I

Students begin learning 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 to assess well clients and clients with common actual or possible alterations in health. The roles of the nurse, communication theory, life span development, ethical-legal standards, and nursing process are basic concepts to the practice of nursing for the Associate Degree Nurse. Students are introduced to the concept that the person is a system in dynamic interaction with the internal and external environments. The eleven Functional Health Patterns organize the study of concepts common to a basic knowledge of the client'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 clients or clients with common basic health problems in structured health settings – acute and sub-acute care. Prerequisite: Admission into the Nursing Program. Corequisites: BIOL110M, PSYC110M.

Theory Hours 6
Lab Hours 12
Credits 10

NURS112M: Nursing II

The student applies knowledge and skills to provide and manage safe care for patients and their families across the lifespan in structured health care settings. The student provides support and teaching to the patient and family and direct care for the patient. The scope of the course includes the Functional Health Patterns of Sexual-Reproductive, Role-Relationship, Nutrition-Metabolic, Activity Exercise, Self-Perception/Self-Concept, Coping Stress, Health Perception-Health Management, Value Belief, and Cognitive-Perceptual. 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/childrearing families, and psychiatric/ mental health.

The student will plan the care of the patient/family by 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 in basic group skills in simulated activities. Clinical learning experiences are provided for the student in adult healthcare settings, and psychiatric/mental health, or perinatal/pediatric settings.
Prerequisites:Successful completion of NURS111M and BIOL110M with a grade of "C" or better and completion of PSYC110M. Corequisite: BIOL120M, PSYC210M.

Theory Hours 4
Lab Hours 15
Credits 9

NURS211M: Nursing III

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. The scope of the course includes the Functional Health Patterns of Sexual Reproductive, 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 / child rearing families, and psychiatric/mental health.

The student will plan the care of the patient/family by 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 for the student in adult healthcare settings, and psychiatric/mental health, or perinatal/ pediatric settings.

Theory Hours 4
Lab Hours 15
Credits 9
Prerequisites
Prerequisites: NURS112M and BIOL120M with a grade of "C" or better and completion of PSYC210M.
Corequisites
Corequisites: BIOL210M, ENGL101XMor ENGL101M.

NURS212M: Nursing IV

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.The scope of the course includes ethical decision-making, role performance and the care of patients with multi-system health problems of cardio-respiratory, metabolism/immunity/hematopoiesis and cognition/ sensation/perception. Additional course content includes leadership skills, health care policy and legislative advocacy. An evidence-based project is required. Laboratory learning focuses on student case presentations involving current, multi-system health problems and ethical decision-making. Clinical learning experiences are provided for the student in advanced medical-surgical and community health settings.

Theory Hours 3
Lab Hours 18
Credits 9
Prerequisites
Prerequisites: NURS211M and BIOL210M with a grade of "C" or better and completion of ENGL101XM or ENGL101M.
Corequisites
Corequisites: Math elective (MATH145M or MATH145XM or MATH202M), English elective, Foreign Language/Humanities/Fine Arts Elective.

Philosophy

PHIL110M: Introduction to Philosophy

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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101M or ENGL101XM.

PHIL240M: Ethics

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).

Theory Hours 3
Lab Hours 0
Credits 3

Physics

PHYS100M: Introductory Physics

This course is an introduction to the basic principles related to the composition of matter, simple machines, mechanical properties of solids, fluids, and gases, forces and static equilibrium, potential and kinetic energy, power, and force transformers. Emphasis is placed on the development of problem solving techniques and on the appropriate application of those techniques to solve problems along with understanding measurement errors. Dimensional/unit analysis is stressed as a method to evaluate problems. This course is offered in a face-to-face and hybrid format. Prerequisite: A grade of C or better in MATH135M.

Theory Hours 2
Lab Hours 3
Credits 3

PHYS105M: Astronomy I

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.

Theory Hours 3
Lab Hours 2
Credits 4

PHYS110M: Physical Science I

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)

Theory Hours 3
Lab Hours 2
Credits 4

PHYS120M: Physical Science II

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)

Theory Hours 3
Lab Hours 2
Credits 4

PHYS135M: College Physics I

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)

Theory Hours 3
Lab Hours 3
Credits 4

PHYS136M: College Physics II

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)

Theory Hours 3
Lab Hours 3
Credits 4

PHYS210M: University Physics I

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. Corequisite: MATH204M.

Theory Hours 3
Lab Hours 3
Credits 4

PHYS220M: University Physics II

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.

Theory Hours 3
Lab Hours 3
Credits 4

PHYS225M: Thermodynamics and Statistical Mechanics

This course is a study of the classical and statistical approach to thermodynamics and the kinetic theory. Prerequisites: PHYS220M with a grade of C+ or better and MATH214M with a grade of C+ or better.

Theory Hours 4
Lab Hours 0
Credits 4

PHYS230M: Modern Physics

This course is a study of electromagnetic waves, geometrical and physical optics, relativity, atomic physics, elementary quantum mechanics, molecular physics, and nuclear physics. Prerequisites: PHYS220M with a grade of C+ or better and MATH214M with a grade of C+ or better.

Theory Hours 3
Lab Hours 3
Credits 4

Political Science

POLS110M: American Government

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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: placement into ENGL101M or ENGL101XM

POLS115M: State and Local Government

This course explores the structure and function of state and local government in the United States, with an emphasis on their roles as partners with the federal government in a system of cooperative federalism. This course places a special emphasis on how the peculiar features of the American political system shape the ability of state and local governments to cope with issues of pressing public policy concern, such as educational quality, racial discrimination, poverty, criminal justice, and environmental protection. Additionally, state political culture, campaigns and elections, political parties, constitutional provisions, and state government branches (legislative, executive, and judicial) will be discussed.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101M or ENGL101XM with a grade of "C" or better.

POLS210M: Introduction to Political Science

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.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101M or ENGL101XM with a grade of "C" or better.

POLS215M: Topics in Political Science

This course will vary by semester. Political Science 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 one or more subject areas: political philosophies, the nature of political order and power, individual rights and liberties, forms of government, and human conflict. Additionally, the course will focus on broad political themes and concepts such as: the public good, political authority, law, justice, and freedom. Critical thinking, speaking and writing skills will be emphasized, as well as the ability to analyze political texts and other sources.

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: ENGL101M or ENGL101XM with a grade of "C" or better.

Power Sports

PSPT101M: Introduction to Power Sports Basic Maintenance and Repair

Introduction to Power Sports Basic Maintenance and Repair is a comprehensive course covering all aspects of general maintenance and light repair of the latest power sports vehicles. Topics include safety, customer service relations, repair documentation, service-department operations, fork lift operation, safety inspection, pre-delivery inspection, in-depth preventative maintenance and inspection and common general repairs. Using the various skills and knowledge learned, students will perform the same basic tasks on today's power sport vehicles as an entry level maintenance technician would in a dealership. PSPT101M is a Fall semester course. A minimum grade of C is required to continue on to PSPT102M.

Theory Hours 1
Lab Hours 6
Credits 3

PSPT102M: Electrical Systems

Electrical systems is a comprehensive course covering all aspects of the theory and diagnosis of basic electrical systems of the latest power sports vehicles. Topics include: electrical safety, basic electricity theory and electrical systems, circuit diagrams, magnetism, induction, battery technology, semiconductors, specific vehicle electrical systems, electric circuit repair techniques, digital multi meter and other diagnostic equipment, and diagnostic techniques. Using the various skills and knowledge learned, students will perform basic electrical system inspection, diagnosis and repairs on today's power sport vehicles. PSPT102M is a Fall semester course. A minimum grade of C is required to continue on to PSPT103M. Prerequisite: PSPT101M with a minimum grade of C.

Theory Hours 3
Lab Hours 6
Credits 5

PSPT103M: Engine and Drivetrain

This course includes theory, repair and overhaul procedures with an emphasis on diagnosis of internal-combustion engines, transmissions, and drivetrains. This course provides an opportunity to gain the knowledge and skills necessary to diagnosis and service today's complex engine, clutch, transmission and drive train systems including two and four stroke engines, chain, belt CVT, and shaft drives. This course includes principles of engine operation, engine related systems, performance diagnosis, service, engine transmission and drive train noise diagnosis. PSPT 103M is a Spring semester course. A minimum grade of C is required to continue on to PSPT104M. Prerequisite: PSPT102M with a minimum grade of C.

Theory Hours 2
Lab Hours 3
Credits 3

PSPT104M: Brake and Suspension Systems

Brakes and Suspension includes design, theory, maintenance, repair and service procedures with an emphasis on diagnosis of cutting-edge braking and suspension systems. This course includes principles of hydraulics, service brakes, electronic braking systems and controls. Also included are front and rear suspension system service, repair and diagnosis. PSPT104M is a Spring semester course. A minimum grade of C is required to continue on to PSPT105M. Prerequisite: PSPT103M with a minimum grade of C.

Theory Hours 2
Lab Hours 6
Credits 3

PSPT105M: Fuel Systems

The Fuel Systems course including theory, repair and service procedures with an emphasis on diagnosis of modern fuel injection and carburetion systems. This course includes carburetion fuel system and service, computer controls, exhaust gas analysis, emission control systems and service. This course provides an opportunity to gain the knowledge and skills necessary to diagnosis and service today's complex systems. Using the skills and knowledge learned, students will perform service and repair procedures, and diagnose fuel and related system concerns on today's power sports vehicles. PSPT105M is a Summer semester course. Prerequisite: PSPT104M with a minimum grade of C.

Theory Hours 3
Lab Hours 6
Credits 3

Psychology

PSYC110M: Introduction to Psychology

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.

(Fulfills Social Science elective)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: placement into ENGL101M or ENGL101XM.

PSYC205M: Special Topics in Psychology

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.

(Fulfills Social Science requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: PSYC110M and (ENGL101M or ENGL101XM) with a grade of "C" or better.

PSYC210M: Human Growth and Development

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.

(Fulfills Social Science requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: PSYC110M and (ENGL101M or ENGL 101XM) with a grade of "C" or better.

PSYC215M: Abnormal Psychology

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.

(Fulfills Social Science requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: PSYC110M and (ENGL101M or ENGL 101XM) with a grade of "C" or better.

PSYC217M: Alcohol and Other Drugs

This course introduces the concepts of substance misuse as related to the individual and the family. This course discusses the disease concept of substance use disorders, the concept of denial, models for change, and available treatment options for people with substance use disorders and related issues.

(Fulfills Social Science or Human Services elective requirement).

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: ENGL101XM or ENGL101M and PSYC110M with a grade of "C" or better.

PSYC220M: Adult Development

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.

(Fulfills Social Science requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: (ENGL101M or ENGL101XM) and PSYC210M with a grade of "C".

PSYC225M: Social Psychology

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.

(Fulfills Social Science requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: (ENGL101M or ENGL101XM) and PSYC110M with a grade of "C" or better.

PSYC234M: Child and Adolescent Development

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.

(Fulfills Social Science requirement, TCHE100M is not an equivalent course)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: (ENGL101XM or ENGL101M) and PSYC210M with a grade of "C" or better.

PSYC235M: Health Psychology

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.

(Fulfills Social Science requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: PSYC110M, (ENGL101M or ENGL 101XM) with a grade of "C" or better.

Robotics

ROBO210M: Robotic Processes

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: ADMT112M.

Theory Hours 2
Lab Hours 3
Credits 3

ROBO211M: Robotic Design

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.

Theory Hours 2
Lab Hours 3
Credits 3

Sociology

SOCI109M: Contemporary Social Problems

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. Students cannot take both SOCI109M and SOCI110M to fulfill requirements. \

(Fulfills Social Science requirement.)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101XM or ENGL101M.

SOCI110M: Introduction to Sociology

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. Students cannot take both SOCI109M and SOCI110M to fulfill requirements.

(Fulfills Social Science requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101XM or ENGL101M.

SOCI145M: Gender Studies

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.'

(Fulfills Social Science requirement.)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: Placement into ENGL101M or ENGL101XM.

SOCI205M: Special Topics in Sociology

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.

(Fulfills Social Science requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisites: SOCI110M and (ENGL101M or ENGL101XM) with a grade of "C" or better.

SOCI210M: Changing American Family

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?

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: SOCI109M or SOCI110M and (ENGL101M or ENGL101XM)with a grade of "C" or better.

SOCI250M: Multiculturalism

This course is designed to introduce students to the social constructs of ethnicity, race, class, age, religion, gender and sexual orientation and examine how they influence personal, social, political, economic and systemic norms, values, perceptions, and behaviors. Historical connections and concepts, as well as current issues related to diverse groups, are explored, along with theories and concepts of prejudice, discrimination, and stereotypes. Discussions may include diversity, equity, inclusion, terminology, and critical perspectives.

(Fulfills Social Science requirement)

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
Prerequisite: SOCI110M and ENGL101M or ENGL101XM with a grade of "C" or better.

Spanish

SPAN110M: Spanish I

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)

Effective Fall 2023: this is a CCSNH Access course and will display on transcripts, count as credits attempted, and count towards the cumulative grade point average for all seven colleges: Great Bay, Lakes Region, Manchester, Nashua, NHTI, River Valley, and White Mountains. Students cannot receive credit for more than one of the CCSNH Access courses or equivalents and the most recent course on the college transcript will be used in the cumulative grade point average (CGPA) calculation. For graduation residency purposes, only Access courses owned by the campus where the student is matriculated will be used to meet the requirements.

Theory Hours 3
Lab Hours 2
Credits 4

SPAN120M: Spanish II

A continuation of the introductory Spanish course. For students who have had the equivalent of one year of high school Spanish or one semester of college Spanish. The course is designed for Spanish students whose learning objectives and needs are in any of the following categories: for Spanish language students, for business purposes, as well as for travelers. The emphasis is to consolidate and reinforce the language skills acquired in Spanish I, or equivalent, and to continue building communicative skills and cultural competency. The course continues to offer a comprehensive review of basic first term grammar structures, while developing proficiency and advancement in communicative skills and cultural competency. The course continues to offer a comprehensive review of basic first term grammar structures, while developing proficiency and advancement in communicative skills concentrating on the dynamic application of the living language taught through dialogue, phonetics, and vocabulary. A strong grammar foundation and other essential language skills are taught through actual phrases and sentences, helping the student develop an instinctive sense of the correct usage. Language laboratory activities are part of the course reinforcing class content. These objectives will be achieved through the following approaches: speaking, listening, reading, writing, and culture. Prerequisite: SPAN110 or equivalent. (Fulfills Foreign Language requirement.)

Theory Hours 3
Lab Hours 2
Credits 4

Teacher Education

TCHE100M: Child and Adolescent Development

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.

Theory Hours 3
Lab Hours 0
Credits 3

TCHE101M: Introduction to Exceptionalities

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.

Theory Hours 3
Lab Hours 0
Credits 3

TCHE104M: Foundations of Education

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.

Theory Hours 3
Lab Hours 0
Credits 3

TCHE202M: Current Practice: Teaching, Learning, Assessment

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

Theory Hours 3
Lab Hours 0
Credits 3

TCHE205M: Technology in Education

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. Prerequisite: TCHE104M

Theory Hours 2
Lab Hours 2
Credits 3

TCHE206M: Literacy in Education

This introductory course will examine theories of literacy development. Students will explore principles and practices of literacy instruction and will learn strategies for developing reading, writing, speaking, and listening skills for all learners across different content areas. The course will emphasize evidence-based practices, assessment, and differentiation to meet the needs of all learners. Students will be required to complete 10 hours of classroom observation that will acquaint them with public school reading instruction to connect theory with practice. Prerequisite: C- or better in TCHE104M and TCHE225M

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
TCHE104M: Foundations of Education

TCHE210M: Introduction to College Teaching

This course is intended for full time and adjunct community college faculty. The course provides an overview of the unique challenges and opportunities of teaching in a community college setting. Participants will develop a functional understanding of the role and responsibilities of an adjunct or full time faculty member. Participants will explore key pedagogical approaches suited to adult learners, methods for engaging students in active learning, and techniques for fostering a supportive and inclusive classroom environment. Topics will include syllabus design, teaching methods, assessment and grading strategies, effective use of technology, and adapting to students with varied educational backgrounds and goals.
Prerequisite: **Permission of Instructor**

Theory Hours 3
Lab Hours 0
Credits 3

TCHE215M: Managing Classrooms and Behaviors in the School Setting

This course will provide students with an in-depth understanding of classroom management, discipline and behavior management. 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. 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 must complete 10 hours of observation in a classroom throughout the semester.** *Prerequisites: C- or better in TCHE100M or ECE100 AND either TCHE104M or ECE104*

Theory Hours 3
Lab Hours 0
Credits 3

TCHE220M: Diverse and Inclusive Practices in Family, School, and Community Partnerships

This course will provide students with strategies for positive and productive interactions among teachers, parents, co-workers, and other professionals working with children. It will prepare future teachers to engage with diverse students, their families, and the broader community in a way that not only respects and values their unique backgrounds but also maximizes their contributions to the educational process. Students will explore and develop collaboration and communication skills for participating in IEP teams, co-teaching, and working with families as partners in the process. Students will develop strategies for establishing and maintaining positive and supportive relationships with families and 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**. *Prerequisites: C- or better in TCHE104M or ECE104M.*

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
TCHE104M: Foundations of Education
ECE104M: Foundations of Early Childhood Education

TCHE225M: Curriculum and Instruction for Diverse Learners

This course is designed to equip students with the tools and strategies necessary to create inclusive learning environments that cater to the diverse needs of students, including those with Individualized Education Programs (IEPs), English Language Learners (ELLs), and a broad spectrum of learners with varying abilities and backgrounds. Focus will be on effective instructional strategies, curriculum, assessment, and assistive techniques, grounded in Universal Design for Learning (UDL) and instructional accommodations and modification, to meet the needs of all learners. Students will be introduced to lesson planning structures and practices, collaborative planning, co-teaching strategies, and effective methods for working with members of the IEP team and families. **Students will be required to demonstrate the practical application of skills by volunteering in a special education classroom setting (Inclusive for self-contained) for 15 hours during the semester**. *Prerequisites: C- or better in TCHE101M and TCHE104M or ECE104M*

Theory Hours 3
Lab Hours 0
Credits 3
Prerequisites
TCHE101M: Introduction to Exceptionalities
TCHE104M: Foundations of Education
ECE104M: Foundations of Early Childhood Education

TCHE230M: Teaching, Learning and Assessment

This course will provide students with an in-depth study of the application of educational practices and pedagogical theory necessary to succeed as classroom teachers. Students will explore various instructional strategies, learning theories, and assessment methods that are essential for fostering academic growth and meeting the diverse needs of students. Focus will be on understanding the context in which teaching and learning occurs, assessment methods, and data driven decision making for curriculum planning and effective teaching strategies. The concepts presented will enhance and build upon material from prior courses. Students will incorporate current research and instructional strategies into their teaching repertoire. **Students will complete a service-learning project, incorporating at least 10 hours of service in a school setting.** *Prerequisites: C- or better in TCHE215M and TCHE225M*

Theory Hours 3
Lab Hours 0
Credits 3

Welding

WELD101M: Fundamentals of Welding

This course introduces the fundamental concepts of welding with an overview of the four major processes: Shielded Metal Arc Welding (SMAW) Gas Metal Arc Welding (GMAW) Gas Tungsten Arc Welding (GTAW) and Oxyfuel Welding (OFW). Emphasis will be placed upon the safety requirements for electric and gas welding processes based upon the ANSI Z49.1 Safety in Welding, Cutting and Allied Processes. Fire prevention, confined spaces procedures, hot work procedures, material handling and general shop safety will be studied. An introduction to welder qualifications will be covered as well as joint configurations and welding terminology used in the field. Professional work traits expected in the welding field will be discussed. Corequisite: WELD111M, WELD 112M

Theory Hours 3
Lab Hours 0
Credits 3

WELD111M: Gas and Arc Welding Lab

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.

Theory Hours 0
Lab Hours 10
Credits 4

WELD112M: Gas and Arc Welding Theory

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.

Theory Hours 3
Lab Hours 0
Credits 3

WELD121M: MIG and TIG Welding Laboratory

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.

Theory Hours 0
Lab Hours 10
Credits 4

WELD122M: MIG and TIG Welding Theory

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.

Theory Hours 3
Lab Hours 0
Credits 3

WELD125M: Manufacturing and Repair Techniques

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.

Theory Hours 0
Lab Hours 3
Credits 1

WELD180M: Basic Arc and Gas Welding

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.

Theory Hours 1
Lab Hours 3
Credits 2

WELD181M: Intermediate Arc and Gas Welding

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.

Theory Hours 1
Lab Hours 3
Credits 2

WELD182M: Welder Qualification and Testing

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.

Theory Hours 1
Lab Hours 3
Credits 2

WELD183M: Advanced (SMAW) Plate and Pipe Welding

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.

Theory Hours 1
Lab Hours 3
Credits 2

WELD184M: Gas Tungsten Arc Welding (TIG)

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.

Theory Hours 1
Lab Hours 3
Credits 2

WELD185M: Gas Metal Arc Welding (MIG)

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.

Theory Hours 1
Lab Hours 3
Credits 2

WELD186M: Blueprint Reading for Welders

This course is an introduction to print reading. The proper use of drawing equipment, line work and lettering, construction and interpretation of multi-view orthographic drawings, sectional views and auxiliary views will be covered. Other topics of discussion will include dimensioning and tolerances, sketching and structural steel shapes. Welding symbols, inspection and testing symbols, inspection and testing symbols for all welding processes will be covered. Students will develop a practical understanding of the blueprint reading knowledge required by the welding industry for employment.

Theory Hours 3
Lab Hours 0
Credits 3

WELD211M: Structural Code Welding Lab

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.

Lab Hours 10
Credits 4

WELD212M: Code Welding Theory

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.

Theory Hours 3
Lab Hours 0
Credits 3

WELD213M: Metallurgy

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.

Theory Hours 2
Lab Hours 2
Credits 3

WELD220M: Fabrication Techniques and Estimating

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 or WELD212M.

Theory Hours 2
Lab Hours 2
Credits 3

WELD221M: Pipe Code Welding

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 or WELD211M.

Lab Hours 10
Credits 4

WELD223M: Statics and Strength of Materials

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.

Theory Hours 2
Lab Hours 2
Credits 3

WELD224M: Intermediate GTAW of Pipe

This course introduces the fundamental concepts of welding with Gas Tungsten Arc Welding (GTAW) on Carbon steel, Stainless steel and Aluminum Pipe. Skills will be developed in all pipe positions, 1G, 2G, 5G and 6G. Topics covered will include: open root welds, backing ring welds, consumable insert welds, and back purged welds. Prerequisite: WELD211M. Corequisite: WELD221M.

Lab Hours 4
Credits 2

Personnel

Governing Board & Advisory Committee

STATE OF NEW HAMPSHIRE

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Kelly Ayotte

The Executive Council

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David Bellman, *President, Bellman Jewelers*
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Douglas Cullen, *NH Timberland Owners Association (NHTOA)*
Amadou Hamady, *Executive Director or Student Engagement, Outcomes & Success of Manchester School District*
Rebecca Marden, *Director of Workforce Development & Experience Development, Elliot Health System*
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Maxwell Walters, *Service Desk Analyst, GBCC*
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MCC College Advisory Ex Officio Members

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Colleen Jennings, *Vice President of Academic Affairs*
Megan Conn, *Vice President for Student and Community Development*
Ora LeMere, *Business Affairs Officer*
Jeannie DiBella, *College Director of Human Resources*
Vicky Jaffe, *Director of Marketing*
Michelle Vecchiarello, *Executive Assistant to the President, MCC*
Tim Allison, *Chief Advancement Officer and Executive Director of The Foundation for NH Community Colleges*

Administrative Departments

Academic Advising

Danelis Ajaezi
Student Momentum Coach
Education: University of New Hampshire, B.A, Psychology; Syracuse University, M.A., Sociology

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Education: University of London SOAS, B.A., Study of Religions; University of Leicester, M.A., International Education

Shawn Kithcart
Tech Hub Advisor
Education: Colby Sawyer College, B.S., Exercise and Sport Science

Hillary Rodriguez
Staff; Onboarding Coach
Education: Walden University, B.S., Early Childhood Studies

Academic Affairs

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Staff; Associate Vice President of Academic Affairs
Education: Education: University of Aberdeen, B.S., Biochemistry, University of London, Ph.D, Toxicology Pharmacology

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Administration

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MCC President
Education: Fordham University, Ph.D., Language and Literacy Education; Fordham, P.D., School Administration and Supervision; Iona College, M.S., Education

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Staff; Vice President of Student Affairs and Community Development
Education: Messiah University, B.A., Politics; New England College, M.S., Higher Education

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Staff; College Director of Human Resources
Education: Indiana State University, B.S., Journalism

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Staff; Business Affairs Officer
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Staff; Director of Corporate and Community Education
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Staff; Executive Assistant to the President
Education: Quinnipiac (College) University, B.S., International Business; Manchester Community College, Certificate, Human Resource Management

Admissions

Miho Bean
Staff; Director of Admissions
Education: University of Maine at Farmington, B.S., Elementary Education; Plymouth State College, M.Ed., School Counseling

Jordan Mayhew
Staff; Recruiter/Enrollment
Education: Rivier University, B.A., History

Mark McGrath
Staff; Admissions Counselor
Education: Saint Anselm College, B.A., Finance

Jeremy Murphy
Staff; Admissions Counselor
Education: Western New England University, B.S., Sports Management; Daniel Webster College, M.B.A., Business Administration

Patricia Tortolini
Staff; Admissions & Enrollment Specialist II
Education: Manchester Community College, A.S., Management; Manchester Community College, A.S., Business Communications

Bursar's Office

Patrice Ashworth
Staff; Account Services Representative
Education: Mt. Ida College, B.S., Business Administration

Nathalie Ferns
Staff; Regional Bursar
Education: White Mountains Community College, Certificate, Office Assistant

Debbie Miller
Staff; Student Account Representative
Education: Plymouth State University, V.S., Business Administration with concentration in Accounting

Business Office

Carol Despathy
Staff; Business Office Specialist I
Education: Manchester Community College, A.A.S., Administrative Assistant

Paula Hennessey
Staff; Business Office Supervisor
Education: NH Community College at Stratham, Diploma, Pharmacy Technology; NH Community College at Stratham, A.S. Office Administration; NH Community College at Stratham, A.S., Microcomputer Applications; Manchester Community College, A.S., Management; Manchester Community College, A.S, Accounting; Southern New Hampshire University, B.S., Business Administration

Campus Safety

Dennis Brennan
Campus Safety Officer

Vince Curtis
Staff; Safety & Security Officer IV
Education: High School Diploma

Norman Germain
Staff; Safety & Security Officer III
Education: Keene State College, B.A., Theatre Arts, Speech & Film; Keene State College: B.A., History

Paul MacPherson
Staff; Campus Safety Supervisor
Education: High School Diploma

Communications, Marketing & PR

Vicky Jaffe
Adjunct Faculty; Marketing; Staff; College Director of Communications & Marketing
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Early College

Major Wheelock
Adjunct Faculty; Accounting; Staff; Dual Enrollment / Early College Coordinator;
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Institutional Research

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Learning Commons & Library

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Education: High School Diploma

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Maintenance

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Staff; Facilities Maint Mechanic III
Education: Massachusetts Maritime Academy, B.S., Marine Transportation

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Education: High School Diploma

Charles Dant
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Michael Groulx
Staff; Facilities Maintenance Supervisor I
Education: High School Diploma

Chad LaFleur
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Education: High School Diploma

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Education: Hesser College, A.S., Criminal Justice

Patrick Sawyer
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Brenda Turcotte
Facilities Services Assistant, Maintenance

President's Office

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Education: High School Diploma

Registrar's Office

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Student Affairs and Community Development

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Student Life

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Student Support Services

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Workforce Development Center

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Welding Lab Assistant, Workforce Development

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Academic Departments

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Education: Manchester Community College, A.S.N., Nursing; The College of Wooster, B.A. Sociology; Walden University, M.S.N., Nursing Leadership and Management; NH RN License; BLS for Healthcare Providers; Advanced Cardiac Life Support

Suzanne Rouleau
Education: A.D.N., New Hampshire Technical Institute; B.A., St. Anselm College; M.S.N., University of New Hampshire

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Adjunct Faculty; Health and Exercise Science

Arts, Humanities, English & Design

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Education: The New Hampshire Institute of Art, B.F.A., & M.F.A.

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Education: New Hampshire Institute of Art, B.F.A.; New Hampshire Institute of Art, M.A.

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Rebecca Farren
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Nicole Miller
Adjunct Faculty; Fine Arts

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Nancy Sweeney
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Automated Manufacturing Technology (AMT)

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