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NORTHERN MAINE COMMUNITY COLLEGE

COURSE CATALOG 2018-2020

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2018 - 2020 CATALOG

NORTHERN MAINE COMMUNITY COLLEGE

ESTABLISHED 1961

Northern Maine Community College
33 Edgemont Drive
Presque Isle, Maine 04769
(207) 768-2700
www.nmcc.edu

Printed August 2018

Northern Maine Community College is accredited by the New England Association of Schools and Colleges, Inc. through its Commission on Institutions of Higher Education. The business technology department is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the associate in applied science degree, and the associate degree nursing program is accredited by the Accreditation Commission for Education in Nursing (ACEN) and approved by the Maine State Board of Nursing. In addition, a number of college programs are certified by applicable professional organizations. The college is a member of the American Association of Community Colleges, the American Council on Education and the Maine Higher Education Council.

Northern Maine Community College expressly reserves the right to change in any manner, including terminating or eliminating, the courses and programs offered or otherwise presented in this catalog. The Maine Community College System expressly reserves the right to change in any manner, including increasing tuition or any other fees. While, where practicable, the college will attempt to give as much notice as each situation allows, the college reserves the right to make any such changes without notice.

Northern Maine Community College does not discriminate as prescribed by federal and/or state law on the basis of race, color, religion, national origin, sex, sexual orientation, age, disability, or marital, parental or veteran's status in specified programs and activities. Inquiries about the College's compliance with, and policies that prohibit discrimination on, these bases may be directed to:

Affirmative Action Officer
Northern Maine Community College
33 Edgemont Drive
Presque Isle, ME 04769
Telephone: 207-768-2791
Maine Relay Service: 800-457-1220
Fax: 207-768-2848
E-mail: bharris@nmcc.edu
Internet: http://www.nmcc.edu

and/or

Maine Human Rights Commission (MHRC)
51 State House Station
Augusta, ME 04333-0051
Telephone: 207-624-6050
TTY/TDD: 207-624-6064
Fax: 207-624-6063
Internet: http://www.state.me.us/mhrc/index.shtml

and/or

United States Department of Education
Office for Civil Rights
33 Arch Street, Suite 900
Boston, MA 02110
Telephone: 617-289-0111
TTY/TDD: 617-289-0063
Fax: 617-289-0150
E-mail: OCR.Boston@ed.gov
Internet: http://www.ed.gov/about/offices/list/ocr/index.html?src=oc

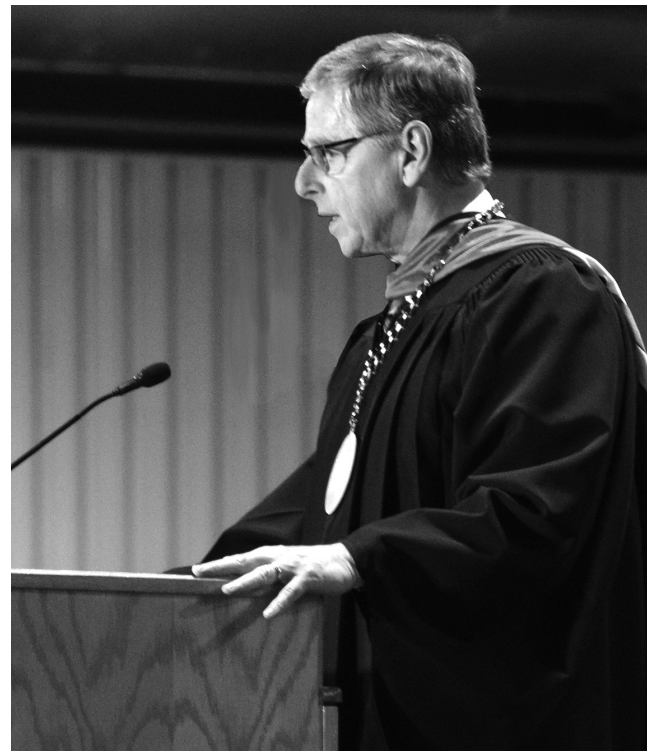
and/or

Equal Employment Opportunity Commission
475 Government Center
Boston, MA 02203
Telephone: 617-565-3200 or 1-800-669-4000
TTY: 617-565-3204 or 1-800-669-6820
Fax: 617-565-3196
Internet: http://www.eeoc.gov/

The college's practices are in full accord with the Family Educational Rights and Privacy Act.

In addition to policies and procedures of the College, NMCC adheres to the policies and procedures of the Maine Community College System.

MESSAGE FROM THE PRESIDENT



Northern Maine Community College provides education that leads to a more fulfilling life. We work with our student to align their education experience with meaningful employment and higher education opportunities. We are a small community college and pride ourselves in making a positive difference in the lives of our students. Whether our students are enrolled in an associate degree program, a certificate program or enrolled in a non-credit course, we believe our students can change their lives by experiencing education at NMCC.

The NM experience is a personal, clearly-defined educational experience that is focused on what you would like to achieve. I am pleased that you are taking the time to look at our catalogue; I invite you to visit our website at nmcc.edu to get additional information about us. I invite you to visit the college to experience firsthand the work we are doing with our students and our community to help students achieve their goals.

Sincerely,

Timothy D. Crowley, President

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General Information

THE COLLEGE

NORTHERN MAINE COMMUNITY COLLEGE

Northern Maine Community College was authorized in 1961 by the Maine Legislature and became operational in 1963. One of seven colleges in the Maine Community College System, the campus is located one mile from the center of Presque Isle. The college has undergone an impressive building program and has modern facilities to house its programs.

NMCC currently offers 38 full-time associate degree, advanced certificate and certificate programs. A wide range of credit and non-credit courses are also offered in the evening and during the summer term. All programs are offered to women and men, and each are encouraged to enroll in programs considered nontraditional for their gender. Qualified people with disabilities are also encouraged to apply and are provided appropriate support services.

Most programs are designed to give male and female students the technical knowledge and skills as well as the essential general education with which to pursue a career after graduation. The liberal studies program offers students the opportunity to obtain their first two years of a baccalaureate credential before transferring to another college or university. Many graduates of technical programs choose to continue their education at an institution offering a baccalaureate degree. Several transfer agreements with four-year institutions assist students in continuing their education.

INSTITUTIONAL ACCREDITATION

Northern Maine Community College is accredited by the New England Association of Schools and Colleges, Inc., through its Commission on Institutions of Higher Education.

Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited college is one that has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

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

THE MISSION OF THE COLLEGE

Northern Maine Community College is committed to maintaining its tradition of providing high-quality career and transfer programs that lead to associate degrees, certificates, and specialized training necessary for an educated, skilled and adaptable workforce. Through its affordable programs of study, courses, and specialized-training seminars, the College is a catalyst for economic growth and the development of human potential.

Core Values

The faculty, staff, alumni, and current students of NMCC are committed to the following core values:

- Student centered: We offer a learning environment focused on supporting students as they strive toward their individual success.
- Excellence in learning: We provide quality teaching and learning experiences as a means of promoting life-long learning to all.
- Diversity: We promote mutual respect and equality as a means of recognizing and embracing diversity.
- Service: We foster excellence in service to the college and the community, including business, industry and society.
- Integrity: We subscribe to and promote high standards of ethics and integrity; understanding that they are the foundation upon which our reputation is built.
- Sustainability: We practice continuous improvement as a means to being relevant to the economy, workforce, environment and future of the college.

DIVERSITY STATEMENT

The concept of diversity encompasses acceptance and respect. It includes but is not limited to ability, age, class, culture, education, ethnicity, family structure, gender, ideologies, political beliefs, race, religion, sexual orientation, style and values. Diversity is each of us and all of us.

AWARDS

The college awards the associate in applied science, the associate in science and the associate in arts degrees, as well as certificate and advanced certificate credentials.

NMCC PHILOSOPHY OF GENERAL EDUCATION

The NMCC faculty is dedicated to providing quality education to all students who enroll in our programs. Quality education consists of two closely related components.

First is a firm grounding in the basics of a technical or major field of study. Students are provided with the latest knowledge in their chosen field of study in preparation for work and/or transfer to another institution of higher education.

Second, and equally important for future success in the student's chosen field of endeavor, is a general education core that instills in the student the essential qualities of an educated person. The general education core is designed to ensure that all graduates exit the college with the tools necessary to lead thoughtful and productive lives.

To that end, the faculty has identified what they deem to be the essential knowledge, skills, and values of an educated person.

Knowledge

To begin with, all students need in-depth knowledge of a chosen field of study so they can become effective and productive workers. This includes a firm understanding of the scientific and mathematical knowledge that serves as a basis for the body of technical knowledge. In addition, the faculty recognizes that we are more than producers and consumers of goods and services; we are also citizens, members of families, and individuals who should be as concerned with civic and social responsibility as making a good life and a good living for ourselves. To that end, an educated person needs a broad-based knowledge of society and culture, an understanding of and respect for the diversity found in any given culture, and a strong sense of the past and its role in shaping the present. Only when one is educated for work and for life, will a person be able to become a truly productive citizen.

Skills

The accumulation of knowledge does not end at graduation and thus the educated person must be willing and able to engage in a lifetime of learning. The pursuit of knowledge is facilitated by certain skills and abilities that are characteristic of all educated people. An educated person has the ability to listen, read, view, write and communicate effectively; to use, locate, access, evaluate and manage data and information; to calculate and to reason mathematically; and to do so with the essential tool of the 21st century, the computer. Mastery of these skills provides one with the essential intellectual tools needed for a lifetime of learning.

Values

Finally, an educated person needs wisdom to apply his/her knowledge and skills in an ethical and just manner. An educated person is one who has developed a logical system of ethics and values and is able to apply those values and morality to everyday situations in a reasoned and rational manner. Without a sense of values and morality, the knowledge and skills acquired during one's education might be used for immoral purposes to the detriment of all. With a strong sense of morality, an educated person feels a sense of civic and social responsibility and is able to interact with others in a moral manner. Values and morals are also essential as a basic guide to making a good life for him/herself.

Summary

In short, an educated person is one who is fully literate, able to read, write, listen, speak, and think with clarity and precision; who has a strong sense of the past and its role in shaping the present; who understands his/her role as a citizen and a member of society; who understands and is able to relate scientific and technological knowledge to the issues that affect the quality of human life on this planet; who is able to use numerical data with ease and precision; who is able to find work that is fulfilling and useful, does it to the best of his/her ability and thus contributes to the good of society; and, who is able to use the aforementioned knowledge and his/her experience to find meaning and purpose in life.


PARIS J.
SNOW HALL
31
POLARIS

Admission

ADMISSION

ADMISSION POLICY

Completion of a four-year high school program or a state high school equivalency certificate is required for admission to the associate degree and certificate programs offered at NMCC. Other admission criteria are specified in the matrix at the end of this section. A rolling admission policy affords candidates the opportunity to apply and be considered for acceptance throughout the year, but early application (9-10 months prior to the beginning of a given school year) is recommended because of competition and enrollment capacities established for each program. Some programs are subject to a competitive admission process.

All programs are offered to women and men. Students are encouraged to enroll in programs considered nontraditional for their gender. Qualified persons with disabilities are also encouraged to apply and are provided appropriate support services.

APPLICATION PROCEDURE

The following procedures constitute the admission process:

1. An NMCC application form must be submitted with a non-refundable $20 application fee.
2. A complete high school transcript, for all years attended, must also be submitted to the admission office. Current high school seniors must include grades for the ranking periods completed at the time of their application to NMCC.
3. GED/HiSET test scores must be submitted to the admission office by those who have not received a high school diploma.
4. College transcripts must be submitted to the admission office by applicants who have attended other colleges or postsecondary schools.
5. a. Placement testing, individual interviews and campus tours are required, in most cases, prior to admission notification.
   b. Prospective students with a native language other than English, will be required to demonstrate a proficiency in the English language. The Test of English as a Foreign Language (TOEFL), administered by the National Testing Service, will be made a part of the applicant's file. Minimum scores required; BT=85 or pBT=61.
6. Admission decisions are made as quickly as possible once an individual candidate's file is complete.
7. Accepted applicants are required to make a $100 non-refundable (after May 1st) classroom deposit within thirty days of their acceptance notification. Students wishing on-campus housing are required to submit an additional $100 deposit to reserve space in the residential complex.

CONDITIONAL ADMISSION

Some students are admitted with conditions, including, but not limited to, an on-campus developmental studies program in reading, writing and/or mathematics. The conditions in a given applicant's acceptance letter typically must be completed during the first semester of attendance and are removed upon successful completion of the specified requirement.

TRANSFER CREDIT

Applicants requesting transfer credit must submit their request to the admission office, preferably prior to enrollment. Requests for transfer credit after admission follow the Prior Learning Assessment process. Courses accepted for transfer credit are not included as part of any student's grade-point average at NMCC. Official college transcript is required.

I. The college's policy is to accept no more than six credit hours from another institution while the student is currently enrolled in a prescribed two year program at NMCC. Determination will be made on an individual basis.
   1. A student wishing to attend another institution while enrolled at NMCC must make a written request.
   2. Request must be approved by the registrar.
   3. The written approval and final grades are to be submitted to be recorded on the permanent transcript as transfer credit.
   4. For transfer courses to be accepted, a minimum grade of C is required. Courses accepted as transfer credit are not included as part of a student's grade point average at NMCC.

II. Credit for Occupational/Major courses may be issued to individuals enrolled in or having completed a Registered Apprentice program may be awarded up to 24 credit hours. Assessment may be fulfilled by one or more of the following methods:
   1. Successful completion of a recognized apprenticeship training program approved by the Maine State Apprenticeship Council.
   2. Applicants who have successfully completed a Journeyman's Examination may

submit written application for lab credit.

3. Applicants presently enrolled or having completed in-house training in which formal apprenticeship training or examinations are not used.

III. Nursing Program Guidelines:
Individuals entering nursing and allied health programs with advanced standing (upgrading credential) or re-entering the program after a break in attendance, may be required to take or repeat all major courses within the program. Related science courses must be repeated if they were taken more than 10 years previously.

CREDIT FOR PRIOR LEARNING

Prior learning is a term used to describe learning that a person acquires outside a traditional academic environment. This learning may have been acquired through work experience, employer training programs, military, non-credit courses or seminars, and volunteer work.

Prior learning assessment (PLA) is a term used to describe the process by which an individual's experiential learning is assessed and evaluated for purposes of awarding college credit. NMCC has many approaches to PLA that help students save time and money on their way to achieving their college degree.

1. National standardized exams in specified disciplines such as Advanced Placement (AP) exams, College Level Examination Program (CLEP) tests, Dantes Subject Standardized Texts (DSST)
2. Foreign Language Achievement Testing Service (FLATS) exams
3. Proficiency Credit - Certificates, Examinations & Licenses from evaluated non-college programs
4. NMCC Challenge Exams
5. Portfolio Review
6. Military Review
7. Articulation Agreements

Student Eligibility for Prior Learning Credits

1. Students must be matriculated in one of the College's degree programs
2. Students will have a requirement(s) in their academic program to which prior learning credit could apply.

Award of PLA Credit

- Credit for prior learning will be awarded based on assessment of documented learning, which demonstrates achievement (at a grade level of C or higher) of learning outcomes for a specific requirement/discipline area elective, i.e. credit by course equivalency.
- The College has all course descriptions/ objectives and learning outcomes written for each catalog course, and available for use by students seeking prior learning assessment.
- Students may earn prior learning credit for any graduation requirement at any point in their program for which they demonstrate equivalent learning, unless there is any unique program accreditation requirement restricting this.
- The award of prior learning credit is subject to New England Association of Schools & Colleges (NEASC) accrediting agency standards (revised for July 2016). These standards cap PLA credits in certificate programs of 30 or fewer credits to 25%. Credits earned by PLA are not recognized in the residency requirement of 25% of associate degree credits.
- All types of prior learning acquired more than ten years from the date of NMCC matriculation are subject to review though not exclusion.
- Prior to a formal review, faculty and other academic advisors will provide guidance, but not assurances, of the number of credits that may be awarded.
- A student may not receive credit twice for a course that has been awarded through PLA.
- NMCC is committed to transparency in the award/denial of academic PLA credit and the College's academic appeal process applies to PLA awards.
- When credit is awarded, students will receive notification from the Registrar's Office.
- Students and advisors should be aware whether PLA credit will satisfy credit load requirements for veteran benefits funding or other similar third party financial assistance programs.

Transcription of PLA Credit

- Prior learning credits can be used to satisfy any degree/program requirement.
- Maine Community College System (MCCS) uses a standard coding system for each method of PLA as reflected in the transcript's key.
- The college will award its own course title and number to the prior learning credit.
- Where the credit is transferred from another institution of higher education, it retains its own course title and number.
- Credits awarded via any prior learning method indicate that learning has been assessed for that credit at a grade of C or better.

- Prior learning credits do not carry quality points and are not calculated in the grade point average.

Fees
- Fees are set for the review of two types of prior learning but not for any resulting credit: campus-based Challenge Exams and Portfolios.

- Payment of a PLA fee does not guarantee the award of credit and is non-refundable. In addition, lab fees and/or material costs for these assessments may apply.

- PLA fees will be clearly publicized for students prior to their request for credit evaluation.
  $100 per Challenge Exam attempted
  $125 per Portfolio attempted

Appeal
- Fees are reviewed on a consistent basis, similar to other MCCS fees and revised to reflect conformity with academic and administrative standards.
- Students wishing to appeal a PLA credit award/ denial may do so in accordance with the college's academic appeals policy and procedure.
- Recommendations and scoring by nationally-standardized exam bodies (AP, CLEP, DSST, IB, or BYU-FLATS, etc.) are under the auspices of the evaluation body and cannot be appealed at the College level. Students will be directed to the appeals procedures for each testing agency or credit recommendation service.

Transferability
- MCCS colleges recognize PLA credit specifically awarded by sister colleges (i.e. credit from credential review, challenge exam, and portfolio) as transfer credit, as applicable to the academic program at the receiving institution. No further burden of proof will be required of students, where PLA credit appears on another MCCS transcript. This same reciprocity is extended to students/transcripts from the University of Maine System.

- This College cannot guarantee the transfer out of PLA credits to other colleges/universities, nor the applicability of credits to a student's future degree requirements.

- Students are encouraged to engage in careful academic and financial aid planning when their academic goals include transferring to other degree programs

SERVICES FOR STUDENTS WITH DISABILITIES

Students applying for admission to the college are encouraged to indicate a physical disability, learning disability or health problem that may require accommodations to the classroom or residential life environment. Requests for special accommodations must be submitted in writing to the director of counseling at least three weeks prior to admissions testing and/or the first day of classes each semester.

Students are also responsible for providing appropriate and current documentation from a qualified professional that supports such requests. In some cases students may be required (at their own expense) to undergo re-evaluation. Accommodations must be approved by the dean of students.

FULL-TIME, PART-TIME AND NON-DEGREE STUDENTS

Students who are admitted to a program of study at the college may choose to enroll as either full- or part-time students in any given semester.

NMCC defines a full-time student as one who enrolls for 12 credit hours or more per semester. Most agencies and programs, including financial aid, veterans' assistance, the Social Security Commission and insurance benefits, also define a full-time course load as 12 credits per semester.

Anyone interested in taking one or more day or evening courses without enrolling in a degree program may do so by registering for the course(s) during registration periods. Course pre & co-requisites apply. Non-degree students do not need to apply for admission to the college in order to take courses.

NEW ENGLAND REGIONAL & NEW BRUNSWICK STUDENT PROGRAMS

Students who are legal residents of any New England state may be eligible for admission consideration under the New England Regional Student Program. Students in this program will pay tuition equal to 150% of applicable resident tuition.

Students admitted under the MCCS/NBCC agreement are eligible to take classes at in-state tuition rates. Not all programs are available under this agreement, and applicants must first contact the admission office at their local New Brunswick community college. All other New Brunswick residents are eligible to receive the New England Regional Program tuition rate of 150% of applicable resident tuition.

ACADEMIC SKILLS ASSESSMENT

Skills assessment is required of all applicants for admission. Performance on testing may affect a student's acceptance into a program in the college. Results are used for appropriate placement in English, reading and mathematics courses.

IMMUNIZATION

Maine Law (22-MRSA§6359) requires that all students born after 1956 attending any public or private postsecondary institution in Maine have on file at the institution a "Certificate of Immunization" signifying that (s)he is in compliance with the above stated Maine law, as amended. Some programs will require additional medical clearance.

EARLY ADMISSION OF HIGH SCHOOL STUDENTS (DUAL ENROLLMENT)

High school juniors who qualify may enroll as full-time matriculated students. With the recommendation of the high school principal and guidance counselor, students can simultaneously complete high school graduation requirements and their freshman year of college. The college will consider only highly motivated students who are entering their senior year, have a strong academic background and are in the upper half of their class. Particular consideration will be paid to the students' motivation and maturity. Applicants must follow the regular admission process with the addition of letters of recommendation from the high school principal and guidance counselor. NOTE: These students **will not** be eligible for federal financial aid until they receive their high school diploma or GED/HiSET.

ON COURSE FOR COLLEGE

On Course for College offers high school students a portfolio of activities, including dual enrollment, concurrent enrollment, articulated credit, and defined programs of study, to enhance the transition from high school to the college setting. Many of these opportunities are funded in part or fully by the College and its secondary partners.

Under the auspices of the Carl D. Perkins Career and Technical Education (CTE) Improvement Act of 2006, NMCC works in partnership with Maine's CTE regions and centers, their sending schools, business and industry, and communities to prepare students for success in the workplace or at the next level of learning.

Students who participate in On Course for College activities while still in high school could gain the following advantages:

- transferable college credits awarded at a significantly reduced cost to the student;
- less duplication of coursework at high school and college;
- advanced standing in his/her program of study;
- a more efficient and effective transition from high school to college.

Interested students should check with their local CTE school or the On Course for College office at 207-768-2782 for more information.

Aspirations

This program, funded by the Maine Department of Education, the Maine Community College System and the College, enables qualified Maine high school students to receive a full tuition waiver at NMCC for the first course each semester and a 50 percent tuition waiver for the second course (up to a maximum of six credits/two courses) each semester (12 credits max. annually). This applies to courses taken while simultaneously enrolled in a Maine high school.

Guidelines:

- No more than six credits per student per fall or spring semester.
- Maine HS juniors or seniors with high school recommendation.
- Parent or guardian's approval.
- Students under the age of 18 must have a Minor Release form on file at NMCC.
- Not to be used in conjunction with or as a replacement for any other tuition reduction program (except as stated above) currently available for Maine high school students (e.g. early admission, EMBARK, etc.).
- Student must satisfy all course prerequisite conditions, which may include completion of Accuplacer testing, and must adhere to all college rules and regulations, including attendance requirements.
- Courses available under the program are limited to those taught by direct, on-site instruction.
- Students and/or their families are responsible for costs including tuition (if class credit hours exceed program maximum), books, supplies and/or other related expenses.
- Withdrawal from or failure to complete the course may void the waiver.

Funds and course space are limited and are available on a first-come, first-qualified, first-served basis.

Concurrent Enrollment

Students may complete college-level coursework while in high school. Courses are taught by qualified CTE instructors with the College's syllabus and materials. Students earn both high school and college credit for their work.

EMBARK

EMBARK is a college transition program of the Maine Community College System designed for high school students who are undecided about college, yet have the potential to succeed in college.

VETERAN'S SERVICES

NMCC is approved for the training of veterans, and appropriate assistance is provided through the student affairs office. The VA coordinator serves as liaison to the Veterans Administration and the State of Maine's approval agency.

MAINE NATIONAL GUARD

Members of the Maine National Guard should check with the college's admission office regarding opportunities for tuition vouchers.

Students who are called up to active duty during a semester have the option of (1) receiving a per diem refund for the unexpired portion of the term for tuition and other refundable fees, or (2) having all tuition and course fees waived for one semester upon their return (as long as they return to school within one year of the end of their active duty). Unless otherwise requested, students will be re-admitted into the major they exited from, if available.

SENIOR CITIZENS

Senior citizens who are Maine residents and 65 years of age or older may attend the college tuition-free, for up to 24 credit hours, where course space is available. All other fees are applicable.

CONTINUING EDUCATION DIVISION

The continuing education division provides a wide variety of professional development and personal enrichment courses designed to upgrade and strengthen job skills. Seminars, non-credit courses and workshops, as well as credit courses and certificate programs tailored to meet the needs of employees in business, industry and government agencies are offered both on- and off-campus. Courses meet during the day and evening, and some Saturday courses are available. Instructors are professionals who have the combination of current expertise in their topic area and experience teaching adults.

Commercial Driving Academy

Our State of Maine licensed tractor-trailer driving school is designed to train students to become professional truck drivers. A combination of classroom and hands-on experiences will give you the skills necessary to handle a tractor-trailer safely and efficiently for a new career in one of today's fastest growing industries. Courses are available in day or evening/weekend formats. For a listing of admission requirements or additional information about truck driver training options, call 768-2768 or visit the continuing education link on NMCC's web-site.

Distance Learning

Web-based, non-credit training is also available through a wide range of highly interactive courses that you can take entirely online. In addition, we offer online open enrollment programs designed to provide the skills necessary to acquire professional level positions for many in-demand occupations. Look in the continuing education on-line courses section of the NMCC web-site for a complete listing and registration options.

Customized Training for Organizations

Customized training will be tailored to meet the needs of groups, organizations and businesses and can be offered on campus or at the business location. A range of courses and workshops are offered in a flexible and creative manner to assist companies with their training needs. Professional staff members dedicated to contract training are available to provide information and assistance for securing funding support for training needs. Information about customized training options is available by calling 768-2768.

Fees, Insurance and Policies

The costs of continuing education/contract training offerings are based upon the level of customization, enrollment, and the cost of the training materials. Insurance may also be required depending on the nature of the course.

The Continuing Education Unit

Continuing Education Units (CEUs) are awarded for non-credit courses. The CEU recognizes individual and institutional participation in non-traditional studies and special activities. The CEU meets the need for uniformity in the planning and educational experiences for technical and professional people to improve their competency and skill levels through staff development. One CEU is awarded for each ten hours of satisfactorily completed course hours.

*MCCS & NMCC recommend the following minimum Accuplacer scores for placement into related college-level courses.

QAS	245	Write Placer	6
Arithmetic	250		
Reading	240		
Writing	240		

QAS - Quantitative Reasoning and Statistics
QAS/Arithmetic - Dependent on level of math course

Credential	HS Diploma/GED	Academic Testing* or SAT / ACT	Two Years of Math	Algebra I	Algebra II	Geometry	Physics	Chemistry	2 years HS Science With Lab	4 Years of English *or equivalent*	Accounting	BLS	Immunizations	EMT - Basic	Paramedic License *or equivalent*	Valid Drivers License	Recommendations	Program Specific Medical Compliance
Accounting AD	R	R	R	R	D					R	D		R				D	
Automotive Collision Repair AD/CRT	R	R	R	R/D	D					R			R				D	R
Automotive Technology AD/CRT	R	R	R	R/D	D	D	D			R			R				D	
Building Construction Technology AD/CRT	R	R	R	R/D	D	D	D			R			R				D	
Business Administration AD	R	R	R	R	D					R	D		R				D	
Career Studies AD	R	R	R	D	D		D			R			R				D	
Community Paramedicine AD/CRT	R	R	R	R	D		D	R	R	R			R		R		R	
Computer & Network Technology AD/CRT	R	R	R	R	D	D	D			R			R				D	
Diesel Hydraulics Technology AD/CRT	R	R	R	R/D	D	D	D			R			R				D	
Early Childhood Education AD/CRT	R	R	R	R	D			D	D	R			R				D	R
Electrical Construction & Maintenance AD/CRT	R	R	R	R	D	D	D			R			R				D	
Emergency Medical Services AD/CRT	R	R	R	R	R/D	R/D	D	R/D	R/D	R			R	R		R	D	R
Entrepreneurship CRT	R	R	R	D						R	D		R				D	
Liberal Studies AD	R	R	R	D	D		D		D	R			R				D	R
Medical Assisting AD	R	R	R	R	D			R	R	R	D	R	R				D	R
Medical Coding CRT	R	R	R	R	D			D	D	R	D		R				D	R
Nursing (RN) AD	R	R	R	R	D		D	R	R	R		R	R				R	R
Office Assistant CRT	R	R	R	D						R	D		R				D	
Plumbing & Heating AD/CRT	R	R	R	R/D	D	D				R			R				D	
Precision Machining AD/CRT	R	R	R	R	R	R	D			R			R				D	
Structural Welding CRT	R	R	R	D	D	D	D			R			R				D	
Wind Power Technology CRT	R	R	R	R	D	D	D			R			R				D	R
Water Treatment Technology AD/CRT	R	R	R	R/D	D	D	D	R	R	R			R				D	

AD = Associate Degree CRT = Certificate D = Desired R = Required

Tuition and Fees

TUITION AND FEES

TUITION

2018 - 2020	
Resident	$ 94 per credit hour
New England Regional Student Program	$141 per credit hour
***New Brunswick Students**	$141 per credit hour
Non-Resident	$188 per credit hour

Note: For planning purposes, 16 credit hours per semester may be considered average.

Note: Changing financial conditions, state legislative action and other considerations may necessitate adjustment of charges and expenses. The college reserves the right to make such adjustments as may from time to time be necessary in the opinion of the Board of Trustees.

*Students admitted under the MCCS/NBCC agreement are eligible to take classes at resident tuition rates. For more information on the agreement, contact the student affairs office.

RESIDENCY

A student is classified as a Maine resident or non-resident for tuition purposes at the time of admission to a community college. No student, once having registered as a non-resident student, is eligible for resident classification unless he/she has been a bonafide domiciliary of the state for at least one year immediately prior to registration for the term for which resident status is claimed. If the student is enrolled for a full academic program, as defined by the college, it will be presumed that the student is in Maine for educational purposes and that the student is not in Maine to establish a domicile as a permanent residence; thus, the burden will be on the student to prove that he/she has established a Maine domicile by the time of such registration. The domicile of the student who is claimed as a dependent for tax purposes follows that of the parents or legally appointed guardian of the student. If a student classified as a non-resident marries a person who is domiciled in Maine and asserts the establishment of a domicile in Maine, the student shall be presumed to be eligible for resident status at such resident's next registration. In general, members of the Armed Forces and their dependents are normally granted resident status during the period of active duty.

BUSINESS OFFICE

All monetary transactions are handled through the business office. **Payment for all bills, including tuition, assessed fees and room and board is due and payable on or before registration day for each semester. Students with outstanding bills will be unable to receive grades, transcripts or diplomas.**

DEPOSITS

Classroom Deposit..... $100
Housing Deposit..... $100

FEES

ROOM & BOARD ANNUAL RATES

Double Room w/19 meals/week.....	$7818
Double Room w/14 meals/week.....	$7018
Double Room w/12 meals/week.....	$6426
Single Room w/19 meals/week.....	$8666
Single Room w/14 meals/week.....	$7866
Single Room w/12 meals/week.....	$7274

ADDITIONAL FEES

Registration Fee (full-time).....	$ 13/sem.
(part-time).....	$ 11/sem.
Comprehensive Fee.....	$ 3/cr.hr.
Information Services Fee.....	$ 6/cr.hr.
Course Fees (Lab).....	$ 18.40/cr.hr.
(Non-Lab).....	$ 9.20/cr.hr.
Student Activity Fee (full-time).....	$ 26/sem.
(part-time).....	$ 13/sem.
Health Fee (full-time).....	$ 40/sem.
(part-time).....	$ 15/sem.
Liability Insurance (nursing students)..	$ 15
Liability Insurance (EMS majors).....	$ 61.50
Liability Insurance (ECE majors).....	$ 17
Orientation Fee.....	$ 35♦
Graduation Fee (Seniors).....	$ 65
Early Cancellation Fee (Housing).....	$ 350

* All resident students must purchase a meal plan.
♦ Incoming first year students only.

Notes:
Books and supplies vary with demands of individual programs. Many trade and business programs also have additional tool or notebook computer expenses. Insurance costs are subject to change based on premium changes.

TUITION AND FEE CHANGES

The Maine Community College System expressly reserves the right to change in any manner, including increasing, tuition or any other fees. While, where practicable, the college will attempt to give as much notice as each situation allows, the college reserves the right to make any such changes without notice.

GRADUATION FEE

A required $65 graduation fee covers the cost of the graduate's diploma and other graduation expenses.

REFUND POLICY

Students terminating enrollment at NMCC before the completion of any given semester are entitled to a refund of tuition, assessed fees (as indicated in the fees section), and room and board, based on the date official notification is given to the college or the last date of attendance, whichever is latest.

Students withdrawing from NMCC should go to the student affairs office to complete a withdrawal form. This will expedite the processing of any refund due. All refunds will be made in accordance with the official date of withdrawal.

The refund will be based on the current policy of the Maine Community College System:

For tuition and fees refunds, a student who officially withdrawals from a course(s) within six calendar days of the semester's first day of classes will receive 100 percent refund of each dropped course.

- Withdrawal between seven and 10 calendar days of the semester's first day of classes will result in a 50 percent refund.
- No tuition refunds are awarded for withdrawal after the first 10 calendar days of the semester's first day of class, or for unofficial withdrawal at any time.

For room and board refunds,

- Official withdrawal from a college residence prior to the semester's first day of classes will receive a 100 percent refund.
- Those officially leaving housing by the end of semester's second week of classes will receive an 80 percent refund.
- By the end of the third week of classes is a 60 percent refund.
- By the end of the fourth week of classes is a 40 percent refund.
- By the end of the fifth week of classes is a 20 percent refund.
- Official withdrawal from campus housing after the fifth week of the semester, or unofficial withdrawal at any time, will result in no refund.

The financial aid award is based upon the expectation that a student will complete the entire period for which aid is awarded. Students withdrawing from college before the term completes are subject to the pro-rata refund policy and may be obliged to repay disbursed financial aid. The total refund amount is calculated on a pro rata basis through 60 percent of the payment period (payment period is semester of enrollment).

The period of enrollment will be based on calendar days. Scheduled breaks of five consecutive days or longer will be excluded from the calculation, based on the regulations set forth by the Higher Education Amendments of 1998.

Students who feel that individual circumstances warrant exceptions from the published policy may appeal by completing the Withdrawal & Tuition Refund Appeal form. Appeals may be made under the following reasons: death of an immediate family member, the student's medical incapacitation, military duty or computational/ administrative error by the College. The complete appeal process is outlined on the appeal form.

Alternative meal plans may be established by the college president based upon approved board charges. Refunds for alternative meal plans follow the guidelines above.

Refunds for non-credit courses are determined on an individual basis.

STUDENT PAYMENT PLAN

The college offers students the option of paying for college expenses in monthly installments over the course of the semester. Required payments will be approximately 25 percent of the balance owed the college after considering financial aid, scholarships and other support from outside agencies. An enrollment fee of $25 will be assessed to each student participating in the plan. If a payment is not made by the due date, the balance is immediately due. A new plan can be established with an additional fee of $25.

TRANSCRIPT FEE

Students requesting that a transcript be sent to a business or another college must sign a transcript release form. These forms are available in the student affairs office as well as on the college web-site. Students requesting a transcript

must do so in writing. Expedited transcript requests (processed within one working day of the request) will cost $25 per request. Facsimile transmissions will cost $10, and overnight delivery will cost $75, in addition to the expedited transcript fee.

DELINQUENT PAYMENT

The Maine Community College System Board of Trustees authorizes the college presidents to withhold grades, degrees, diplomas and transcripts from students for failure to pay all lawful fees and charges.

STUDENT CREDIT BALANCES

Payment of student credit balances will be made to students no earlier than the day following the completion of four weeks of classes of each semester*. Student credit balances will be mailed to the student's address on file by the College.

Student loan checks will be available for disbursement no longer than 30 calendar days from the college's receipt of the loan(s) in accordance with U.S. Department of Education regulations.

**First time federal student loan borrowers must be in attendance a minimum of 30 calendar days in the semester in which they receive their first student loan before any loan proceeds may be disbursed to them.*

LAPTOP PURCHASING PROGRAM

Students enrolled in an academic program that requires a laptop computer or a tablet as a classroom tool have the opportunity to purchase the device through the college with their financial aid funds. This program is subject to the availability of a local vendor(s) to participate. The computers offered will meet or exceed the college's defined minimum system requirement specifications. All orders will be approved by the director of finance and placed by the bookstore manager.

More information on this program can be obtained by contacting the bookstore manager.

Financial Aid

FINANCIAL AID

PURPOSE

The purpose of financial aid is to serve students who need assistance in meeting the basic cost of their education. Because funds are limited, federal and state regulations require that these funds go to students who demonstrate financial need. This section outlines the application procedure, how student need and eligibility are determined, and some of the major financial aid programs available at NMCC. For more information, students who think they may be eligible for financial aid should visit the financial aid office in the student affairs area located in the A.K. Christie Building.

HOW TO APPLY FOR AID

1. Apply for admission to the college.
2. Get a FSAID # at **http://www.fsaid.ed.gov** to electronically sign FAFSA.
3. Complete FAFSA on web at **www.fafsa.ed.gov**. School code is 005760.
4. Complete **NMCC CONFIDENTIAL FINANCIAL AID APPLICATION.**
5. Complete and return all forms requested by the financial aid office.

Priority is given to early applicants.

All documents must be received before the processing of a student's financial aid award. A new application with supporting documents must be filed every academic year for financial aid. Eligible students will be offered a financial aid award consisting of a combination of grants, work and/or loans.

COLLEGE POLICY ON FINANCIAL AID

All financial aid at NMCC is administered in accordance with policies and procedures which have been established nationally. The basis of such programs is the belief that STUDENTS AND THEIR PARENTS HAVE THE PRIMARY RESPONSIBILITY to meet educational costs and that financial aid is available only to fill the gap between the family's and/or student's contribution and allowable educational expenses. The amount of expected student or family contribution is determined by a careful analysis of financial strength: income and net assets versus the allowable expenses which the family may have.

Education expenses which are considered a basis for establishing student need include tuition, fees, books and supplies, room, board, tools, transportation and personal expenses. The NMCC financial aid office has an established student budget to reflect the costs of each of these items based on local cost data.

All students who are awarded financial aid are required to sign a Statement of Educational Purpose which states that all funds received will be used only for educational purposes.

GENERAL ELIGIBILITY FOR FINANCIAL AID

Specific eligibility requirements vary from program to program. The following criteria apply to all financial aid programs.

To receive financial aid, a student must:

1. Have a high school diploma or its equivalent.
2. Be enrolled or accepted for enrollment in an eligible program leading to an associate degree or certificate.
3. Be a U.S. citizen, permanent resident, or refugee with an appropriate visa.
4. Have financial need.
5. Maintain satisfactory progress in a course of study according to the standards and practices of NMCC.
6. Not owe a refund on a Pell Grant or Supplemental Grant at NMCC.
7. Not be in default on any: Federal Family Education Loan, Perkins (National/Direct Student) Loan, Stafford Loan (formerly Guaranteed Student Loan) or Unsubsidized Stafford Loan.
8. Have met legal requirements for selective service registration.
9. Complete their academic program of study within 150% of the program's catalog time for completion.

Note: Current federal regulations now prohibit the awarding of Pell grants for more than 12 full-time semesters of collegiate attendance. Only courses required in your academic major are eligible for financial aid. While financial aid rules do not prohibit individuals from taking courses outside of your program of study, those courses will not count toward the determination of your financial aid load. [1/2 time = 6-8 cr. hrs. in your program of study (major)/per semester; 3/4 time = 9-11 cr. hrs. in your program of study (major) per semester; Full time = 12 or more cr. hrs. in your program of study (major) per semester].

DETERMINING FINANCIAL NEED

The amount of financial aid is subject to available federal and state funds. The type of aid and amount received will be determined by the financial aid office. Financial aid awards are based on demonstrated financial need which is the difference between allowable educational expenses and the total of the parents' expected contribution and/or the student's own expected contribution.

Contributions are determined from the financial aid application and other documentation as required, such as the Federal Income Tax transcript of the parents and/or student. All information is held in strictest confidence.

FINANCIAL AID PROBATION OR DISQUALIFICATION

Students must be matriculated in an academic major and maintain satisfactory academic progress (SAP) to be eligible for financial aid. SAP for financial aid includes meeting or exceeding College grade point average requirements (qualitative measurement) and PACE (quantitative measurement).

Academic progress is assessed at the end of each academic term, as stated in the handbook. Additionally, students must earn a cumulative total of 67% of credits attempted each term (PACE). Students failing to earn 67% of credits attempted in a given semester and/or failing to meet College academic progress requirements will automatically be placed on Financial Aid Warning. Any student placed on Financial Aid Warning may receive Title IV aid for the subsequent payment period. Failure to reestablish SAP as assessed at the end of the subsequent term will result in the loss of Title IV aid.

In order to comply with the Satisfactory Academic Progress standards for financial aid, students must have a 2.0 cumulative grade point average (GPA) at the end of the equivalent of two full academic years (64 credits.)

Students who accept funds for a specified number of credits but who either drop credits or withdraw from school, thereby completing fewer credits than anticipated, will be placed on probation or disqualification, as applicable.

Students in default on any Perkins (NDSL)/ Stafford Loan or any other federal or state-insured loans at NMCC will be disqualified from subsequent aid until repayment or satisfactory arrangements have been made.

Students who owe a refund on a Pell Grant or SEOG at NMCC will be disqualified from subsequent aid until repayment or satisfactory arrangements have been made.

A student denied financial aid for any reason or who wishes to request a waiver of financial aid office policy has the right to petition. Petition forms are reviewed by a committee of financial aid office staff.

If a written petition is denied, students have the right to a personal appeal. If a personal appeal is denied, students have the right to appeal to the financial aid advisory committee, consisting of administrators, faculty and staff. The committee's decision is final.

RIGHT TO INFORMATION

Students have the right to a full explanation of NMCC financial aid programs, policies and procedures. Complete information is contained in the *NMCC Financial Aid Policies and Procedures Manual* and the other written regulations available in the financial aid office.

For information on academic programs and facilities, faculty, accreditation, refund policies and non-discrimination policies, see the appropriate section of this catalog.

FINANCIAL AID PROGRAMS

Financial aid consists of programs which are funded and regulated by the federal and state governments. The programs are of three different kinds: grants, work and loans.

Grants

A grant is money for which students do not have to work or repay. Students with bachelor's degrees are not eligible for grants.

Federal Pell Grant: Pell grants range from $555 - $5,815 annually.

Federal Supplemental Educational Opportunity Grant (FSEOG): FSEOG is awarded according to a formula based on student need and generally will range from $300-$600 per academic year.

State of Maine Grants: This state and federally funded grant program provides college scholarships to Maine residents whose family resources are not sufficient to meet the cost of higher education. Awards are based on student need and generally will range from $750 to $1,500 per academic year. FAFSA must be received by May 1 for State grant.

Work

Work is offered under the Federal Work-Study program to students who are found eligible for financial aid.

Federal Work-Study (FWS): FWS allows students to earn money through part-time work while classes are in session and full-time work during vacations and summer. Jobs are available on campus and throughout the community and with the America Reads program in the elementary schools. This work can add to the educational experience and be a valuable asset when seeking employment after graduation.

Loans

Loans are money which is borrowed now and must be paid back after leaving school. Students with bachelor's degrees may be eligible. Federal Direct Student Loan Programs that NMCC students may participate in include:

1. **Federal Direct Subsidized Loans**
2. **Federal Direct Unsubsidized Loans**
3. **Federal Direct PLUS Loans for Parents**
4. **Alternative Education Loans**

Students receiving loans are required to do both an entrance and an exit on-line counseling session.

NOTE: If the student transfers to or from another college and wishes to delay loan repayments, a deferment/forbearance request is obtained from the lender and must be submitted to the lender.

SCHOLARSHIPS

Annually, the NMCC scholarship committee evaluates applications for scholarships awarded by the Northern Maine Community College Foundation and privately sponsored scholarships offered to students currently attending or transferring to NMCC. Scholarships are available to both first year and second year students. The foundation also awards numerous grants dependent on student need.

Students may apply for these scholarships on-line through the financial aid section at my.NMCC.edu.

DISBURSEMENT OF FINANCIAL AID

See "Student Credit Balances" in the Tuition and Fees section.

VETERANS INFORMATION

Programs at the College are approved by the Maine State Approving Agency for the education and training of veterans and other "GI Bill" eligible persons. There are several "GI Bills": three for active duty service members, depending on dates of service; one for disabled veterans with service connected disabilities; one for spouses and children of totally disabled or deceased veterans resulting from service connected conditions; and two for members of the Selected Reserve. The programs are described in greater detail on page 28.

Students who believe they qualify for veterans' educational benefits should contact the student affairs office.

NOTE: Veterans receiving monthly non-educational benefits must include those amounts on their FAFSA form.

SENIOR CITIZENS

Senior citizens who are Maine residents and 65 years of age or older may attend the college tuition-free, for up to 24 credit hours, where course space is available. All other fees are applicable.

MAINE NATIVE AMERICAN TUITION WAIVER POLICY

Northern Maine Community College proudly serves all students and maintains the goal of assisting students achieve a post secondary education while keeping costs as low as possible. Northern Maine Community College waives all or a portion of tuition charges for matriculated students who are Maine residents and document their membership or ancestry in a Maine-based Native American tribe.

Waiver Eligibility: To qualify for an NMCC Native American tuition waiver, the student must meet the following eligibility criteria:

- **Tribal Membership or Ancestry:** The student must be included on the current tribal census or have at least one parent or grandparent included on the current tribal census of the Passamaquoddy Tribe, the Penobscot Nation, the Houlton Band of Maliseet or Aroostook Band of Micmac.

- **Maine Residency:** The student must meet NMCC's criteria to qualify for in-state tuition charge.

• **Enrollment:** The student must be accepted into a degree or certificate program and enrolled in credit-bearing courses at NMCC. The student must remain in good academic standing as defined by the college and maintain Satisfactory Academic Progress as defined by Title IV Federal financial aid regulations.

• **NMCC Native American Waiver Application:** The student must complete and submit a "NMCC Native American Tuition Waiver Application" to the NMCC Financial Aid Office. Once eligibility is established, re-application is not necessary.

• **Financial Aid Application:** Applicants for the Native American Waiver must complete the Free Application for Federal Student Aid (FAFSA) annually as soon as possible after January 1 and provide the documents required for determining aid eligibility. Applicants must meet the general eligibility requirements for receiving Federal student aid.

Waiver Amount: The waiver is equal to in-state tuition charged to the student in a semester less any Federal or state need-based grants or scholarships for which the student qualifies. Other restrictions apply: charges other than tuition are not waived; tuition is not waived for courses with a grade of NS (no show).

Duration of Eligibility: Eligibility for the waiver ends after the student has earned one degree or two certificate programs at NMCC or up to 90 attempted credit hours at NMCC, regardless of whether or not the student has earned a credential. Native Americans who have already achieved an associate degree or two certificates from Northern Maine Community College and have been laid off due to downsizing or business closure may appeal to use this scholarship for another program to develop new employment skills. Appeals should be sent to the Assistant Director of Financial Aid, Northern Maine Community College, 33 Edgemont Drive, Presque Isle, ME 04769.

Student Affairs

STUDENT AFFAIRS

The staff of the student affairs area provides a wide variety of services and experiences that complement academic pursuits at NMCC. The college strives to foster an educational environment that empowers students to assume personal responsibility for their education, social and professional development, as well as for their emotional and physical health and well-being. The dean of students administers the area and encourages students to make use of available services, programs, facilities and development opportunities.

ADMISSION OFFICE

The admission office provides information about NMCC to prospective students and helps students throughout the admission process. It also serves those students who wish to apply for a second degree or continue studies after graduation.

CAREER PLANNING AND PLACEMENT

Career planning and placement assistance is available from several sources at NMCC. The staff in student affairs and individual instructors are willing to help graduates find jobs in their field. Because of their job market knowledge and employer contacts, instructors are often excellent sources of assistance. Each spring, seniors benefit from a strong effort to help them secure their places in the working world.

The student affairs office offers information, workshops and counseling to help students explore options and plans for their careers, while encouraging students to explore careers which have been considered nontraditional for men or women. Workshops are held each semester on such topics as resume writing, employment letters and effective interviewing skills. Student affairs also offers assistance to students to help identify their skills, interests and values in relation to career selection. Such information is important to students planning to transfer to a baccalaureate program as well as to those who will go directly to work upon graduation.

FINANCIAL AID OFFICE

The financial aid office provides counseling and assistance in obtaining aid from a variety of funding sources. Financial aid brochures, available in the office, provide information on sources of aid, application procedures and NMCC financial aid policies. (Please see the Financial Aid section for more information.)

The office is responsible for the evaluation and granting of credit earned at other institutions by students transferring to NMCC. The office is also responsible for certifying qualified veterans for appropriate VA education benefits. (Please see the section on Admission for more information.)

REGISTRAR'S OFFICE

The registrar's office maintains official records for each past and present NMCC student. These records are maintained in full accord with the Family Educational Rights and Privacy Act. *(For details on student files and the policies ensuring their privacy, please see the section on Confidentiality of Student Records under Academic Information.)*

Students who wish to have a transcript of their record sent to another academic institution or prospective employer must make their request in writing to this office. Also, students can register for classes, drop or add courses and file graduation application forms here. Students are invited to contact the registrar's office with questions they may have about their records.

COUNSELING SERVICES

Counseling is offered to students through the student affairs office. Services available include: academic, personal and career counseling; student advocacy; coordination of related support services, including childcare and emergency transportation assistance; referral to other service providers; and coordination of special accommodations for disabled students. Inquires should be made to the director of counseling at 768-2747.

TRiO/Student Support Services Program

The Student Support Services program is federally funded and offers a wide range of services to eligible students. In order to participate in this program, a student must have low income status (as defined by federal guidelines), or be a first generation college student, or have a disability. Academic, personal and career advising; tutoring; assistance with the financial aid process; job search and job placement workshops; and transfer advising are among the services provided to program participants. Enrollment is limited. For more information, contact the program's director at 768-2747.

SUPPORT SERVICES FOR STUDENTS IN ACADEMIC JEOPARDY

Students who are on academic probation, or who have not met the minimum standard to advance in a major program of study, or who are in pre-probationary academic difficulty, are required to meet with a college counselor to develop a written plan for academic success. This plan may include a reduced course load, re-taking courses, establishing a tutoring schedule, enrolling in a study skills class or workshop, reducing outside commitments, extending an expected graduation date, or participating in career counseling, etc. After this plan has been completed, the student will meet with the counselor regularly during the semester in order that his or her academic progress can be monitored.

VETERANS, NATIONAL GUARD AND RESERVES EDUCATIONAL BENEFITS

Staff in the financial aid office assist veterans, their dependents and members of the National Guard/Reserves in determining their eligibility for education benefits through a program administered by the Department of Veterans Affairs and provides assistance in filing for benefits.

Programs administered by the VA include:

- Montgomery G.I. Bill: Chapter 30 (Active Duty Educational Assistance Program)
- VEAP: Chapter 32 (Post-Vietnam-era Veterans Educational Assistance Program)
- Vocational Rehabilitation: Chapter 31 (Disabled Veterans)
- Post-911 GI Bill: Chapter 33
- Survivors' and Dependents' Educational Assistance: Chapter 35
- Montgomery G.I. Bill: Chapter 1606 (Selected Reserve Educational Assistance Program)
- Reserve Educational Assistance Program: Chapter 1607 (Program for Selected Reservists who are called to active duty for at least 90 days)

As each program has a different set of eligibility, filing and compliance rules, students are encouraged to schedule an appointment with the director of admissions for an explanation of program benefits and requirements.

LEARNING RESOURCES

A variety of learning resources are available at NMCC to assist students. Rooms for reading, research, completion of projects, academic assistance and quiet study are available in the college's library and academic success center. The library also has a group study room available for student use.

Academic Success Center

The Academic Success Center (ASC) offers a variety of services that are free and available to all NMCC students. Students may be referred to the ASC by an instructor/counselor or seek these services themselves. A student may want to obtain feedback on a writing assignment, review for an exam, receive help with a homework assignment, complete assignments on a computer, receive supplemental instruction from instructors or peer tutors, improve study skills, or study individually or in a group. Services/facilities include: individual and group tutoring; writing resource center; math lab; on-line study skills information; academic success workshops; and supplemental instruction.

Library

The E. Perrin Edmunds Library offers a welcoming and comfortable environment on campus where students, faculty, and staff meet, study, collaborate, learn, and relax. The library provides print and online collections to support the curriculum and mission of the college. Diverse resources are available to encourage academic investigation, personal growth, and access to all points of view. The library serves students, faculty, staff, and the community.

Information-literacy instruction and reference and research assistance is available in person, online, and in classrooms. The library is committed to teaching students how best to collect , evaluate, and use information effectively. NMCC's definition of an information-literate student is one who can clearly articulate information needs, confidently search for and access information from a variety of sources, and evaluate and use the information ethically and legally for research and personal purposes.

Our library adheres to the American Library Association's Library Bill of Rights and Association of College and Research Libraries Intellectual Freedom Principles for Academic Libraries. We embrace and affirm the principles of equity, diversity, and inclusion in our library.

For additional information about library services, events, hours, staff, and policies, visit the library web page at **www.nmcc.edu/academics/support/library/** The library is open to the public.

RESIDENTIAL LIFE

Campus housing at NMCC includes Andrews Hall, Snow Hall, Penobscot Hall and Washington Hall. Andrews Hall houses approximately 80 students in both two-person and one-person (when space is available) rooms equipped with single beds, chests of drawers and desks. Within Snow, Penobscot & Washington Halls are suites designed for 4-5 individuals each.

Each suite has 2 or 3 bedrooms, a private bathroom & common living room. All suites come furnished with bedroom and living-room furniture.

All students living on campus must purchase a 19-, 14- or 12-meal plan.

Resident rooms and suites also have cable TV and Internet access. Students must provide their own cable ready TV and personal computer.

Students living on campus must abide by the Student Code of Conduct, as explained in the student handbook, and the individual housing contracts agreed to when signed by both the student and the college. Violations may result in termination of the contract.

Students may purchase campus housing on a space available basis by contacting the director of residential life, who maintains a waiting list for housing availability.

OCCASIONAL HOUSING

For individuals needing only occasional or temporary campus housing, a limited number of rooms are available for a modest fee. Dining privileges are included. Contact the director of residential life for more details and conditions.

DINING FACILITIES/COLLEGE STORE

Dining facilities, located in Reed Commons, are available for all students, staff, faculty, and guests. Anyone wishing to purchase a full meal is welcomed during meal time service. A la carte food service, in addition to take-out, beverages, snacks, etc., is available in the College Store located in the Akeley Student Center.

BOOKSTORE

Each student is required to provide at his/her expense all necessary textbooks, equipment and supplies. The bookstore has available all the books and supplies needed for courses. Other offerings include pens, pencils, notebooks, shirts, jackets, mugs and other collegiate items. Bookstore hours will be posted. A bookstore account may be established by contacting the college business office.

Return Policy:

1. The original bookstore sales slip is required for all books brought back for exchange or refund.
2. Refunds for textbooks are allowable any time during the Add/Drop period. Books purchased after that time will be refunded only if returned within five business days of the purchase date. Other merchandise may be returned for refund within ten business days of the purchase.
3. Any item returned for refund must be in the same condition as when purchased (i.e. cellophane cannot be broken). New books, if marked, cannot be returned.
4. Refunds will be made by the method of purchase. For example, books purchased with a credit card will be refunded using the same credit card. Additionally, if books were purchased by check, the student must wait five days from the date of the student's return of the book to receive a refund.
5. Any tools, notebook computers or electronic components will not be returnable once purchased.

STUDENT HEALTH CENTER

The health center is located in the Akeley Student Center near the bookstore. A nurse practitioner is available for walk-in traffic or by appointment. Hours for the center are Monday - Friday from 8am - 1pm when the college is in session; however, should the health center be closed due to some unforeseen circumstance, students should seek emergency or walk-in care at The Aroostook Medical Center. The college will not assume any financial responsibility for any student's medical costs regardless of whether or not the campus health center is closed during scheduled hours.

Students are welcome to stop in for pamphlets on a variety of medical subjects, to have questions answered or to make appointments for examinations. Services available include: physical exams; pap smears; breast exams; sexually transmitted disease (STD) testing and treatment; laboratory tests; smoking cessation; and treatment for routine health problems such as cholesterol, mononucleosis, strep throat, pregnancy and tuberculosis. Information and immunizations are given for measles, German measles and tetanus/diphtheria. Birth control counseling and materials are available at the health center, as is personal counseling. The health center services are available to NMCC students who have paid the health fee.

All students are required to provide immunization certifications as required by the State of Maine. For more information, contact the health center.

MOTOR VEHICLES

Students have the privilege to operate motor vehicles on campus. All vehicles must be registered through the security office, and students must park in appropriately designated areas. Vehicles that have no parking permit affixed or are parked inappropriately, will be ticketed and fines will be assessed. Vehicles, like other personal property, are the sole responsibility of their owner. For the complete Parking Policy, please refer to your Student Handbook or to the college's website.

ATVs and snowmobiles are permitted on campus, but must also be registered. Recreational vehicles are not to be operated on any campus roadway, walkway, parking lot or other thoroughfare. Use is restricted to open fields and areas away from campus buildings.

Failure to operate a vehicle in a prudent manner will result in the loss of operating privileges. Any damage caused by vehicles to lawns, shrubbery, etc. will be assessed to the operator.

RECREATIONAL ACTIVITIES/ FACILITIES

The student senate helps the student affairs staff plan and promote a wide variety of activities for the campus community. New clubs and groups are formed whenever the demand arises, and ideas for new organizations are always welcome. Swimming, skiing, movies, cookouts, mountain climbing, hiking, biking and rafting trips are some of the activities sponsored by the student senate and staff coordinators. The school's gymnasium and wellness center are readily available for student use.

INTRAMURAL ATHLETICS

NMCC promotes leadership and physical health and wellness through intramural activities. Activities may include basketball, softball, volleyball, soccer, and tennis. Other activities may be added at any time if enough interest is shown. All men and women are encouraged to participate.

STUDENT SENATE

The student senate is the governing body for all student activities and serves as the official student voice on campus. The senate is composed of at least one member from each academic area and functions under its own constitution and by-laws.

STUDENT RIGHT TO KNOW

Student right to know information is available on the college web site (Consumer Information link), upon request from the student affairs office or from the U.S. Department of Education's web site.

ACCESSIBILITY

Facilities at NMCC are designed to be accessible by persons with disabilities. The college is committed to providing, whenever possible, equal opportunities to all students, including assessment of and modifications to facilities and programs to accommodate special needs in the least restrictive environment. Inquiries should be directed to the dean of students or director of counseling.

**Please note: Students requesting specific accommodations have the responsibility, under the Americans with Disabilities Act or the ADAAA of 2009, of making sure that the college is aware of the need. Specifically, students should: 1) request the relevant adaptation in writing, and 2) provide documentation of that need to the satisfaction of the college. Once these responsibilities are met by the student, the college will attempt to provide the accommodation. Routine accommodations provided in the past have included: special laboratory equipment, text to auditory translation, extended time, and, in some cases, recordings of lectures. However, recording of lectures is not automatically approved by some instructors; if that accommodation is necessary, it should be requested early in order to allow instructors to plan accordingly. Documentation of need should accompany the request if possible. A minimum of 30 days of lead time is suggested. Students who have never before been responsible for the details of their own lives (i.e. lived away from home or without the guidance of some adult caregiver) need to be aware of the fact that they will be assuming such responsibilities. It is important that they learn to monitor their own activities, respect the rights and privileges of fellow students, exercise self-discipline without relying on reminders from others and, perhaps most importantly, be ready to advocate for themselves and resolve various conflicts within their own peer group when appropriate.*

STUDENT GRIEVANCE PROCEDURE

Students who have a grievance or complaint regarding an abridgement of rights have recourse to a student grievance procedure. A copy of the entire procedure can be found in the student handbook and in the student affairs office. In case of physical assault or sexual harassment (as defined by Maine law), the process for filing complaints is outlined in the student handbook. Students questioning their assigned grades can appeal that grade through the academic dean.

The affirmative action officer for NMCC is identified in the student handbook and at orientation activities. A student in doubt about the proper procedure for filing a complaint or grievance should seek direction from the affirmative action officer.

STUDENT ID CARDS

Each student will be issued a student identification card. This card must be in the student's possession to attend various school events throughout the year, to borrow materials from the library, to receive academic or restricted information from any college offices, to utilize charging privileges at the bookstore, college store, and/or the dining commons, and to access the residence halls (for students living on campus). Students requiring ID card replacement will be assessed a replacement fee. Identification cards may be obtained from the Security Office.

STUDENT HANDBOOK

The student handbook is updated annually and is available to all students. It contains information about policies, procedures and regulations, explains the Community College Student Code of Conduct, and delineates both students' and institutional rights and responsibilities, particularly with respect to issues of discrimination and sexual harassment.

Academic Information

ACADEMIC INFORMATION

PROGRAMS OF STUDY

The mission of NMCC is to provide career and transfer programs that lead to associate degrees or certificates. Each degree provides the opportunity to acquire the knowledge, skills, and values that are essential for a career or transfer to a college or university.

NMCC offers 14 associate in applied science, two associate in science, and one associate in arts degree, as well as, 22 certificates through five academic departments: Arts & Sciences, Business Technology, Emergency Medical Services, Nursing and Allied Health, and Trade and Technical Occupations.

- The Associate in Arts Degree (AA) is intended to provide a basic foundation for a Bachelor of Arts Degree program.
- The Associate in Applied Science Degree (A.A.S.) is intended to provide the preparation necessary for potential employment in an occupational specialty.
- The Associate in Science Degree (A.S.) is intended to provide the preparation necessary for potential employment in an occupation specialty and/or a basic foundation for a Bachelor of Science Degree program.
- A certificate is awarded for specific studies that one can complete in a one year program or less. Certificates can be the final goal or first step in developing, changing, or upgrading your career.

NMCC offers a limited number of hybrid and on-line classes. A hybrid format, means that only a portion of the class is conducted online. On-campus testing is usually required, for hybrid courses. The ultimate goal of these educational formats is to offer a wide array of individual courses and programs to students enrolled at NMCC who are interested in interactive learning. Online courses allow both traditional and non-traditional students the opportunity to pursue an education that may not have been available because of scheduling or traveling limitations.

SKILLS ASSESSMENT

Assessment of basic academic skills is required of all full-time students and may be required of part-time students. Performance on skills assessment testing may affect students' acceptance into a program at the college. Results will be used for appropriate placement in English, reading and mathematics courses.

COURSE REGISTRATION

Each student will begin the semester with a class schedule for which they have previously registered. Adjustments to that schedule may continue throughout the add/drop period, which usually is the first week of the semester. It is important that you follow the Add/Drop Policy which can be found later in this section of the course catalog.

Students who are taking an automotive, diesel hydraulics, or structural welding course may register for that course prior to the first class meeting.

FULL-TIME STUDENT STATUS

At NMCC, 12 credit hours or more per semester is considered full-time. Most other agencies and programs, including financial aid, veterans assistance, Social Security Commission and insurance benefits, also consider a full-time course load to be at least 12 credits per semester.

To complete a program of study in four semesters or fewer, most programs will require more than 12 credits to be completed each semester. (See the Curricula section for specific program requirements.)

MATRICULATION POLICY

Matriculation is the formal registration of a student into a program leading to a certificate or associate degree. A matriculated student is one who has met prescribed admission requirements, has been officially admitted to a program of study and has registered for a course in the curriculum.

Matriculated students maintain their status for ten calendar years from the first semester of course registration at the college. A minimum of three credit hours of appropriate NMCC course work must be successfully completed each academic semester or an application for re-admission must be filed with the admission office.

Requests for a Leave of Absence of up to one year may be made of the Dean of Students.

MINIMUM RESIDENCY REQUIREMENT

All programs (AA, AAS, AS and certificate) require that a minimum of 25 percent of their major courses be completed at NMCC.

NON-DEGREE STUDENT STATUS

Anyone interested in taking courses without enrolling in a degree program may do so by signing up for the course(s) during registration. Non-degree students do not need to apply for admission to the college in order to take a course(s). However, if they intend to register for more than 11 semester hours, they must obtain permission from the dean of students. Non-degree students are not eligible for financial aid.

ACADEMIC ADVISING

Every full-time NMCC student enrolled in a program is assigned an academic advisor who assists in course selection and offers general information concerning the student's academic life.

Students may check at the student affairs office early in their first semester to learn the name of their academic advisor. The academic advisor is usually the student's major instructor for their chosen program of study. This information is also available on the student portal.

Students are encouraged to see their advisor as often as necessary to make certain they are taking courses that are appropriate to their academic and career plans. The advisor should also be consulted before students add or drop courses or change a program of study. Each semester, during a designated registration period, students meet with their advisor and register for the next semester.

Students should monitor their own academic progress. Descriptions of specific courses are in this catalog; additional copies may be obtained in the student affairs office. Program guides which list specific course requirements for each academic program are available in student affairs or by accessing the college's web site.

ATTENDANCE

Class attendance is the student's responsibility. Regular attendance and punctuality at all classes is expected. Attendance is recorded in the learning management system, every class period. To encourage students to accept their responsibility to attend class, the following policy is established: Class attendance is a matter between the instructor and the student. Instructors are obligated to announce and interpret a specific attendance policy for their classes at the beginning of the semester, by way of their course syllabus. Faculty are encouraged to be considerate of students with special circumstances.

Excessive absences may interfere with successful completion of a course. Once a student violates the instructor's class attendance policy, the instructor may issue the student a grade of "AF" – Attendance Failure. This grade designation will be treated as an "F" in the calculation of the student's grade point average.

Students may appeal instructors' actions to the academic dean for review.

ADD-DROP POLICY

Students may add or drop a course during the first week of any semester, without penalty, but it is strongly urged that any schedule change be made only after consulting with your advisor. The Add/ Drop form may be obtained from student affairs and requires signatures of the student's advisor and course instructor and must be returned to student affairs before the deadline.

WITHDRAW

A student may withdraw from any course through the 12th week of a semester and receive a grade of WP- Withdrew Passing or WF – Withdrew Failing. Any student dropping a class after the 12th week of the semester will receive a grade of "F" recorded and included in the calculation of the grade point average.

Remember, withdrawing a course may have an adverse effect on any financial aid being received as well as graduation status. Talk with your advisor or counselor before withdrawing a course.

Note: Refunds of tuitions and fees will be 100% for the first 6 calendar days, 50% between 7 and 10 calendar days. No refunds will be given after the 10th calendar day of the semester. For abbreviated semesters, the above Add-Drop Policy and any associated refund will apply for the proportional equivalent in time.

OFF-CAMPUS CENTER

NMCC offers program courses at the Houlton Higher Education Center. Courses may be offered at other locations, depending upon student demand.

Credit courses are organized at various times and locations on the basis of need, interest and availability of suitable facilities. Courses are offered at times which are convenient for most adult students with responsibilities of job and family. The offerings are selected to meet predetermined community needs and to offer expanding technical and career programs. The course offerings are also designed to furnish an opportunity for intellectual pursuit and continuing education to those who may not wish to work toward a college degree

or who may already have one. The courses follow the same academic standards that apply in the on-campus program.

Class size is determined on a class-by-class basis and takes into consideration the subject matter, need for the course, the location and the impact it will have on the institution, including resources and the students enrolled.

GRADING SYSTEM

Letter grades used at NMCC to evaluate academic achievement are as follows:

93-100	A	4.00
90-92	A-	3.67
87-89	B+	3.33
83-86	B	3.00
80-82	B-	2.67
77-79	C+	2.33
73-76	C	2.00
70-72	C-	1.67
67-69	D+	1.33
63-66	D	1.00
60-62	D-	0.67
Below 60	F	0.00
Below 60	AF	0.00

Other grade symbols:

- AP - Advanced Placement
- AU - Audit
- AW - Administrative Withdrawal
- CE - Challenge Exam
- CL - CLEP Exam
- CR - Credential Review
- E - (Pass/Fail) Failed
- I - Incomplete
- ME - Military Experience
- NA - Never Attended
- NG - No Grade
- P - (Pass/Fail) Passed
- QT - Qualify via Tech Prep Articulation
- R - Course Retaken, Most Recent Grade Used in GPA
- * - Course Retaken
- T - Transfer Credit
- W - Withdrew
- WE - Work Experience
- WF - Withdrew Failing
- WIP - Work In Progress
- WP - Withdrew Passing
- X - Exempt/Waived

1. In order to graduate from any prescribed program of study (i.e. certificate or associate degree), a student must have a cumulative grade point average of at least 2.00.
2. Academic warnings may be issued at mid-semester to any students whose performance has fallen below NMCC's academic standards.

COURSE GRADE APPEAL

The sole responsibility of evaluating student performance and of assigning course grades rests with the course instructor. Barring a grade change due to the miscalculation of a course grade or due to a successful appeal of a course grade by the student, all course grades are to be considered final. If a student believes that a final grade was unfairly derived (i.e., that the grade was determined utilizing criteria different from that for other students), the student may formally appeal that grade.

First, the student must submit to the instructor a written request for clarification of the grade (e-mail correspondence is sufficient; however, the student must keep a copy of what was sent). The appeal process cannot proceed without verification that this communication has occurred.

After clarification, if the student still wants to appeal the grade, he/she should contact the chair-person of the department for the course for which the grade was submitted in order to be advised on the appeals procedure.

REPEAT COURSES

If a course is repeated, the latest grade is used to calculate the grade point average.

AUDITING COURSES

Students may audit any course in the day or evening program, provided space is available and they pay regular course costs. When a student audits a course, neither a grade or course credit is given. A student may not change a course from credit to audit after the add/drop period. If you are interested in auditing a course, see the Registrar for the Audit Application Form

ACADEMIC PROGRESS

A minimum grade point average of 2.0 is required to graduate with a certificate or degree from Northern Maine Community College. This implies that any course grade below a C may put a student's graduation in jeopardy and/or indicates that the student's academic progress is in question. Further, satisfactory progress requires that a student earn a minimum of a C grade (2.0 grade point) in each major course within his/her program of study. Major courses are clearly identified in the college catalog.

For associate degree programs, the faculty have carefully developed each program of study to

provide students with the opportunity to maximize their knowledge and skills within four semesters. This achievement requires a substantial commitment to the learning process by the student. Students are expected to perform two hours of out of class work/study preparation for every one hour of class time. There are many campus resources available to aid students in their efforts toward academic success. These include tutorial services in the academic success center, developmental studies classes and study skills workshops, class attendance requirements, mid-term warnings, and faculty assistance.

Students are encouraged to contact their advisor, department chair, the academic dean, the dean of students or the director of counseling for assistance or to discuss their academic progress.

PROBATION & DISMISSAL POLICY

Students who do not earn a minimum 2.0 cumulative grade point average may be placed on academic probation or dismissed from the college. The probation and dismissal policies are outlined below:

ACADEMIC PROBATION signifies that a student is in serious academic jeopardy. A student on probation must remove grade deficiencies during the subsequent semester or during summer session. Failure to do so may result in academic dismissal from the college. Students on academic probation are required to carry a reduced class load (fewer than 15 credit hours) and may be restricted from participation in extra-curricular activities. Probation and dismissal standards are outlined in the following chart:

Students in two year (4 semester) programs:

Cumulative Credit Hours Attempted	*Cumulative GPAs Between the Following Ranges Result In:* **Probation**	**Dismissal**
12+*	1.25 to 1.75	1.249 or lower
30+	1.50 to 1.75	1.499 or lower
45+	1.75 to 1.99	1.749 or lower

Students in one year (2 semester) programs:

Cumulative Credit Hours Attempted	*Cumulative GPAs Between the Following Ranges Result In:* **Probation**	**Dismissal**
12+*	1.50 to 1.99	1.499 or lower

**Students are not assessed for probationary or dismissal status until they have accumulated 12 credit hours of graded study.*

A student on academic probation must achieve a cumulative grade point average sufficient to exceed the probationary standard or a semester grade point average of 2.0 during each probationary semester. Failure to achieve this standard may result in academic dismissal.

ACADEMIC DISMISSAL: Students who have been academically dismissed may appeal to the academic dean for re-instatement in a program for the following semester. They may request re-admission to the college by formally reapplying not earlier than one semester after the date of dismissal. At the time of re-application, the applicant must show positive evidence that he or she will achieve academic success if accepted into a program. Such evidence might include course completion with satisfactory grades, a positive employment experience, etc.

ACADEMIC AMNESTY: Students who have received failing grades in the past may appeal in writing to the academic dean for academic amnesty. Amnesty is the forfeiture of prior coursework below a 2.0 level. This request may be granted if there is a high probability of academic success. If amnesty is granted for a course, the course and its grade will remain on the student's transcript. The grade for the course however, will not be calculated in the student's GPA. Amnesty may only be granted to students who are currently enrolled or have completed the most recent semester with a semester GPA of 2.0 or higher. Academic Amnesty may only be granted once during a student's academic tenure.

ADVANCEMENT IN THE MAJOR PROGRAM OF STUDY

A minimum grade of 2.0 is required of all courses designated as major courses within the student's program of study. Students failing to achieve this standard will be unable to advance to the next higher-level class (if any) for which a sub-standard class grade is a prerequisite. The registrar will notify a student in writing that he/she has failed to meet the academic standard (2.0) for any major course. A student will be given additional opportunities to retake the major course(s), providing there is space available and he/she is otherwise maintaining satisfactory academic progress. Students majoring in nursing and some allied health programs will be allowed only one opportunity to retake a major subject to try for a higher passing grade. A student may request a waiver for a prerequisite course by having a discussion with the instructor of the higher level course for which the prerequisite waiver is required. The waiver must be approved by the instructor of the higher level course, the department chair, and the academic dean.

A student not attaining grades of 2.0 or

higher within the major program of study should seriously consider the appropriateness of the major. The student's academic advisor, respective faculty, counselor and other members of the student affairs staff are good resources with whom students may discuss their occupational interests and aptitudes.

CHALLENGE EXAM POLICY

Selected NMCC courses may be challenged; however, challenge exams may not be available for all courses. When an appropriate standardized national exam exists (i.e. CLEP, DSST, PEP, Advanced Placement etc.) this exam will be required. If no such national exam exists, the required exam shall be comparable to the comprehensive final examination taken by all students in the course.

Only one challenge exam per course will be approved by the department chair and academic dean. The following criteria apply to challenge examinations:

1. Only students who have been accepted in a NMCC program will be allow to participate in the challenge exam process.
2. The student requesting a challenge exam will show written evidence of prior knowledge or proficiency in the subject area to be challenged. The student must contact the department chair as to the availability of the exam and the procedure.
3. Students intending to challenge courses must complete the Request for Prior Learning Assessment form and have approval from the appropriate faculty member and department chair prior to taking the exam.
4. The student will be charged $100 and the fee must be paid in advance.
5. The student must take the challenge exam prior to the semester in which the course is offered.
6. In order to receive credit, the student must score 73 (C) or better on the challenge exam. Students may not retake a challenge exam.

NOTE: Many colleges will not accept a challenged course for transfer.

DIRECTED STUDY

A directed study is the offering of a catalog course on an individual basis by an appropriate faculty member to a qualifying student. Directed studies are available to students pursuing an associate degree only on a limited basis. A student who has completed a minimum of 30 credit hours with a cumulative average of 2.5 or more may be eligible for a maximum of 9 credit hours from an approved directed study(ies). A directed study may be approved for a program completion candidate when it is evident that the course will not be offered as a part of the regular semester curriculum, resulting in a postponement of completion of program which would ordinarily be completed in that term.

Procedure:

1. Directed study application form must be completed by the student; the form must be signed by the participating faculty member, the student's advisor, and the academic dean. The completed form and all supporting documentation must be submitted to the registrar's office prior to the end of a semester's add/drop period.
2. No credit shall be given for any work done unless prior approval had been granted and the application has been processed according to item one (1).
3. A non-refundable fee of $100, in addition to tuition and any regular course fees, will be charged to the student for the directed study.

For more information, contact your advisor.

INDEPENDENT STUDY

A student with a cumulative GPA of 2.5 or higher may be eligible for a maximum of three credit hours in approved independent study. The student will conduct in-depth research on a topic(s) in his or her major occupational program and have the opportunity to develop abilities as an independent learner. An independent study project may carry 1, 2 or 3 credit hour values and will be completed during the semester or session of enrollment. Please see the college registrar for information on the procedure to be followed.

A non-refundable fee of $100, in addition to tuition and any other regular fees, will be charged to the student for each course taken as an independent study.

Requirements:

1. The student must have 30 credit hours toward his/her program of study before enrollment in the independent study.
2. The sponsoring instructor or advisor must recommend that the student pursue this course.
3. The student and sponsoring instructor will list course objectives and the evaluation process.
4. The independent study form will be approved by the department chairperson prior to the beginning of the project.
5. The sponsoring instructor will be responsible for the awarding of a grade upon the project's completion.

WITHDRAWAL FROM NMCC

Any student withdrawing from NMCC is expected to complete an official withdrawal form which may be obtained from the student affairs office. The student is also expected to have an exit interview. When circumstances prevent this, the student or parents should write to the dean of students explaining the reason requiring the student to leave. The date of withdrawal will be the date the student signs the withdrawal form; refunds are also established by the date the student signs the withdrawal form (see Refunds).

A grade notation of AW (Administrative Withdrawal) will be indicated on a student's academic transcript if he/she has been involuntarily separated from the college (examples: disciplinary dismissal, non-payment of bills, etc.)

SECOND NMCC PROGRAM

When a student enters NMCC, he or she chooses a program with the expectation of receiving a degree or certificate in that area. As a student progresses through his or her program, the instructional staff may encourage the student to broaden his/her background by taking electives in another program. These opportunities allow the student to broaden his or her area of expertise without compromising or changing his/her career goal or primary purpose in coming to NMCC.

The following apply:

1. If a student wants a second credential, then he or she must complete at least 15 credits beyond the requirements of the first program as well as complete all requirements for the second credential.
2. Students may be given permission to complete a second credential only if they are demonstrating satisfactory academic progress and if space is available. Opportunities for second credentials may be limited due to program demand.
3. Students will not be considered for a second degree until they have completed a minimum of 30 graded credit hours and are in good academic standing.

Students pursuing more than one major must have written approval from the dean of students as well as a reference from his or her current academic advisor.

ACADEMIC HONORS

Dean's List

Students achieving a 3.2 or above grade point average as a result of a semester's work will be recognized by inclusion on the Dean's List. The Dean's List honors individual students who demonstrate outstanding scholarly achievement.

To be selected, students must be enrolled full-time, be matriculated in a program of study and be maintaining satisfactory academic progress. Full-time is defined as carrying 12 or more graded credit hours in a given semester. (Not included are pass/fail, transfer, audit, qualifying or work experience course work.) A grade of incomplete for any course(s) in a semester will disqualify a student from inclusion on the Dean's List.

Part-time matriculated students who complete at least 12 credit hours during an academic year, achieve a minimum GPA of 3.2 and maintain satisfactory academic progress will be included on the Dean's List for Part-Time Students published each summer.

Phi Theta Kappa

Students achieving a 3.5 or greater cumulative grade point average while matriculated in an associate degree level program of study at NMCC may be invited to join Phi Theta Kappa, an international honor society for two-year college students. To maintain membership, the student member's cumulative grade point average may not fall below 3.25. Phi Theta Kappa emphasizes academic excellence, leadership and community service.

MID-TERM WARNINGS

In an effort to help students determine their academic success in a particular course, instructors issue a mid-term warning to students doing marginal or unsatisfactory work. Students may view their mid-term grades under the student tab on the portal (my.nmcc.edu) Students who have "U" - Unsatisfactory or "M" - Marginal grades are encouraged to contact their instructors immediately after receiving a mid-term warning so they can be advised on possible strategies for course success. During the meeting, referrals may be made to other campus resources, including the Academic Success Center, Health Center, counselors and student advisors.

STUDENT RECORDS

Permanent Transcript

Each student's record is maintained in student affairs as a chronological list of course work taken and grades received. A student may examine it at any time upon presenting proper identification to the registrar.

Academic Record Changes

Considerable care is taken to ensure that all course registration and grade information entered on a student's permanent record is accurate. The record is confirmed as being accurate if the student does not report a discrepancy to the registrar's office within one semester of the completion of the course.

Transcript

A copy of a student's permanent record can be sent, at the student's written request, to other institutions and prospective employers. Official transcripts bear the college seal and signature of the registrar and are not issued to students. Unofficial transcripts are available via the campus portal (my.nmcc.edu).

Confidentiality of Student Records

NMCC is committed to protecting students from improper disclosure of private information. The Family Educational Rights and Privacy Act of 1974, as amended, provides the following rights for students attending Northern Maine Community College.

1. The right of a student, with limitations, to inspect and review his or her educational records.
2. The right, with exceptions, to prevent disclosure to third parties of information from his or her educational records.
3. The right to withhold public disclosure of any or all items of so-called "Directory Information" by written notification to the dean of students and student affairs within two weeks after publication of this notice. The term "Directory Information" includes a student's name, confirmation of enrollment, degree earned (if applicable), and major course of study.
4. The right to file a complaint with the U.S. Department of Education concerning the alleged failure of NMCC to comply with requirements of the Act.

TRANSFER

NMCC has several program specific transfer agreements with senior colleges and universities. Students interested in transferring to an institution to pursue a baccalaureate degree should discuss their goals with their academic advisor to assure appropriate planning of their academic coursework at NMCC and to maximize the amount of transfer credit.

For the transfer of courses not covered by a current transfer agreement, the college or university to which the student is transferring has the final decision on granting of transfer credit.

ADVANTAGE U PROGRAM

For those students who may be thinking about transferring to a baccalaureate-granting institution, the Advantage U Program can help. Students enrolled in the program will first complete NMCC's liberal studies program and are guaranteed admission with advanced standing at the University of Maine campus of their choice. Students will work with an advisor from both NMCC and the appropriate University of Maine campus to ensure that proper course work is completed. Contact 207-768-2829 for more information.

Academic Programs

ACADEMIC PROGRAMS

ACADEMIC DEPARTMENTS

Northern Maine Community College offers four credentials. The Associate in Arts and the Associate in Science degrees are designed primarily to prepare the student for transfer to an upper division baccalaureate degree program. The Associate in Applied Science (AAS) degree is designed to prepare students for employment in a specific career field, although many of these programs have been articulated for transfer as well. All associate-level programs are designed to be completed in two years, although this varies based on student preference and preparation.

Certificates are designed for short-term career preparation and usually reflect the first year of an Associate in Applied Science degree. Indeed, many students pursuing certificates often continue their education into the associate-level program. Many certificate programs can be completed in one year.

Note: An individual with a felony conviction may not be able to obtain licensure in certain professions.

ARTS AND SCIENCES DEPARTMENT

The Arts and Sciences Department offers associate degrees in Liberal Studies and Early Childhood Education. The Liberal Studies Associate in Arts degree is a transfer degree program that replicates the first two years of a four-year program. The Associate in Applied Science degree in Early Childhood Education allows students to enter either the workforce or transfer. In addition, the department provides courses that support the general education core for degree programs in other departments. The general education cores instills in students the knowledge, skills, and values that define an educated person.

Early Childhood Education

NMCC's early childhood education program offers both a two-year associate degree and a one-year certificate level option. The associate degree program is designed to educate childcare professionals in the skills and knowledge necessary for advanced positions in organizations and agencies that serve children. It provides courses and field experience in childcare, as well as a well-rounded supporting education. This degree also provides transfer opportunities to four-year institutions. The certificate program provides the training needed for entry-level positions and meets the more immediate need for those who do not choose the additional courses required for the degree. The core courses of this program align with the educational requirements for the Child Development Associate (CDA) credential.

Graduates will find employment opportunities in child care centers, summer and day camps, pre-school programs, public schools, recreational centers, one-on-one aide positions, and other agencies that serve children. Both, the two-year associate degree and the one-year certificate, provide the pathway for obtaining a State of Maine license as an owner/operator of a private child care facility.

Liberal Studies

An Associate in Arts degree in Liberal Studies is designed for students whose educational goal is to transfer to another college or university. The curriculum is designed to mirror the general education core of a baccalaureate and/or an associate degree program. With careful planning, students can study for a year in the Liberal Studies program and complete the general education core of an associate degree program prior to transferring into a technical program at Northern Maine Community College or another branch of the Maine Community College System. Study for a second year will allow the student to complete the more extensive general education core required by colleges and universities. To ensure maximum transferability, the college has entered into articulation agreements with regional colleges and universities such as the University of Maine at Presque Isle and the University of Maine at Fort Kent. The Arts and Science Department is also included in articulation agreements made by NMCC nursing, business, and technical programs with other institutions of higher learning. Finally, Liberal Studies is a starting point for those who are undecided about their educational and career goals. The flexibility of the Associate in Arts curriculum allows students to sample a wide variety of courses in both the liberal arts and career and technical programs.

BUSINESS TECHNOLOGY DEPARTMENT

The Business Technology Department promotes occupational and technical competence, individual growth and social responsibility in students preparing for careers in accounting, business administration and various certificate programs. In addition, the students' preparation allows for upward academic mobility when they wish to transfer credit to baccalaureate-granting colleges and universities.

Classroom learning experiences support the use of laptop computers and personal devices to create an active learning environment where

students put into practice the principles, theories and technology that are fundamental to the understanding of their specialized field of study. In addition, general education courses are an important part of the students' program of study. The faculty are committed to preparing students to function in the current job market and for transfer to baccalaureate-granting colleges and universities. Faculty maintain expertise in their specialized field through a variety of activities including involvement in professional organizations, attendance at workshops and seminars, and working in their respective field.

The department is nationally accredited by the Accreditation Council for Business Schools and Programs (ACBSP) for the offering of its business programs that culminate in the associate in applied science degree.

Accounting

Accounting combines the study and practice of accounting with the design, implementation and monitoring of information systems. Such systems use modern information resources, together with accounting controls and methods, to provide users the financial information necessary to manage their organizations. The purpose of accounting is to provide timely and accurate financial and statistical reports for internal management decision making and for external parties such as creditors, investors, and regulatory and taxation authorities.

NMCC's two-year accounting program provides knowledge and skills to maneuver newly emerging systems that require a combination of technical and financial knowledge. Students will learn the latest in electronic commerce, direct business-to-business communication, and paperless work processes in the College's wireless multimedia smart classrooms.

Graduates of this program will be prepared for entry level positions at accounting firms, small businesses, manufacturing firms, banks, hospitals, school systems, churches, and government agencies.

Besides providing training for employment, the program prepares students to continue their education at a four-year college or university. Transfer agreements with several colleges and universities ensure that graduates can transfer, as an advanced student, into a four year program.

Business Administration

The business administration program is broad and diversified in its course offerings. Courses are designed to impart knowledge and to develop skills and abilities that will prove practical, useful and marketable. Through its course offerings, the program continually strives to maintain relevance and a high-level of quality. Instructors, with their strong business and industry backgrounds, blend theory and practice in a unique and meaningful way.

Graduates will be qualified for employment as accounting clerks, loan officers, entry level managers, state and federal government employees, and related positions. Besides providing training for employment, the program prepares students to continue their education at a four-year college or university. Transfer agreements with several colleges and universities ensure that graduates can transfer, as an advanced student, into a four year program.

Entrepreneurship

The entrepreneurship certificate level program is designed to prepare prospective entrepreneurs to launch new ventures by educating them in the fundamentals of starting and operating their own business. For entrepreneurs who already have established a business, this program will help them strengthen their business and management skills.

Entrepreneurship is an employment strategy that can lead to economic self-sufficiency. Self-employment provides people and their families with the potential to create and manage businesses, in which they function as the employer or boss, rather than merely being an employee. Graduates who want to expand their business management skills further may choose to complete the business administration associate degree program at NMCC. 30 of the 33 credits earned in the entrepreneurship certificate will apply toward an AAS in business administration.

Office Assistant

Office assistant is a certificate program designed to provide basic, entry-level clerical skills. The program teaches, improves and reinforces math, accounting, office procedures, oral and written communication, filing, and word processing skills.

Graduates are prepared for entry-level office positions. Students may also choose to continue their education.

EMERGENCY MEDICAL SERVICES DEPARTMENT

The Emergency Medical Services (EMS) department prepares the pre-hospital provider to enter into professional practice and work in a variety of healthcare settings. The EMS department utilizes both an innovative educational delivery approach and state of the art equipment including a full simulation center to ensure graduates are well prepared for the rigors of the

healthcare environment they will face. Students will apply didactic knowledge gained from their studies as well as psychomotor skills to complete various clinical rotations throughout the program.

Community Paramedicine

The Community Paramedicine program is designed to educate practicing paramedics, who are primarily employed in the pre-hospital emergency environment, to become competent community paramedics. Community paramedics work collaboratively with public health, home care and primary care professionals in non-emergency settings, filling gaps in the healthcare workforce.

Community paramedics help patients meet critical health needs by helping establish health systems that promote health and wellness, while serving as advocates, educators, facilitators, liaisons, and resource coordinators. The program is designed to allow paramedics to perform needs assessments and assist in the development of community paramedicine initiatives that meet very specific and individualized community needs. Paramedics having earned an academic credential (associate degree or higher, in any field) may enroll directly into the advanced certificate level of the program; those candidates who have not yet earned an associate degree will be considered for the Associate Degree in Science level of the program or the Community Paramedicine certificate program.

Community Paramedicine is a new and exciting career choice for experienced paramedics. In addition to serving communities in the traditional roles, community paramedics are employed by acute care hospitals, long term care facilities, assisted living organizations, public health entities, and municipalities.

Emergency Medical Services

The Emergency Medical Services program is designed to prepare individuals to become National Registered Paramedics. The curriculum combines intense classroom and lab instruction with extensive clinical experiences to assure that graduates are competent, confident practitioners.

The program follows national education standards, and graduates are eligible to take the National Registry Paramedic Certification examinations. In addition to the core content, students earn certifications in Advanced Cardiac Life Support (ACLS), Pre-hospital Trauma Life Support (PHTLS), Pediatric Advanced Life Support (PALS), and Paramedic Interfacility Transport (PIFT). The program is authorized as a training center by the Board of Maine EMS. The Emergency Medical Services Program is accredited by the Commission of Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Committee on Accreditation of Education Programs for the Emergency Medical Services

The multiple entry/multiple exit program permits students to exit after completion of specific course requirements and be eligible to take the national certification exams for EMT, Advanced EMT and Paramedic. Currently licensed providers may be accepted into the higher levels of the program. Those students completing both general education and EMS core courses earn an associate degree, while those taking primarily occupational courses can earn a certificate level of EMS education.

NURSING AND ALLIED HEALTH DEPARTMENT

The Nursing and Allied Health Department provides programs which prepare graduates to be employed in a variety of health care settings as competent health care providers.

The programs are supported by general education studies and a number of required courses supplement the occupational areas of study. Students are expected to combine theory and didactic classroom content with practical application in both lab and clinical settings. Occupational areas offer current instruction by faculty members who maintain theoretical and clinical expertise in specialized fields of knowledge. Faculty seek on-going professional development in order to maintain their individual competencies in the rapid and ever-changing healthcare environment.

To participate in any of these healthcare related programs, students must attest to criminal history and pending criminal data. Convictions and pending charges of concern will be reviewed by clinical agencies to determine if students can work at these sites. Students who are not accepted at a clinical agency will not be able to meet program requirements, resulting in dismissal from the program. Students found to be untruthful or misleading on the application form and/or program attestation statements may be dismissed from the program.

Graduates are able to secure employment in a variety of clinical settings and/or transfer to baccalaureate levels of education in their areas of major.

Medical Assisting

The college's two-year medical assisting program combines clinical and administrative training. In the clinical component of the program,

students will have the opportunity to understand the concept of professionalism and therapeutic communication. Students will learn to measure vital signs, obtain and record a medical history, administer oral and parenteral medications, prepare the patient for examination and assist the health care provider with the physical examination. Students also learn to perform diagnostic tests such as 12-lead EKGs, perform specimen collection, perform venipuncture and CLIA-waived laboratory examinations, and teach patients about health and wellness. In the administrative component of the program, students will learn to maintain patient records, schedule patient appointments, perform bookkeeping procedures, as well as medical and diagnostic coding, and complete insurance claim forms.

Graduates of the medical assisting program will be competent entry-level medical assistants who can secure employment in medical offices or ambulatory clinics. In the State of Maine, medical assistants work under the direction of health care providers. Upon graduation, students may elect to sit for the Certified Medical Assistant (CMA) and/or the Registered Medical Assistant (RMA) national certification exams. The Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Medical Assisting Education Review Board.

Medical Coding

Medical Coding is a two-semester certificate program that prepares students for the rapidly expanding field of medical coding, focusing on developing an understanding of the language of medicine and the ability to apply it to professional coding standards. Instruction concentrates on the areas of anatomy and physiology, medical terminology, pharmacology, and clinical classification systems. Coders are required to abstract medical documentation from a patient's chart and correlate the diagnosis and procedures performed into numerical code numbers. This is done in all healthcare facilities. The student gains knowledge and practice in computer software programs, such as encoders and electronic medical records systems, which allows students to have real world, hands-on application of medical practice.

Graduates are eligible for certification as a Coding Associate (CCA) through AHIMA. With some experience, they become eligible for additional national certification examinations through AHIMA or the American Academy of Professional Coders.

Graduates are prepared to work in various healthcare settings, including hospitals, clinics, physicians practices, long-term care facilities, and home health agencies. Employment opportunities can also be found in non-traditional healthcare areas such as insurance companies, government agencies, computer software companies, or consulting firms.

Nursing

The nursing program is designed to offer individuals the opportunity to enter the nursing profession as a registered nurse.

The nursing curriculum focuses upon basic human needs of individuals throughout the lifespan. Students develop the knowledge and skills necessary to provide nursing care to individuals with well-defined health problems. Legal, ethical and role responsibilities of the nurse are addressed within each level. Guided learning experiences in the laboratory and structured health care settings are correlated with classroom instruction. The program holds national accreditation by the Accreditation Commission for Education in Nursing (3343 Peachtree Rd. NE, Suite 850, Atlanta, GA 30326; www.acenursing.org) and is fully approved by the Maine State Board of Nursing (161 Capital St., 158 State House Station, Augusta, ME 04333-0158; www.state.me.us/boardofnursing.

Candidates who are graduates of an approved practical nursing program are provided an opportunity for advanced standing in the nursing program.

Graduates will be eligible to take the NCLEX-RN examination, administered by the National Council of State Boards of Nursing (NCSBN), to qualify as a registered nurse. Graduates will find employment opportunities as an integral team member in a variety of healthcare settings.

Upon completion of the associate degree nursing program, graduates may choose to continue their education toward a bachelor of science degree in nursing. NMCC's nursing program has an articulation agreement with the University of Maine Fort Kent (UMFK) for a seamless transition from RN to BSN.

TRADE AND TECHNICAL OCCUPATIONS DEPARTMENT

NMCC's trade and technical occupations department offers a wide range of programs that provide classroom instruction and hands-on training in three major cluster areas. The transportation trades include training of technicians in automotive collision repair, automotive technology and diesel hydraulics technology. The construction trades include building construction technology, plumbing and heating, electrical construction

and maintenance, and structural welding. The technical trades include computer and network technology, precision machining technology, and wind power technology.

Each program requires a broad-based education centered on a core curriculum, including technical specialty and general education courses. Most programs offer both an associate degree and certificate level option. While the certificate offerings focus primarily on technical course work, the associate degree level is more comprehensive and requires the most credits for completion. The comprehensive nature of the associate degree curriculum provides graduates with added flexibility in their careers, enabling them to adapt readily to new tasks and work environments.

Automotive Collision Repair

NMCC's automotive collision repair program offers a broad range of training from collision repair to custom painting, emphasizing the National Automotive Technology Education Foundation (NATEF) skills standards required for a technician to become Automotive Service Excellence (ASE) certified. The latest technology is used with computer matching capabilities in paints and in the measuring of the automobile after sustaining collision damage along with creating a written estimate.

Instruction is given in plastic and composite repair in preparation for the application of paint. The second year of the program reinforces the skills learned in the first year; however, more emphasis is placed on major collision appraisal and repair and the auto body refinishing process. Processes includes acrylic urethanes, polyurethanes and basecoat, clear coat in solvent based and waterborne paint systems, and tri-coat paint systems. Emphasis is also placed on color matching, mixing and tinting colors with hands-on experience. To insure accountability for time and materials, second year students also utilize work order system.

Graduates of the program will find job opportunities with auto collision repair paint shops, new and used car dealers, auto glass shops, and truck body builders. With experience, advanced positions may be available in supervision, insurance adjusting, sales and service, auto product field representation with collision frame shops and in self-employment.

The Automotive Collision Repair program is ASE accredited at the Master level.

Automotive Technology

Automotive technology is a program designed to provide broad fundamental training in all aspects of automotive service and repair, employing up-to-date methods and materials. The program emphasizes the National Automotive Technology Education Foundation (NATEF) skills standards required for a technician to become Automotive Service Excellence (ASE) certified.

In the first semester, students concentrate on the under-car chassis, including wheels/tires, tire pressure monitoring systems, wheel balancing techniques, brakes, ABS/traction control systems, steering suspension systems, and wheel alignment. During the spring semester, first year students concentrate on automotive electricity, including batteries, starting and charging systems, restraint systems, and lighting and vehicle wiring.

In the second year, students cover the areas of engine management diagnostics and repair, including: computers and control systems, fuel delivery/air induction, ignition systems and emission control. In the final semester, the course covers areas of major engine service, automatic/manual transmissions and final drive assemblies.

Also incorporated into the program are technical courses that enhance learning on the maintenance of current automotive standards. These include basic automotive electricity, automotive electronics, automotive heating and air conditioning, hybrid and electric vehicles, and motor vehicle inspection.

The program meets the quality training of automotive technicians as set by ASE and is master level. Students will be eligible for ASE student certifications upon completion of the program.

Graduates of the program will be qualified as entry level technicians, finding employment with automobile dealerships, independent repair facilities, after-market specialty shops and other related businesses.

Building Construction Technology

The building construction technology program provides up-to-date training in the tools of the construction trade including the proper methods of construction, the appropriate materials to use and the related knowledge necessary to enter the trade.

First year students learn and practice the use and safety of power and hand tools, the principles of building construction, including floor framing, wall trusses, roof framing, wall partition framing, exterior finish, roofing, attic venting and insulating techniques. Second year students supplement their skills by learning and practicing interior finish, kitchen cabinets, painting and staining. Studies include insulation technology, air quality, surveying, blueprint reading and introduction to computer drafting and design. Students may work in conjunction with students from other building trade programs on projects.

Graduates will be qualified for entry-level positions with building contractors, building suppliers, governmental agencies, home specialty companies, manufacturing firms or other organizations. Building Construction Technology students gain knowledge on the total construction process in their education, which also provides good career advancement opportunities.

Computer & Network Technology

The computer & network technology program provides training from computer repairs to installing and configuring servers. The curriculum is taught in a lab space that imitates the work environment. Through classroom and lab experiences, students gain knowledge that prepares them for third party certifications. Graduates are eligible for certification in CompTIA A+, Network+ , Security+, Linux+ and Healthcare IT. Windows 8.1 and Windows Server 2012 r2 certifications are also available..

Diesel Hydraulics Technology

Diesel hydraulics technology is a program emphasizing the National Automotive Technology Education Foundation (NATEF) skills standards required for a technician to become Automotive Service Excellence (ASE) certified. Fundamental training in all aspects of medium/heavy truck technician training is employed through lecture and hands-on training.

In the first semester, students concentrate on preventive maintenance inspections and repair, basic principles of diesel engine operation with emphasis on engine tune-up and troubleshooting techniques (i.e., engine timing, and fuel systems operational components). The next semester follows with an emphasis on heavy equipment electrical/electronic troubleshooting and repair, air brake systems, and fundamentals of suspension and steering component servicing and diagnosis.

In the second year, students concentrate on the principles of hydraulics, hydraulic troubleshooting and diagnosis, followed by diesel engine rebuilding. The last semester's concentration is truck drive train systems, including transmission and differential rebuilding/ replacement, followed by the theory and operation of mobile refrigeration units.

The diesel hydraulics program meets the quality training of diesel hydraulic technicians as set by ASE and is master level accredited. Students will be eligible for ASE student certifications upon completion of the program.

Graduates can find employment with construction companies, logging companies, farm machinery/heavy equipment dealers, and truck dealerships. Capable graduates may advance into management positions such as team leader, shift foreman, shop supervisor, parts manager, or sales associate.

Electrical Construction and Maintenance

Electrical construction and maintenance provides broad fundamental training in the principles used to install electrical equipment and the mathematics necessary to plan electrical systems. National electric code and theory are taught throughout the program.

The first year provides theory and practice in electrical and electronic basics. Studies include the use of diagnostic test equipment and troubleshooting techniques while performing "hands-on" laboratory exercises.

The second year begins with an in-depth study of residential and commercial wiring systems and lighting design. Hands-on exercises include residential wiring, conduit bending and installation, and lighting and control system installation. Following a thorough study of rotating machinery and power systems analysis, industrial wiring and motor controls are studied. Hands-on exercises include the planning, wiring and testing of motor control circuitry, as well as, programmable logic controllers (PLCs).

Graduates of the program will find employment opportunities as beginning electricians with electrical contractors, service shops, power companies, electrical industry equipment suppliers and industrial maintenance operations. After necessary experience and licenses have been obtained, positions may be available as managers, inspectors, supervisors, field representatives or as operators of individual businesses. Presently, two of the four years required for a Journeyman Electrician's license are awarded to graduates upon completing this program at NMCC.

Plumbing and Heating

Students in the plumbing and heating program may choose to pursue an associate degree or a certificate in plumbing, in heating, or in both. Classroom and lab projects provide students with the skills necessary for today's fast pace and ever evolving world of plumbing and heating.

The first year is spent in the plumbing classroom and lab learning to work with many types of piping systems, including copper, steel and plastics. The student will also learn to properly install and service domestic water pumps, plumbing fixtures, drainage and vent lines, and potable water lines. The student will work directly with the sizing of domestic water, drainage, venting systems, and solar thermal systems. The Maine state plumbing code will be discussed in detail. The student will be eligible for the Maine Plumbers'

Journeyman in Training exam upon successful completion of the first year.

The second year consists of class time in heating and refrigeration, along with participating in the lab, learning to work with many different heating and refrigeration systems and components. The student will learn the major concepts of heat flow, warm air and hydronic heating systems, piping systems and layouts, electrical component wiring, and Maine laws pertaining to oil heating appliances and refrigerant systems. After completion of the heating courses, the student will be eligible to sit for the Maine Journeyman's exam for #1 and #2 oils up to 15 G.P.M. In addition, students will receive training in propane and natural gas and heat pump installation. Students will have the opportunity to take national certification exams in propane and natural gas and refrigerant handling.
Graduates will be qualified for many employment opportunities in the plumbing, heating and cooling field, including service technician, installer, sales, and eventually self-employment.

Precision Machining Technology

The precision machining technology program enables students to develop skills in setting up and operating conventional machine tools to produce precision parts and develop the required skills in preparation for CNC (computer numerical control) programming, setup and operation. Students will develop additional skills in process planning, blueprint reading, CAD/CAM, measurement and inspection, and custom work-holding design, leading to NIMS (National Institute of Metalworking Skills) or other credentials.

The precision machining technology program at NMCC is Maine's first HAAS Technical Education Center. The college's collaborative relationship with HAAS Automation, Inc. affords students access to state-of-the-art machine tools to support training in both entry-level and advanced machining processes. There is a strong general education component integrated into the program to satisfy demands for appropriate work force skills.

The precision machining technology program is an accredited metalworking training program by MMS, machining level I and machining level II.

Students have consistently been able to have the opportunity to be employed as interns in the summer for several manufacturing facilities. Job opportunities for graduates include machine tool operators, precision machinists, tool and die makers, CNC operators/programmers, and quality control inspectors.

Trade and Technical Occupations

This program recognizes proficiency at the associate degree level for various trades and technical occupations in which an individual has completed a formal registered* apprenticeship program (i.e. journeyman status). The program is open to individuals who have completed a registered apprenticeship program and apprentices who wish to complete the trade and technical occupations program simultaneously with dual enrollment in the apprenticeship program.

Participation is available to apprentices in a registered or college approved program that is at least three years in duration. Students may be enrolled in the program after they have earned 27 credits in their technical (apprenticeship) specialty area. The student is responsible for providing the necessary documentation to verify his/her successful completion of the technical specialty portion of the apprenticeship program, certification documents, a schedule of training required by the employer and other supporting credentials. The degree will not be awarded until the student has completed the requirements of the apprenticeship program.

**Registered by Maine State Apprenticeship Council; Bureau of Apprenticeship Training, U.S. Department of Labor; or formal programs approved by the college.*

Structural Welding

Structural welding certificate program students will be presented information on the materials being used, hand and power tools for the job, safety in the workplace, and the correct procedures for the assigned tasks. Students will have the opportunity to develop skills in the shielded metal arc welding process, in preparation for the exam. The curriculum for this program is designed to prepare students for the American Welding Society structural welding qualification test numbers D1-SM-F4-P-A-L, a national certification.

Graduates of the program will find employment opportunities with, industrial contractors, ship yards, machine shops, fabrication shops, and manufacturing facilities.

Water Treatment Technology

The Water Treatment Technology program will provide students a fundamental understanding of the scientific principles used to treat drinking water as well as sanitize wastewater before it is discharged back into the environment.

Students will learn industry theory and gain "hands-on" experience using laboratory exercises to better understand the information across the

spectrum — from the basics to an in-depth study of Water and Wastewater Treatment degree and certificates.

Wind Power Technology

The Wind Power Technology program is a certificate program that prepares students to enter into a rapidly emerging alternative energy industry as technicians. The program offers training in the fundamental skills required to work safely and effectively with utility sized wind power systems.

The first semester of the program offers an introduction to the power industry, electrical and electronics basics, related mathematics concepts, industrial safety practices, fluid applications, and mechanical drive systems. The second semester provides fundamentals of industrial control system applications including automation concepts, related electronics, communication networks, software applications, and power production and distribution. Each semester's curriculum provides a focus on developing a working knowledge of industry standards and skills required to complete operation, maintenance and troubleshooting tasks.

Graduates of the certificate program will find career opportunities with wind farm operators, turbine manufacturers, and contractors providing construction, maintenance and turbine operational support. Opportunities may include local employers, as well as, global energy industry leaders.

Curricula

General Education Core Curriculum

All associate degree candidates must complete the following minimum general education core requirements.

Core Requirements	Learning Outcomes	Courses (see program requirements)
Writing & Communications 6 Hours	Students will be able to communicate effectively, both orally and in writing. Students will be able to search for, access, evaluate information from a variety of sources and use that information ethically and legally for research and personal purposes.	ENG 111 English Composition & ENG 227 Advanced Composition or COM 212 Business Communications I COM 221 Technical Communications
Quantitative Literacy 3-4 Hours	Students will understand and be able to apply mathematical concepts to solve quantitative problems.	MAT 125 College Algebra MAT 210 Statistics MAT 227 Calculus MAT 115 Business Math MAT 118 Electrical Math MAT 119 Applied Math
Natural Science 4 Hours w/Lab	Students will develop the ability to reason scientifically using the scientific method and to apply that knowledge in a laboratory setting.	BIO 114 Human Biology BIO 201 Anatomy & Physiology I BIO 211 Anatomy & Physiology II BIO 218 Microbiology PHY150 Physics
Social Science 3 Hours	Students will be able to analyze or explain causal forces which shape social structures, institutions, or behavior through time.	ECO 213 Macroeconomics HIS 123 U.S. History, 1600-1865 HIS 125 U.S. History, 1865 to Present HIS 203 Religion in America HIS 206 American Sports History HIS 207 Maine History POL 101 American Government PSY 101 General Psychology PSY 207 Developmental Psychology PSY 209 Abnormal Psychology SOC 111 Sociology SOC 215 Social Issues & Problems
Humanities 3 Hours	Students will be able to read, analyze, and interpret significant texts in order to make meaning, find purpose, and choose values that enhance our understanding of ourselves and govern our relationships with others	ENG 226 Intro to Literature ENG 228 Topics in Literature ENG 231 Women in Literature ART 101 Fund of Art ART 201 Intro to Film ENG 239 Intro to Creative Writing PHI 111 Everyday Ethics PHI 151 Intro to Philosophy PHI 201 Ethics PHY 206 World Religions HIS 123 U.S. History 1600-1865 HIS 125 U.S. History 1865-Presen HIS 203 Religion in America HIS 206 American Sports History HIS 207 Maine History

Core Total: 21 Hour Minimum

Associate in Applied Science Degree Program

First Semester		C	L	CR
ACC 111	Principles of Accounting I	4	0	4
BUS 117	Business Law	3	0	3
CIS 105	Intro. to PC Operating Systems	1	0	1
CIS 113	Intro. to Microcomputer Apps.	3	0	3
ENG 111	English Composition	3	0	3
MAT 115	Business Mathematics	3	0	3
		17	0	17
Second Semester				
♦ **ACC 121**	**Principles of Accounting II**	**4**	**0**	**4**
CIS 108	Spreadsheet Applications	3	0	3
COM 212	Business Communications I	3	0	3
ECO 213	Macroeconomics	3	0	3
MAT 125	College Algebra	3	0	3
		16	0	16
Third Semester				
♦ **ACC 211**	**Intermediate Accounting I**	**4**	**0**	**4**
♦ **ACC 214**	**Federal Taxation I**	**3**	**0**	**3**
♦ **ACC 234**	**Accounting Info Systems I**	**3**	**0**	**3**
CIS 129	Database Applications	3	0	3
COM 111	Speech	3	0	3
		16	0	16
Fourth Semester				
♦ **ACC 221**	**Intermediate Accounting II**	**4**	**0**	**4**
♦ **ACC 225**	**Federal Taxation II**	**3**	**0**	**3**
BUS 106	Effective Customer Service	3	0	3
	Business Elective	3	0	3
	Humanities Elective	3	0	3
		16	0	16
TOTAL REQUIRED				65

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Comply with Generally Accepted Accounting Principles (GAAP).
- Perform the steps of the accounting cycle.
- Demonstrate the ability to prepare financial statements.
- Perform financial statement analysis.
- Utilize accounting information for decision making.
- Interpret and apply the use of federal tax codes to prepare individual and business tax returns.
- Utilize technology to complete accounting functions.
- Demonstrate proficiency in the use of computerized accounting systems.
- Demonstrate knowledge of national and state law.
- Communicate effectively in writing.
- Communicate effectively orally.
- Communicate effectively numerically and statistically.
- Demonstrate quantitative knowledge and skills by successfully completing MAT115.
- Interpret and analyze financial and managerial information for decision-making purposes.
- Extract relevant data from complex information, process it appropriately, and draw reasonable conclusions.
- Apply the use of technology to solve accounting and business related problems.
- Communicate effectively and professionally while functioning in groups.

CURRICULA

KEY
C = Class Hours
L = Lab Hours
CR = Credit Hours

AUTOMOTIVE COLLISION REPAIR

• Demonstrate proficiency in the use of technology.

Associate in Applied Science Degree Program

First Semester		C	L	CR
♦ **ACR 111**	**Nonstructural Repairs**	**3**	**9**	**6**
COL 103	College Success	1	0	1
ENG 111	English Composition	3	0	3
MAT 119	Applied Mathematics	4	0	4
WEI 113	Thin Metals Welding	2	2	3
		13	11	17

Second Semester				
♦ **ACR 121**	**Structural Analysis/Plastics**	**3**	**9**	**6**
♦ **AUT 115**	**Automotive Electricity**	**2**	**2**	**3**
SAE 121	Industrial Safety	3	0	3
WEI 133	Electric Welding	2	2	3
	Social Science Elective	3	0	3
		13	13	18

Third Semester				
♦ **ACR 209**	**Auto Collision Blueprint & Est**	**3**	**0**	**3**
♦ **ACR 211**	**Painting & Refinishing**	**3**	**9**	**6**
♦ **AUT 125**	**Automotive Electronics**	**2**	**2**	**3**
COM 221	Technical Communications	3	0	3
	Humanities Elective	3	0	3
		14	11	18

Fourth Semester				
♦ **ACR 223**	**Structural Repairs**	**3**	**9**	**6**
AUT 216	Motor Vehicle Inspection	2	0	2
♦ **AUT 229**	**Auto Heating & Air Conditioning**	**2**	**2**	**3**
PHY 150	Physics	3	2	4
	Elective	3	0	3
		13	13	18

TOTAL REQUIRED 71

Certificate Program

First Semester		C	L	CR
♦ **ACR 111**	**Nonstructural Repairs**	**3**	**9**	**6**
MAT 119	Applied Mathematics	4	0	4
SAE 121	Industrial Safety	3	0	3
WEI 113	Thin Metals Welding	2	2	3
		12	11	16

Second Semester				
♦ **ACR 121**	**Structural Analysis/Plastics**	**3**	**9**	**6**
♦ **AUT 115**	**Automotive Electricity**	**2**	**2**	**3**
ENG 111	English Composition	3	0	3
WEI 133	Electric Welding	2	2	3
		10	13	15

TOTAL REQUIRED 31

Prospective students must complete and return a medical clearance form prior to being admitted to the program.

♦ ***Major courses; a minimum grade of "C" or 2.0 required***

Major Collision Repair and Refinishing Certificate Program*

First Semester		C	L	CR
♦ **ACR 209**	**Auto Collision Blueprint & Est**	**3**	**0**	**3**
♦ **ACR 211**	**Painting & Refinishing**	**3**	**9**	**6**
♦ **AUT 125**	**Automotive Electronics**	**3**	**0**	**3**
ENG 111	English Composition	3	0	3
		12	9	15

Second Semester				
♦ **ACR 223**	**Structural Repairs**	**3**	**9**	**6**
AUT 216	Motor Vehicle Inspection	2	0	2
♦ **AUT 229**	**Auto Heating & Air Conditioning**	**2**	**2**	**3**
MAT 119	Applied Mathematics	4	0	4
		11	11	15

TOTAL REQUIRED 30

**Must have completed the Auto Collision Repair Certificate Program or permission of the instructor to enroll in this certificate program.*

Program Outcomes

- Communicate using proper technical terms and descriptions.
- Maintain a safe working environment for themselves and others.
- Understand the behavior and principles that govern automotive electrical circuits.
- Troubleshoot automotive circuits using available information.
- Read and comprehend schematic diagrams.
- Use mathematics in measuring, analyzing, and estimating tasks.
- Perform entry-level skills in metalwork and plastic fillers.
- Demonstrate basic skills in oxyacetylene, MIG, TIG, and electric arc welding.
- Perform entry-level skills in refinishing vehicles to pre-accident condition.
- Effectively communicate with others using written and oral modes.
- Work independently with minimal supervision.
- Work cooperatively and collaboratively on larger repair projects.
- Follow verbal instruction on processes and repair procedures.
- Document repair procedures and costs by using a repair order system.
- Mix, apply, and finish paint products according to specifications.
- Demonstrate skills in color matching, mixing, and tinting of paints.
- Understand the principles of basic automotive electronic components.
- Select and use appropriate automotive electronic diagnostic equipment.
- Be eligible for the Maine State Motor Vehicle Inspection exam.
- Understand heating and air conditioning principles in automotive vehicles.
- Understand how the laws of the Clean Air Act pertain to the profession.
- Be eligible for ASE Student Certification Testing in Collision Repair.
- Demonstrate ability to write an accurate estimate manually and electronically
- Work as closely as possible, within allotted time on a repair order.

AUTOMOTIVE TECHNOLOGY

Associate in Applied Science Degree Program

First Semester		C	L	CR
♦ **AUT 109**	**Intro. to Auto Tech**	**.5**	**1.5**	**1**
♦ **AUT 114**	**Suspension and Steering**	***1.5**	***4.5**	**3**
♦ **AUT 115**	**Automotive Electricity**	**2**	**2**	**3**
♦ **AUT 116**	**Brakes**	***1.5**	***4.5**	**3**
COL 103	College Success	1	0	1
ENG 111	English Composition	3	0	3
WEI 103	Welding for Auto Tech	2	2	3
		11.5	14.5	17
Second Semester				
♦ **AUT 124**	**Engine Repair**	**3**	**9**	**6**
♦ **AUT 125**	**Automotive Electronics**	**2**	**2**	**3**
MAT 119	Applied Mathematics	4	0	4
SAE 121	Industrial Safety	3	0	3
	Humanities Elective	3	0	3
		15	11	19
Third Semester				
♦ **AUT 214**	**Engine Performance**	**3**	**9**	**6**
♦ **AUT 229**	**Auto Heating & Air Cond.**	**2**	**2**	**3**
♦ **AUT 231**	**Innovative Auto Technologies**	**2**	**2**	**3**
AUT 216	Motor Vehicle Inspection	2	0	2
PHY 150	Physics	3	2	4
		12	15	18
Fourth Semester				
♦ **AUT 223**	**Manual Drive Train and Axles**	***1.5**	***4.5**	**3**
♦ **AUT 225**	**Automatic Transmissions**	***1.5**	***4.5**	**3**
♦ **AUT 228**	**Alternative Propulsion Sys**	**2**	**2**	**3**
COM 221	Technical Communications	3	0	3
	Social Science Elective	3	0	3
		11	11	15
TOTAL REQUIRED				69

Certificate Program

First Semester		C	L	CR
♦ **AUT 109**	**Intro. to Auto Tech**	**.5**	**1.5**	**1**
♦ **AUT 114**	**Suspension and Steering**	***1.5**	***4.5**	**3**
♦ **AUT 115**	**Automotive Electricity**	**2**	**2**	**3**
♦ **AUT 116**	**Brakes**	***1.5**	***4.5**	**3**
ENG 111	English Composition	3	0	3
WEI 103	Welding for Auto Tech	2	2	3
		10.5	14.5	16
Second Semester				
♦ **AUT 124**	**Engine Repair**	**3**	**9**	**6**
♦ **AUT 125**	**Automotive Electronics**	**2**	**2**	**3**
MAT 119	Applied Mathematics	4	0	4
SAE 121	Industrial Safety	3	0	3
		12	11	16
TOTAL REQUIRED				32

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Communicate using proper technical terms and descriptions.
- Maintain a safe working environment for themselves and others.
- Understand the behavior and principles that govern automotive electrical circuits.
- Troubleshoot automotive circuits using available information.
- Read and comprehend schematic diagrams.
- Use mathematics in measuring, analyzing, and estimating tasks.
- Demonstrate ASE certification skills in Brakes, Suspension and Steering Systems.
- Demonstrate basic skills in oxyacetylene, and electric arc welding.
- Perform Wheel Alignments for both two-wheel and four-wheel application.
- Perform service work in tire changing and wheel balancing.
- Effectively communicate with others using written and oral modes.
- Work independently with minimal supervision.
- Work cooperatively and collaboratively on larger repair projects.
- Follow verbal instruction on processes and repair procedures.
- Document repair procedures and costs by using a repair order system.
- Understand the principles of electrical circuits and test equipment.
- Understand a variety of social, economic, and cultural operatives.
- Understand the principles of basic automotive electronic components.
- Select and use appropriate automotive electronic diagnostic equipment.
- Diagnose and repair fuel and emission systems.
- Diagnose and repair computerized engine controls.
- Perform major engine service including diagnostics, repair, and assembly.
- Diagnose and repair automatic transmissions.
- Diagnose and repair power trains, including manual shift transmissions.
- Be eligible for the Maine State Motor Vehicle Inspection exam.
- Understand how the laws of the Clean Air Act pertain to the profession.
- Understand heating and air-conditioning principles in vehicles.
- Be eligible for Section 609 certification of the Federal Clean Air Act in the proper use of Motor Vehicle Air Conditioning refrigerant recovery and recycling equipment.
- Understand the safety requirements for hybrid and electric vehicles.
- Understand the principles of hybrid/electric vehicle technology and advanced automotive technologies.

BUILDING CONSTRUCTION TECHNOLOGY

Associate in Applied Science Degree Program

First Semester		C	L	CR
♦ **BCT 111**	**Framing Systems**	**3**	**9**	**6**
COL 103	College Success	1	0	1
DRR 117	Blueprint Reading for Construction Trades	2	2	3
ENG 111	English Composition	3	0	3
SAE 117	Occupational Safety	1	0	1
TEC 112	Building Science I	1.5	3	3
		11.5	14	17
Second Semester				
♦ **BCT 121**	**Interior Materials & Methods**	**3**	**9**	**6**
MAT 119	Applied Mathematics	4	0	4
TEC 123	Building Science II	1.5	3	3
	Social Science Elective	3	0	3
		11.5	12	16
Third Semester				
♦ **BCT 211**	**Adv. Framing & Finishing**	**3**	**9**	**6**
DRR 215	Architectural Drafting I	1	3	2
PHY 150	Physics	3	2	4
SUR 214	Construction Surveying	1	3	2
		8	17	14
Fourth Semester				
♦ **BCT 221**	**Finish Carpentry**	**3**	**9**	**6**
COM 221	Technical Communications	3	0	3
DRR 220	Architectural Drafting II	1	3	2
TEC 221	Construction Management	3	0	3
	Humanities Elective	3	0	3
		13	12	17
TOTAL REQUIRED				64

Certificate Program

First Semester		C	L	CR
♦ **BCT 111**	**Framing Systems**	**3**	**9**	**6**
DRR 117	Blueprint Reading for Construction Trades	2	2	3
ENG 111	English Composition	3	0	3
SAE 117	Occupational Safety	1	0	1
TEC 112	Building Science I	1.5	3	3
		10.5	14	16
Second Semester				
♦ **BCT 121**	**Interior Materials & Methods**	**3**	**9**	**6**
MAT 119	Applied Mathematics	4	0	4
TEC 123	Building Science II	1.5	3	3
	Elective	3	0	3
		11.5	12	16
TOTAL REQUIRED				32

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Demonstrates positive workplace values: team work ethic, communication skills (oral and written), punctuality, safety issues and quantity/quality of product.
- Read and understand blue prints/CAD drawings i.e. floor, wall, roof framing plans; associated section details and various schedules.
- Perform framing of floors, walls roofs, fascia and cornice construction.
- Demonstrates the installation of exterior doors, windows, rigid insulation and house wraps.
- Plan and install interior finish such as gypsum board and drywalling, window/door jambs, kitchen cabinetry, staircases and various moldings.
- Demonstrates use of stains and oil/water base finish coats.
- Understand and install thermal/moisture/air control envelopes in regards to R-value, humidity, and air quality.
- Demonstrate a thorough understanding and use of math as it relates to building construction measurements, calculations and conversions.
- Develop building material lists and cost estimates.
- Sketch and draw, to scale, floor, wall and roof sections; soffit fascia assemblies; and staircase details of a residential building.
- Demonstrate the fundamental principles of computer-aided drafting by preparing an accurate set of building drawings.
- Become familiar with typical construction materials and methods as they relate to residential and light commercial buildings.
- Understand the building code and the minimum requirements for design and construction as outlined in the building and energy codes.
- Understand design principles as they pertain to energy efficient buildings.
- Develop an appreciation for sustainable building materials and become an advocate for environmentally responsible design and construction practices.
- Develop experience in installing various construction materials as a means to demonstrate an understanding of materials and methods.
- Develop independent learning skills to enhance building design and construction skills.
- Apply the skills learned to design and build energy efficient and sustainable residential and light commercial structures.

BUSINESS ADMINISTRATION

Associate in Applied Science Degree Program

First Semester		C	L	CR
ACC 111	Principles of Accounting I	4	0	4
♦ **BUS 101**	**Intro to Business**	**3**	**0**	**3**
CIS 105	Intro. to PC Operating Systems	1	0	1
CIS 113	Intro. to Microcomputer Apps.	3	0	3
ENG 111	English Composition	3	0	3
MAT 115	Business Mathematics	3	0	3
		17	0	17
Second Semester				
ACC 121	Principles of Accounting II	4	0	4
	OR			
ACC 125	Managerial Accounting	4	0	4
♦ **BUS 109**	**Entrepreneurship**	**3**	**0**	**3**
CIS 108	Spreadsheet Applications	3	0	3
COM 212	Business Communications I	3	0	3
MAT 125	College Algebra	3	0	3
		16	0	16
Third Semester				
ACC 214	Federal Taxation I	3	0	3
	OR			
CIS 129	Database Applications	3	0	3
BUS 117	Business Law I	3	0	3
♦ **BUS 217**	**E-Commerce**	**3**	**0**	**3**
♦ **BUS 229**	**Principles of Management**	**3**	**0**	**3**
COM 111	Speech	3	0	3
ECO 213	Macroeconomics	3	0	3
		18	0	18
Fourth Semester				
BUS 106	Effective Customer Service	3	0	3
♦ **BUS 214**	**Project Management**	**3**	**0**	**3**
♦ **BUS 239**	**Human Resources Mgmt.**	**3**	**0**	**3**
♦ **BUS 241**	**Principles of Marketing**	**3**	**0**	**3**
	Humanities Elective	3	0	3
		15	0	15
TOTAL REQUIRED				66

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Comply with Generally Accepted Accounting Principles (GAAP).
- Perform the steps of the accounting cycle.
- Utilize technology to complete business functions.
- Understand the fundamentals of business.
- Apply marketing principles and strategies.
- Create a marketing plan and deliver an effective oral marketing presentation.
- Demonstrate the ability to create a human resources recruitment plan.
- Demonstrate knowledge of national and state law.
- Demonstrate knowledge of the various components of a business plan.
- Communicate effectively in writing.
- Communicate effectively orally.
- Communicate effectively numerically and statistically.
- Demonstrate quantitative knowledge and skills by successfully completing MAT115.
- Perform appropriate analyses for quantitative and qualitative data.
- Interpret and analyze financial and managerial information for decision-making purposes.
- Apply appropriate statistical techniques to solve marketing research problems.
- Extract relevant data from complex information, process it appropriately and draw reasonable conclusions.
- Apply the use of technology to solve business problems.
- Demonstrate the ability to develop solutions to marketing scenarios.
- Communicate effectively and professionally while functioning in groups.
- Demonstrate proficiency in the use of technology.

CAREER STUDIES

Students pursuing the associate in applied science degree in career studies are required to complete a minimum of 60 credit hours. *These credits fall into three categories:*

Career/Vocational/Technical - 24
A total of 24 credits must be completed in a career track. Up to 20 credit hours may be awarded toward this requirement for related experiential knowledge within an occupational track at the College. [Students applying for experiential credits must provide a detailed portfolio to the college's academic dean for review and possible awarding of credit; students applying for portfolio credits must notify the admissions office at the time of application.]

General Education - 21
A student must have a minimum of 12 credit hours in Communications, Social Sciences, Humanities and Fine Arts plus a minimum of 8 credit hours in Math/Sciences

Electives - 15
A student may take any other courses from within the college to meet the total 60 credit hour requirement, except for developmental courses (courses numbered 099 or lower).

COMMUNITY PARAMEDICINE

Associate in Science Degree Program

First Semester		C	L	CL	CR
♦ ALH 124	**Health & Safety Compliance**	**1**	**0**	**0**	**1**
♦ BIO 201	**Anatomy & Physiology I**	**3**	**2**	**0**	**4**
♦♦EMS 243	**Community Paramedicine**	**7**	**3**	**0**	**8**
♦NUT 101	**Intro. to Nutrition**	**3**	**0**	**0**	**3**
		14	5	0	16
Second Semester					
♦ BIO 211	**Anatomy & Physiology II**	**3**	**2**	**0**	**4**
♦♦EMS 245	**CP Clinical**	**0**	**0**	**9**	**3**
ENG 111	English Composition	3	0	0	3
MAT 125	College Algebra	3	0	0	3
		9	2	9	13
Third Semester					
♦♦EMS 247	**Community Paramedic Seminar**	**0**	**3**	**0**	**1**
	Communications Elective	3	0	0	3
	General Electives	*	*	*	10
PSY 101	General Psychology	3	0	0	3
		6	3	0	17
Fourth Semester					
♦♦EMS 246	**Leadership in EMS**	**2**	**0**	**0**	**2**
SOC 111	Sociology	3	0	0	3
	Humanities	*	*	*	3
	Diversity/Ethical Reasoning	*	*	*	3
	General Elective	0	0	0	3
		5	0	0	14

TOTAL REQUIRED **60**

♦ Major courses; a minimum grade of "C" or 2.0 required.
♦♦Community Paramedicine Major Courses; require a minimum grade of '77' or (C+)

Advanced Certificate Program

Career/Vocational		C	L	CL	CR
♦ ALH 124	**Health & Safety Compliance**	**1**	**0**	**0**	**1**
♦♦EMS 243	**Community Paramedicine**	**7**	**3**	**0**	**8**
♦♦EMS 245	**CP Clinical**	**0**	**0**	**9**	**3**
♦♦EMS 246	**Leadership in EMS**	**2**	**0**	**0**	**2**
♦♦EMS 247	**Community Paramedic Seminar**	**0**	**3**	**0**	**1**
		10	6	9	15

TOTAL REQUIRED **15**

Please note that the Advanced Certificate program is only available for those who already possess, at minimum, an associate degree.

Certificate Program

First Semester		C	L	CL	CR
♦ ALH 124	**Health & Safety Compliance**	**1**	**0**	**0**	**1**
♦♦EMS 243	**Community Paramedicine**	**7**	**3**	**0**	**8**
ENG 111	English Composition	3	0	0	3
		11	3	0	12
Second Semester					
♦♦EMS 245	**CP Clinical**	**0**	**0**	**9**	**3**
♦♦EMS 246	**Leadership in EMS**	**2**	**0**	**0**	**2**
♦♦EMS 247	**Community Paramedic Seminar**	**0**	**3**	**0**	**1**
MAT 125	College Algebra	3	0	0	3
		5	3	9	9

TOTAL REQUIRED **21**

♦ Major courses; a minimum grade of "C" or 2.0 required.
♦♦Community Paramedicine Major Courses; require a minimum grade of '77' or (C+)

Program Outcomes

- Describe the role of the community paramedic within the healthcare system.
- Prioritize healthcare needs based on disparate populations within the community.
- Promote positive health behaviors in high risk populations.
- Collaborate with healthcare team members to assist in the management of chronic disease through the reduction of social, behavioral, environmental and economic risk factors.
- Provide comprehensive, culturally competent care to individuals and groups.
- Integrate health literacy and evidenced based research application when caring for clients.
- Provide safe and effective care to diverse populations.
- Exhibit the understanding of the leadership role the community paramedic will assume in the EMS system.

COMPUTER & NETWORKING TECHNOLOGY

Associate in Applied Science Degree Program

First Semester		C	L	CR
♦ **COE 116**	**A+ Cert. Prep**	**3**	**0**	**3**
♦ **COE 118**	**A+ Cert. Prep Lab**	**0**	**9**	**3**
♦ **COE 119**	**Operating Systems**	**2**	**4**	**4**
COL 103	College Success	1	0	1
DIB 113	Intro to Digital Systems	2	2	3
MAT 118	Electrical Math	4	0	4
		12	15	18
Second Semester				
♦ **COE 125**	**Comp. Network Hardware**	**2**	**2**	**3**
♦ **COE 128**	**Adv Operating Systems**	**2**	**2**	**3**
♦ **COE 217**	**Installing & Conf. Servers**	**2**	**4**	**4**
ENG 111	English Composition	3	0	3
	Humanities Elective	3	0	3
		12	8	16
Third Semester				
COE 112	Intro to Linux	2	2	3
♦ **COE 218**	**Network Administration**	**2**	**4**	**4**
♦ **COE 219**	**Electronics for Comp. Techs**	**2**	**3**	**3**
PHY 150	Physics	3	2	4
		9	11	14
Fourth Semester				
COE 220	Intro to Computer Forensics	2	2	3
♦ **COE 227**	**Conf. Adv. Windows Server**	**2**	**4**	**4**
♦ **COE 228**	**Security+ Certification**	**2**	**2**	**3**
COM 221	Technical Communications	3	0	3
	Social Science Elective	3	0	3
		12	8	16
TOTAL REQUIRED				64

Certificate Program

First Semester		C	L	CR
♦ **COE 116**	**A+ Cert. Prep**	**3**	**0**	**3**
♦ **COE 118**	**A+ Cert. Prep Lab**	**0**	**9**	**3**
♦ **COE 119**	**Operating Systems**	**2**	**4**	**4**
DIB 113	Intro. to Digital Systems	2	2	3
MAT 118	Electrical Math	4	0	4
		11	15	17
Second Semester				
COE 112	Intro to Linux	2	2	3
♦ **COE 125**	**Computer Network Hardware**	**2**	**2**	**3**
♦ **COE 128**	**Adv Operating Systems**	**2**	**2**	**3**
ENG 111	English Composition	3	0	3
		9	6	12
TOTAL REQUIRED				29

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Demonstrate safe and proper use of typical tools for electronic technicians
- Properly select and use electronic diagnostic equipment
- Demonstrate the ability to use current techniques, skills and tools necessary for the trade
- Demonstrate the ability to function on teams to accomplish a common goal
- Read and comprehend electronic schematic diagrams
- Understand the mathematical relationships that govern electrical circuits
- Understand digital logic systems and numbering systems
- Communicate effectively on technical subject matters
- Identify, formulate and solve computer-related problems
- Install and troubleshoot system hardware
- Install, configure and troubleshoot client operating systems
- Install, configure and troubleshoot server operating systems
- Effectively communicate by using proper computer system and networking terminology
- Demonstrate the ability to troubleshoot/debug, upgrade, replace basic components, and reassemble servers and client systems
- Demonstrate the ability to implement Local Area Networks using both static and dynamic addressing techniques including subnetting
- Demonstrate the ability to install and configure domain-based networks
- Demonstrate the ability to perform routine repair of printers
- Write technical reports and interpret technical manuals
- Understand the natural laws of physics as they pertain to the trade
- Understand fundamental computer forensics
- Understand computer and network security
- Be eligible for CompTIA A+ certification
- Be eligible for CompTIA Network+ certification
- Be eligible for CompTIA Security+ certification
- Be eligible for CompTIA Linux+ certification
- Be eligible for Microsoft MCSA Windows 8.1 certification
- Be eligible for Microsoft MCSA Windows Server 2012 certification

DIESEL HYDRAULICS TECHNOLOGY

Associate in Applied Science Degree Program

First Semester		C	L	CR
♦ **AUT 115**	**Automotive Electricity**	**2**	**2**	**3**
COL 103	College Success	1	0	1
♦ **DIM 112**	**Intro to Diesel Hydraulics**	**3***	**9***	**3**
♦ **DIM 114**	**Engine Diagnosis/Tune-up**	**3***	**9***	**3**
ENG 111	English Composition	3	0	3
SAE 121	Industrial Safety	3	0	3
		12	11	16

Second Semester				
♦ **AUT 125**	**Automotive Electronics**	**2**	**2**	**3**
♦ **DIM 122**	**Heavy Equipment/ Electrical Systems**	**3***	**9***	**3**
♦ **DIM 123**	**Brake Systems**	**3***	**9***	**1.5**
♦ **DIM 125**	**Suspension/Steering Sys.**	**3***	**9***	**1.5**
MAT 119	Applied Mathematics	4	0	4
WEI 101	Intro. to Welding	2	2	3
		11	13	16

Third Semester				
♦ **AUT 229**	**Auto Heating and AC**	**2**	**2**	**3**
♦ **DIM 211**	**Hydraulics Technology**	**3***	**9***	**3**
♦ **DIM 213**	**Diesel Engine Rebuilding**	**3***	**9***	**3**
PHY 150	Physics	3	2	4
WEI 133	Electric Welding	2	2	3
	Social Science Elective	3	0	3
		13	15	19

Fourth Semester				
AUT 216	Motor Vehicle Inspection	2	0	2
♦ **DIM 221**	**Drive Train Systems**	**3***	**9***	**3**
♦ **DIM 222**	**Air Conditioning Systems/ Transport Refrigerations**	**3***	**9***	**3**
COM 221	Technical Communications	3	0	3
	Humanities Elective	3	0	3
	Elective	3	0	3
		14	9	17

TOTAL REQUIRED 68

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Certificate Program

First Semester		C	L	CR
♦ **AUT 115**	**Automotive Electricity**	**2**	**2**	**3**
♦ **DIM 112**	**Intro to Diesel Hydraulics**	**3***	**9***	**3**
♦ **DIM 114**	**Engine Diagnosis/Tune-up**	**3***	**9***	**3**
ENG 111	English Composition	3	0	3
SAE 121	Industrial Safety	3	0	3
		11	11	15

Second Semester				
♦ **AUT 125**	**Automotive Electronics**	**2**	**2**	**3**
♦ **DIM 122**	**Heavy Equipment/ Electrical Systems**	**3***	**9***	**3**
♦ **DIM 123**	**Brake Systems**	**3***	**9***	**1.5**
♦ **DIM 125**	**Suspension/Steering Sys.**	**3***	**9***	**1.5**
MAT 119	Applied Mathematics	4	0	4
WEI 101	Intro. to Welding	2	2	3
		11	13	16

TOTAL REQUIRED 31

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

**Note: DIM courses within a semester are scheduled sequentially, not concurrently.*

Program Outcomes

- Maintain a safe work environment.
- Complete electronic work orders/record keeping functions.
- Perform preventive maintenance inspections.
- Inspect and adjust air brake systems.
- Test diesel fuel systems by pressure test and electronically.
- Service and repair diesel cylinder heads.
- Perform a complete overhead valve/injector adjustment.
- Troubleshoot and repair starting/charging systems.
- Perform diesel engine electronic diagnostic tests.
- Maintain diesel engine EGR systems.
- Maintain truck air systems.
- Troubleshoot repair ABS systems.
- Remove and/or replace truck clutch and adjust.
- Remove and/or install differential inspection repairs as needed.
- Maintain hydraulic systems, test and adjust as needed.
- Perform engine rebuilding operations.
- Perform steering axle alignment.
- Understand the principles of electrical circuits and test equipment.
- Understand heating and air-conditioning principles in vehicles.
- Be eligible for the Maine State Motor Vehicle Inspection exam.
- Be eligible for ASE Student Certification in Medium-Heavy Truck categories.

EARLY CHILDHOOD EDUCATION

Associate in Applied Science Degree Program

First Semester		C	L	CR
♦**ECE 101**	**Healthy Learning Environments**	**3**	**0**	**3**
♦**ECE 105**	**Advancing Intellectual & Social Development in the Young Child**	**3**	**0**	**3**
♦**ECE 192**	**Field Experience in ECE I**	**0**	**9**	**3**
PSY 101	General Psychology	3	0	3
	Math Elective	3	0	3
		12	9	15
Second Semester				
♦**ECE 120**	**Programmatic/Professional Development in the Child Care Field**	**3**	**0**	**3**
♦**ECE 196**	**Field Experience in ECE II**	**1**	**9**	**4**
♦**ECE 200**	**Child Growth & Development**	**3**	**0**	**3**
♦**ECE 205**	**Children's Literature**	**3**	**0**	**3**
ENG 111	English Composition	3	0	3
		13	9	16
Third Semester				
BIO 114	Human Biology	3	2	4
COM 111	Speech	3	0	3
♦**ECE 210**	**Child Guidance/Discipline**	**3**	**0**	**3**
♦**ECE 230**	**Curriculum in ECE (Birth-3)**	**3**	**0**	**3**
ENG 226	Introduction to Literature	3	0	3
		15	2	16
Fourth Semester				
CIS 113	Intro to Microcomputer Apps	3	0	3
♦**ECE 197**	**Field Experience in ECE III**	**1**	**12**	**5**
♦**ECE 220**	**Education of Young Children w/ Special Needs**	**3**	**0**	**3**
♦**ECE 235**	**Curriculum in ECE (Ages 3-8)**	**3**	**0**	**3**
SOC 111	Sociology	3	0	3
		13	12	17

TOTAL REQUIRED 64

Certificate Program

First Semester		C	L	CR
♦**ECE 101**	**Healthy Learning Environments**	**3**	**0**	**3**
♦**ECE 105**	**Advancing Intellectual & Social Development in the Young Child**	**3**	**0**	**3**
♦**ECE 192**	**Field Experience in ECE I**	**0**	**9**	**3**
PSY 101	General Psychology	3	0	3
	OR			
SOC 111	Sociology	3	0	3
	Math Elective	3	0	3
		12	9	15
Second Semester				
CIS 113	Intro. to Microcomputer Apps.	3	0	3
♦**ECE 120**	**Programmatic/Professional Development in the Child Care Field**	**3**	**0**	**3**
♦**ECE 196**	**Field Experience in ECE II**	**1**	**9**	**4**
ENG 111	English Composition	3	0	3
		10	9	13
Summer Semester				
♦**ECE 197**	**Child Growth & Development**	**1**	**12**	**5**

TOTAL REQUIRED 33

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Students will use their understanding of young children's characteristics and needs, and of multiple interacting influences on children's development and learning, to create environments that are healthy, respectful, supportive, and challenging for all children.
- Students will know about, understand, and value the importance and complex characteristics of children's families and communities; will use this understanding to create respectful, reciprocal relationships that support and empower families and to involve all families in their children's development and learning.
- Students will know about and understand the goals, benefits and uses of assessment, and will understand and use systematic observations, documentation, and other effective assessment strategies in a responsible way, in partnership with families and other professionals, to positively influence children's development.
- Students will know, understand, and use positive relationships and supportive interactions as the foundations for their work with young children.
- Students will identify and conduct themselves as members of the early childhood profession; they will know and use ethical guidelines and other professional standards related to early childhood practices; they will be continuous, collaborative learners who demonstrate knowledgeable, reflective and critical perspectives on their work, make informed decisions that integrate knowledge from a variety of sources; and they will be informed advocates for sound educational practices and policies.
- Students will know, understand, and use a wide array of effective approaches, strategies, and tools to positively influence children's development and learning.
- Students will understand the importance of each content area in young children's learning; they will know the essential concepts, inquiry tools, and structure of content areas, including academic subjects, and will be able to identify resources to deepen their understanding.
- Students will use their own knowledge and other resources to design, implement, and evaluate meaningful, challenging curriculum that promotes comprehensive developmental and learning outcomes for all young children.
- Students will integrate their understanding of and relationship with children and families; their understanding of developmentally effective approaches to teaching and learning; and their knowledge of academic disciplines to design, implement, and evaluate experiences that promote positive development and learning for all young children.

ELECTRICAL CONSTRUCTION & MAINTENANCE

Associate in Applied Science Degree Program

First Semester		C	L	CR
COL 103	College Success	1	0	1
♦ **ELE 112**	**Basic Residential Wiring**	**2**	**2**	**3**
♦ **ELS 117**	**Basic Electricity**	**2**	**4**	**4**
ENG 111	English Composition	3	0	3
MAT 118	Electrical Math	4	0	4
		12	6	15
Second Semester				
DIB 113	Intro. to Digital Systems	2	2	3
DRR 117	Blueprint Reading for Construction Trades	2	2	3
♦ **ELS 124**	**Industrial Electronics**	**2**	**3**	**3**
♦ **ELS 125**	**Motors & Controls**	**2**	**3**	**3**
	Social Science Elective	3	0	3
		11	10	15
Third Semester				
EET 221	Control Systems & PLCs	2	3	3
♦ **ELC 110**	**National Electrical Code**	**3**	**0**	**3**
♦ **ELE 210**	**Electrical Construction & Maintenance I**	**3**	**0**	**3**
♦ **ELE 212**	**Electrical Construction & Maintenance I Lab**	**0**	**9**	**3**
PHY 150	Physics	3	2	4
		11	14	16
Fourth Semester				
COM 221	Technical Communications	3	0	3
♦ **ELC 116**	**National Electrical Code for Industry**	**3**	**0**	**3**
♦ **ELE 222**	**Electrical Construction & Maintenance II**	**3**	**0**	**3**
♦ **ELE 223**	**Electrical Construction & Maintenance II Lab**	**0**	**9**	**3**
	Humanities Elective	3	0	3
	Elective	3	0	3
		15	9	18
TOTAL REQUIRED				64

Certificate Program

First Semester		C	L	CR
♦ **ELC 110**	**National Electrical Code**	**3**	**0**	**3**
♦ **ELE 112**	**Basic Residential Wiring**	**2**	**2**	**3**
♦ **ELS 117**	**Basic Electricity**	**2**	**4**	**4**
MAT 118	Electrical Math	4	0	4
		11	6	14
Second Semester				
DRR 117	Blueprint Reading for Construction Trades	2	2	3
♦ **ELC 116**	**National Electrical Code for Industry**	**3**	**0**	**3**
♦ **ELS 124**	**Industrial Electronics**	**2**	**3**	**3**
♦ **ELS 125**	**Motors & Controls**	**2**	**3**	**3**
ENG 111	English Composition	3	0	3
		12	8	15
TOTAL REQUIRED				29

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Understand the behavior and principles that govern AC and DC electrical circuits.
- Properly select and use diagnostic equipment.
- Troubleshoot electrical circuits and equipment using available information.
- Read and comprehend electrical blueprints in relation to building construction.
- Understand the general hazards associated with the installation and operation of electrical equipment and wiring systems and identify appropriate PPE.
- Plan and install residential circuits as required by the National Electrical Code.
- Understand electrical motors, including DC, single-phase, and three-phase.
- Read and draw ladder diagrams for motor controls.
- Install motor starters, pushbutton station controls, relays, and overload protection.
- Select circuit conductor sizes and properly select over current protection.
- Understand the mathematical relationships that govern electrical circuits.
- Use algebraic and trigonometric formulas to predict and analyze electrical circuits.
- Properly size a residential service entrance per the National Electrical Code.
- Demonstrate safe and proper use of typical tools for the electrical trade.
- Read, interpret, and explain requirements in the National Electrical Code.
- Effectively communicate with others using written and oral modes.
- Interpret and apply safety measures as they pertain to OSHA standards.
- Understand digital logic systems and numbering systems.
- Select and apply motors and their associated controls.
- Install and program a programmable logic controller.
- Write technical reports and interpret technical manuals.
- Understand the natural laws of physics as they pertain to the trade.
- Properly identify and use commercial and industrial tools of the trade.
- Plan and install conduit and cable systems for commercial installations.
- Plan and install lighting systems appropriate for the application.
- Understand, calculate, and predict the use of electrical energy.
- Understand the cost of electrical energy and identify alternative methods.
- Demonstrate a basic understanding of introductory scientific and environmental concepts by applying alternative energy solutions, focusing on solar photovoltaic systems.
- Analyze and solve photovoltaic installation and design challenges.
- Remain current on advanced concepts in solar photovoltaic installation, troubleshooting, net metering laws, local codes, and National Electrical Code (NEC) PV requirements.
- Qualified to take the North America Board of Certified Energy Practitioners (NABCEP) Photovoltaic Installer Entry Level exam.

EMERGENCY MEDICAL SERVICES

Associate in Applied Science Degree Program

Prerequisite: EMT Basic Certificate

First Semester - Fall	C	L	F	CL	CR
♦ **BIO 201 Anatomy & Physiology I**	**3**	**2**	**0**	**0**	**4**
♦♦**EMS 112 Respiratory Emergencies**	**1.5**	**1.5**	**0**	**0**	**2**
♦♦**EMS 113 Cardiology I**	**2**	**0**	**0**	**0**	**2**
♦♦**EMS 114 AEMT Lab**	**0**	**3**	**0**	**0**	**1**
♦♦**EMS 115 Fund. of EMS Systems**	**2.5**	**1.5**	**0**	**0**	**3**
ENG 111 English Composition	3	0	0	0	3
	12	8	0	0	15

Prerequisite: EMT Basic Certificate/License

Second Semester - Spring					
♦ **ALH 124 Health & Safety Comp.**	**1**	**0**	**0**	**0**	**1**
♦ **BIO 211 Anatomy/Physiology II**	**3**	**2**	**0**	**0**	**4**
♦♦**EMS 122 Inter. Clinical Extern. I**	**0**	**0**	**0**	**6**	**2**
♦♦**EMS 126 Inter. Clinical Extern. II**	**0**	**0**	**6**	**0**	**2**
♦♦**EMS 130 EMT-Intermediate Skills Seminar**	**0**	**3**	**0**	**0**	**1**
MAT 125 College Algebra	3	0	0	0	3
	7	5	6	6	13

Third Semester - Summer					
♦♦**EMS 213 Adv. Emergency Cardio. Care** *(ACLS)*	**3**	**3**	**0**	**0**	**4**
♦♦**EMS 214 Emergency Pharmacology**	**2.5**	**.5**	**0**	**0**	**3**
PSY 101 General Psychology	3	0	0	0	3
Communications Elective	3	0	0	0	3
	11.5	3.5	0	0	13

Prerequisite: Emergency Medical Technician (EMT) AEMT Level Licensure

Fourth Semester - Fall					
♦♦**EMS 205 Medical Emergencies**	**3**	**0**	**0**	**0**	**3**
♦♦**EMS 216 Paramedic Clinical Externship I**	**0**	**0**	**0**	**15**	**5**
♦♦**EMS 220 Pediatric Emergencies (PALS/NRP)**	**1.5**	**1.5**	**0**	**0**	**2**
♦♦**EMS 222 Trauma Management (PHTLS)**	**1.5**	**2.5**	**0**	**0**	**3**
♦♦**EMS 236 Paramedic Assmt. Mgt.**	**0**	**3**	**0**	**0**	**1**
	6	7	0	15	14

Fifth Semester - Spring					
♦♦**EMS 226 Paramedic Clinical Externship II**	**0**	**0**	**12**	**0**	**4**
♦♦**EMS 229 EMT-Paramedic Skills**	**0**	**3**	**0**	**0**	**1**
♦♦**EMS 232 The Paramedic Clinical Capstone**	**0**	**0**	**0**	**45**	**1**
♦♦**EMS 231 Special Populations**	**1**	**0**	**0**	**0**	**1**
♦♦**EMS 233 EMS Operations**	**0**	**3**	**0**	**0**	**1**
SOC 111 Sociology	3	0	0	0	3
Humanities Elective	3	0	0	0	3
	7	6	12	45	14

TOTAL REQUIRED **69**

♦ Major courses; a minimum grade of "C" or 2.0 required.

♦♦ Major (EMS) courses a minimum grade of "C" (73) or 2.0 required.

Program Outcomes

- Integrate knowledge and skills in providing high quality, safe emergency care to individuals and groups throughout the lifespan experiencing complex health needs.
- Demonstrate critical thinking and decision making skills through the organization of safe, competent care for individuals experiencing life threatening emergencies.
- Utilize effective written, verbal and nonverbal communication skills in caring for patients and families in a variety of healthcare situations and settings.
- Delegate appropriately and work collaboratively with members of the healthcare team.
- Assume professional and legal responsibility and accountability within defined competency roles in managing and directing care to individuals or groups across the healthcare continuum.
- Provide culturally competent care for patients and groups of various ethnic, socio-economic, and cultural backgrounds.

Note: The NMCC curriculum integrates the U.S. Department of Transportation EMS education standards and the Committee on Accreditation of Educational Programs for the Emergency Medical Services (CoAEMSP) guidelines. The EMS program outcomes are dependent and mirror the dozens of outcomes identified by those organizations. Additionally, each of the EMS certificate programs, though capable of standing independently, build upon one another, culminating in the eventual attainment of the Associate Degree credential. For this reason, some of the outcomes identified are similar for all 3 credentials. However, the complexity and depth of the content learned increases based on length of program and scope of practice.

C - class hours
L - lab hours
F - field experience
CL - clinical
CR - credits

EMERGENCY MEDICAL SERVICES

ADVANCED EMERGENGY MEDICAL TECHNICIAN (AEMT) Certificate Program

Prerequisite: Active EMT Certificate or equivalent licensure.

First Semester - Fall	C	L	F	CL	CR
♦ ALH 124 Health & Safety Comp.	1	0	0	0	1
♦♦EMS 112 Respiratory Emergencies	1.5	1.5	0	0	2
♦♦EMS 113 Cardiology I	2	0	0	0	2
♦♦EMS 114 AEMT Lab	0	3	0	0	1
♦♦EMS 115 Fund. of EMS Systems	2.5	1.5	0	0	3
ENG 111 English Composition	3	0	0	0	3
	10	6	0	0	12
Second Semester - Spring					
♦♦EMS 122 AEMT Clinical Extern. I	0	0	0	6	2
♦♦EMS 126 AEMTClinical Extern. II	0	0	6	0	2
♦♦EMS 130 AEMT Skills Seminar	0	3	0	0	1
MAT 125 College Algebra	3	0	0	0	3
	3	3	6	6	8
TOTAL REQUIRED					20

Program Outcomes

- Integrate knowledge and skills in providing high quality, safe emergency care to individuals and groups throughout the lifespan experiencing complex health needs.
- Demonstrate critical thinking and decision making skills through the organization of safe, competent care for individuals experiencing life threatening emergencies.
- Utilize effective written, verbal and nonverbal communication skills in caring for patients in the pre-hospital setting.
- Work collaboratively with members of the healthcare team.
- Assume professional and legal responsibility and accountability within defined competency roles in implementing care to individuals in the pre-hospital setting.
- Provide culturally competent care for patients and groups of various ethnic, socio-economic, and cultural backgrounds.

PARAMEDICINE Certificate Program

*Prerequisite: AEMT Certificate or equivalent**
Prerequisite: ENG 111 and MAT 125

First Semester - Summer	C	L	F	CL	CR
♦ BIO 201 Anatomy & Physiology I	3	2	0	0	4
♦♦EMS 213 Adv. Emergency Cardio. Care *(ACLS)*	3	3	0	0	4
♦♦EMS 214 Emergency Pharm.	2.5	.5	0	0	3
	8.5	5.5	0	0	11
Second Semester - Fall					
♦ BIO 211 Anatomy/Physiology II	3	2	0	0	4
♦♦EMS 205 Medical Emergencies	3	0	0	0	3
♦♦EMS 216 Paramedic Clinical Externship I	0	0	0	15	5
♦♦EMS 220 Pediatric Emergencies (PALS/NRP)	1.5	1.5	0	0	2
♦♦EMS 222 Trauma Management (PHTLS)	1.5	2.5	0	0	3
♦♦EMS 236 Paramedic Assmt. Mgt. (PHTLS)	0	3	0	0	1
	9	9	0	15	18
Third Semester - Spring					
♦♦EMS 226 Paramedic Clinical Externship II	0	0	12	0	4
♦♦EMS 229 EMT-Paramedic Skills	0	3	0	0	1
♦♦EMS 232 The Paramedic Clinical Capstone	0	0	3	45	1
♦♦EMS 231 Special Populations	1	0	0	0	1
♦♦EMS 233 EMS Operations	0	3	0	0	1
	1	6	12	45	8
TOTAL REQUIRED					37

♦ Major courses; a minimum grade of "C" or 2.0 required.

♦♦ Major (EMS) courses a minimum grade of "C" (73) or 2.0 required.

Program Outcomes

- Integrate knowledge and skills in providing high quality, safe emergency care to individuals and groups throughout the lifespan experiencing complex health needs.
- Demonstrate critical thinking and decision making skills through the organization of safe, competent care for individuals experiencing life threatening emergencies.
- Utilize effective written, verbal and nonverbal communication skills in caring for patients and families in a variety of healthcare situations and settings.
- Delegate appropriately and work collaboratively with members of the healthcare team.
- Assume professional and legal responsibility and accountability within defined competency roles in implementing care to individuals in the pre-hospital setting.
- Provide culturally competent care for patients and groups of various ethnic, socio-economic, and cultural backgrounds.

oral,

C - class hours
L - lab hours
F - field experience
CL - clinical
CR - credits

ENTREPRENUERSHIP

Certificate Program

First Semester		C	L	CR
ACC 110	College Accounting	3	0	3
	OR			
ACC 111	Principles of Accounting I	4	0	4
♦ **BUS 101**	**Intro. to Business**	**3**	**0**	**3**
CIS 105	Intro. to PC Operating Systems	1	0	1
♦ **CIS 113**	**Intro. to Microcomputer Apps.**	**3**	**0**	**3**
ENG 111	English Composition	3	0	3
MAT 115	Business Math	3	0	3
		16-17	0	16-17

Second Semester		C	L	CR
♦ **ACC 112**	**Computerized Accounting**	**3**	**0**	**3**
ACC 113	Payroll Accounting	3	0	3
♦ **BUS 109**	**Entrepreneurship**	**3**	**0**	**3**
♦ **BUS 241**	**Principles of Marketing**	**3**	**0**	**3**
CIS 108	Spreadsheet Apps.	3	0	3
		15	0	15

TOTAL REQUIRED 31-32

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Calculate, compile and analyze financial records to make practical business decisions.
- Develop knowledge of general business concepts necessary for the development of an effective business plan.
- Develop critical thinking skills to identify and evaluate entrepreneurial opportunities.
- Distinguish among the various forms of business ownership and various ways of getting a business started.
- Develop an understanding of the concept of risk and how its' effect on new ventures can be reduced or minimized.
- Demonstrate the capacity to identify and acquire the resources needed for the creation and implementation of a new venture.
- Understand the process that enables entrepreneurs with limited resources to transform a simple idea into a sustainable success.
- Apply effective written and oral communication skills to business situations.
- Select and integrate appropriate current and emerging technologies to support business functions.
- Utilize computer skills consisting of the Internet and the most common business software applications.

LIBERAL STUDIES

Associate in Arts Degree Program

First Semester:		CR
COL 103	College Success	1
ENG 111	**English Composition**	**3**
	Social Science Elective	**3**
	Elective	3
	Elective	3
	Elective	3
Total Credits		**15-16**

Second Semester:		CR
Humanities-ENG 226 Intro to Literature		**3**
MAT 125 College Algebra or higher		**3**
	Social Science	**3**
	Elective	**3**
	Elective	**3**
Total Credits		**15**

Third Semester:		CR
	Writing Elective (Recommend: ENG 227)	**3**
	Diversity Elective (PHI 206, HIS 206, or ENG 231)	**3**
	Science Elective	**4**
	Elective	**3**
	Elective	**3**
Total Credits		**16**

Fourth Semester:		CR
	Humanities Elective	**3**
	Ethical Reasoning Elective (Recommend: PHI 201)	**3**
	Creative Arts Elective (Art 101, 201, or ENG 239)	**3**
	Elective	**3**
	Elective	**3**
Total Credits		**15**

MINIMUM TOTAL REQUIRED **60**

Students are advised to select courses that provide a depth of knowledge when fulfilling the various program requirements. Prerequisites must be considered in order to assure access to appropriate upper level courses. Students wishing to continue their education in a baccalaureate program should work with their academic advisor to select courses that ensure optimum transfer of credits.

A minimum of 21 credits must be completed at the 200 level.

University of Maine System General Education Core requirements in bold.

Program Outcomes

- Students will develop a firm understanding of scientific and mathematical content.
- Students will develop a global perspective.
- Students will develop a strong sense of the past and its role in shaping the present.
- Students will communicate effectively, both orally and in writing.
- Students will reason scientifically and quantitatively.
- Students will think critically.
- Students will develop a logical system of values.
- Students will be able to apply those values and principles to “real world” problems.
- Students will be able to search for, access, evaluate information from a variety of sources and use that information ethically and legally for research and personal purposes.

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

For a listing of courses that are included in each category: social science; natural science; and humanities; see the listing on page **50** of this catalog.

If you are planning to transfer to a University of Maine System institution, after completing your associate degree in liberal studies, speak to your advisor regarding the UMS-MCCS Block Transfer Agreement.

MEDICAL ASSISTING

Associate in Applied Science Degree Program

		C	L	CR
First Semester				
♦ **ALH 124**	**Health & Safety Compliance**	**1**	**0**	**1**
ALH 220	Medical Terminology	3	0	3
♦ **BIO 201**	**Anatomy & Physiology I**	**3**	**2**	**4**
CIS 105	Intro. to PC Operating Systems	1	0	1
CIS 113	Into. to Micro. Applications	3	0	3
ENG 111	English Composition	3	0	3
♦ **MDA 110**	**Medical Assisting Office Procedures**	**3**	**0**	**3**
		17	2	18
Second Semester				
♦ **BIO 211**	**Anatomy & Physiology II**	**3**	**2**	**4**
♦ **HIT 111**	**Medical Law & Ethics**	**3**	**0**	**3**
♦ **HIT 115**	**Clinical App. Pathophysiology & Pharmacology**	**3**	**0**	**3**
♦ **MDA 111**	**Medical Assisting Procedures with Lab I**	**2**	**2**	**4**
♦ **MDA 124**	**Medical Insurance Procedure**	**3**	**0**	**3**
		14	4	17
Third Semester				
MAT 125	College Algebra	3	0	3
♦ **MDA 211**	**Medical Assisting**	**2**	**2**	**4**
♦ **MDA 212**	**Medical Coding**	**3**	**0**	**3**
♦ **MDA 224**	**Electronic Health Records**	**3**	**0**	**3**
PSY 101	General Psychology	3	0	3
		14	2	16
Fourth Semester				
♦ **MDA 223**	**Medical Assisting Externship**	**1**	**12**	**5**
PSY 207	Developmental Psychology	3	0	3
	Communications Elective	3	0	3
	Humanities Elective	3	0	3
		10	12	14
TOTAL REQUIRED				65

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

The Medical Assisting Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of Medical Assisting Education Review Board.

Program Outcomes

- Demonstrate an understanding of anatomical structure and normal physiological functions in the human body and of medical terms descriptive of body systems.
- Demonstrate a basic understanding of the concepts and applications of pharmacology to include safe medication administration.
- Demonstrate effective communication with patients, their families, and other members of the health care team.
- Integrate principles of safety, sterilization and disinfecting in all aspects of patient/office procedures.
- Demonstrate administrative competency, to include but not limited to, scheduling, bookkeeping procedures, records management, coding and insurance processing.
- Demonstrate clinical competency, to include but not limited to, specimen collection, processing and analysis, obtaining vital signs, preparing patients for exams or treatments, assisting in procedures, and patient education.
- Demonstrate professional behavior that reflects an internalization of ethical, legal and self management concepts.
- Demonstrate critical thinking skills through organization of safe, competent care provided for individuals.

MEDICAL CODING

Certificate Program

First Semester		C	L	CR
♦ **ALH 220**	**Medical Terminology**	**3**	**0**	**3**
♦ **BIO 201**	**Anatomy & Physiology I**	**3**	**2**	**4**
CIS 113	Intro. to Microcomputer Apps.	3	0	3
ENG 111	English Composition	3	0	3
♦ **HIT 113**	**Clinical Classification Systems I**	**3**	**0**	**3**
		15	2	16
Second Semester				
♦ **BIO 211**	**Anatomy & Physiology II**	**3**	**2**	**4**
♦ **HIT 111**	**Medical Law & Ethics**	**3**	**0**	**3**
♦ **HIT 115**	**Clinical App. Pathophysiology & Pharmacology**	**3**	**0**	**3**
♦ **HIT 213**	**Clinical Classification Systems II**	**3**	**0**	**3**
MAT 115	Business Math	3	0	3
		15	2	16
TOTAL REQUIRED				32

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

**Class and lab hours vary, but all are 3 credits.*

Program Outcomes

- Demonstrate the ability to translate information from the medical record into standardized numerical codes accurately and in an efficient manner.
- Demonstrate professional behavior in the work place including patient confidentiality and professional ethics.
- Recognize factors that affect third-party reimbursement.
- Demonstrate entry level skills in coding with ICD-10-CM/PCS and CPT.
- Describe the relationship between coding and reimbursement in healthcare.
- Demonstrate clear and effective communication skills, critical thinking, and problem solving within their scope of practice.
- Demonstrate theory, technology, and interpersonal skills that may be applied to a variety of employment settings.
- Describe the principles and mechanics of the electronic health record (EHR).
- Transfer to an advanced degree in such areas as Health Information Management, if desired.

NURSING

Associate in Science Degree Program

PREREQUISITES✪		C	L	CR
♦ **BIO 201**	**Anatomy & Physiology I w/ lab**	**3**	**2**	**4**
ENG 111	English Composition	3	0	3
MAT 125	College Algebra	3	0	3

First Semester		C	L	CR
♦ **ALH 124***	**Health & Safety Compliance**	**1**	**0**	**1**
♦ **BIO 211**	**Anatomy & Physiology II**	**3**	**2**	**4**
NUR 100	Nursing Program Success	1	0	1
♦♦**NUR 115****	**Pharmacology for Nurses**	**3**	**0**	**3**
♦♦**NUR 125**	**Foundation of Nursing/ Nursing Care of Adults**	**4**	**9**	**7**
		12	11	16

Second Semester				
♦♦**NUR 117****	**Nutrition**	**3**	**0**	**3**
♦♦**NUR 127**	**Nursing Across the Life Span I**	**4**	**9**	**7**
PSY 101	General Psychology	3	0	3
		10	9	13

Summer Session

NUR 124	Role Transition	1	0	1

(This course is required only for LPNs entering the program in third semester)

Third Semester				
♦ **BIO 218**	**Microbiology Lecture & Lab**	**3**	**2**	**4**
♦♦**NUR 226**	**Nursing Across the Life Span II**	**5**	**12**	**9**
PSY 207	Developmental Psychology	3	0	3
		11	14	16

Fourth Semester				
COM 111	Speech	3	0	3
♦♦**NUR 229**	**Nursing Across the Life Span III**	**5**	**12**	**9**
	Humanities Elective	3	0	3
		11	12	15

TOTAL REQUIRED 60/61

♦ Major courses; a minimum grade of "C" (73) or 2.0 required.
♦♦ Major Nursing (NUR) courses: a minimum grade of "C+" (77) required

**ALH 124 must be passed within 12 months of enrollment into NUR 125*

***NUR 115 is a co-requisite to NUR 125; NUR 117 is a co-requisite to NUR 127.*

Program Outcomes

- Assume legal and ethical responsibility and accountability consistent with the Maine State Nurse and Practice Act, Maine Board of Nursing rules and regulations, and professional standards of practice.
- Systematically apply the nursing process with individuals and groups across the lifespan to promote wellness, prevent illness and facilitate adaptation to stressors.
- Incorporate teaching/learning principles into the provision of care to individuals and groups.
- Implement best practice standards to achieve positive outcomes for clients across the lifespan.
- Incorporate quality improvement as an essential part of the nursing profession.
- Demonstrate professional nursing care that incorporates sensitivity and caring behaviors to culturally diverse clients and groups, including the older adult.
- Demonstrate safe and effective clinical judgements using critical thinking skills when providing nursing care for individuals and groups.
- Collaborate with health care team members, individual clients and groups to achieve optimal outcomes.
- Employ effective therapeutic and professional communication skills in the practice of nursing.
- Utilize healthcare technology and informatics to provide safe and effective nursing care.
- Deliver high quality client care within the changing healthcare system, using resources in a financially responsible manner.
- Demonstrate efficiency as a manager of care through prioritization and delegation in providing optimal nursing care for individuals and groups.
- Develop plans for continued personal and professional growth.

✪Prerequisites for admission to two-year Nursing program. Credit applied toward degree requirements.

The following must be successfully completed prior to entering the program (or concurrently for direct from high school students):

BIO 201 Anatomy & Physiology I w/ Lab

ENG 111 English Composition

MAT 125 College Algebra

OFFICE ASSISTANT

Certificate Program

First Semester		C	L	CR
ACC 110	College Accounting	3	0	3
	OR			
ACC 111	Principles of Accounting I	4	0	4
♦ **BUS 101**	**Intro to Business**	**3**	**0**	**3**
CIS 105	Intro to PC Operating Systems	1	0	1
♦ **CIS 113**	**Intro to Microcomputer Apps**	**3**	**0**	**3**
ENG 111	English Composition	3	0	3
MAT 115	Business Mathematics	3	0	3
		16-17	0	16-17

Second Semester				
♦ **ACC 112**	**Computerized Accounting**	**3**	**0**	**3**
ACC 113	Payroll Accounting	3	0	3
CIS 108	Spreadsheet Applications	3	0	3
♦ **SES 129**	**Office Procedures**	**3**	**0**	**3**
	Elective	3	0	3
		15	0	15

TOTAL REQUIRED 31-32

Program Outcomes

- Professionally format documents according to current business and discipline preferences.
- Demonstrate knowledge of the accounting cycle.
- Interact effectively with others.
- Demonstrate professional conduct and interpersonal communication skills.
- Demonstrate competence in keyboarding.
- Proficiently utilize common business software.

PLUMBING & HEATING

Associate in Applied Science Degree Program

First Semester		C	L	CR
COL 103	College Success	1	0	1
ENG 111	English Composition	3	0	3
♦ **PLH 101**	**Plumbing Technology**	**3**	**0**	**3**
♦ **PLH 109**	**Plumbing Lab I**	**0**	**9**	**3**
♦ **PLH 113**	**Pipefitting Calculations**	**3**	**0**	**3**
SAE 117	Occupational Safety	1	0	1
		11	9	14

Second Semester				
DRR 117	Blueprint Read for Const Trades	2	2	3
MAT 119	Applied Mathematics	4	0	4
♦ **PLH 122**	**Plumbing Code Review**	**3**	**0**	**3**
♦ **PLH 123**	**Plumbing Lab II**	**0**	**9**	**3**
♦ **PLH 126**	**Water Pumps and Treatment**	**1**	**2**	**2**
		10	13	15

Third Semester				
PHY 150	Physics	3	2	4
♦ **PLH 211**	**Heating I**	**3**	**9**	**6**
♦ **PLH 212**	**Refrigeration & Air Conditioning**	**1**	**3**	**2**
♦ **PLH 216**	**Propane & Natural Gas I**	**2**	**2**	**3**
	Humanities Elective	3	0	3
		12	18	18

Fourth Semester				
COM 221	Technical Communications	3	0	3
♦ **PLH 213**	**Solid Fuel Equipment**	**1**	**3**	**2**
♦ **PLH 219**	**Propane & Natural Gas II**	**2**	**2**	**3**
♦ **PLH 222**	**Heating II**	**2**	**9**	**5**
♦ **PLH 225**	**Maine Oil/Solid Fuel Code I**	**1**	**0**	**1**
	Social Science Elective	3	0	3
		12	14	17

TOTAL REQUIRED 64

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Continued on page 70

PLUMBING Certificate Program

First Semester		C	L	CR
ENG 111	English Composition	3	0	3
♦ **PLH 101**	**Plumbing Technology**	**3**	**0**	**3**
♦ **PLH 109**	**Plumbing Lab I**	**0**	**9**	**3**
♦ **PLH 113**	**Pipefitting Calculations**	**3**	**0**	**3**
SAE 117	Occupational Safety	1	0	1
		10	9	13
Second Semester				
DRR 117	Blueprint Read for Const Trades	2	2	3
MAT 119	Applied Mathematics	4	0	4
♦ **PLH 122**	**Plumbing Code Review**	**3**	**0**	**3**
♦ **PLH 123**	**Plumbing Lab II**	**0**	**9**	**3**
♦ **PLH 126**	**Water Pumps and Treatment**	**1**	**2**	**2**
		10	13	15
TOTAL REQUIRED				28

HEATING - Certificate Program

First Semester		C	L	CR
ENG 111	English Composition	3	0	3
♦ **PLH 211**	**Heating I**	**3**	**9**	**6**
♦ **PLH 212**	**Refrigeration & Air Conditioning**	**1**	**3**	**2**
♦ **PLH 216**	**Propane & Natural Gas I**	**2**	**2**	**3**
		9	14	14
Second Semester				
MAT 119	Applied Mathematics	4	0	4
♦ **PLH 213**	**Solid Fuel Equipment**	**1**	**3**	**2**
♦ **PLH 219**	**Propane & Natural Gas II**	**2**	**2**	**3**
♦ **PLH 222**	**Heating II**	**2**	**9**	**5**
♦ **PLH 225**	**Maine Oil/Solid Fuel Code I**	**1**	**0**	**1**
		10	14	15
TOTAL REQUIRED				29

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Communicate effectively with peers, customers, technical support staff, and supervisors, through verbal and written modes.
- Perform required mathematical calculations for the trade, including pipefitting calculations.
- Perform required work safely in accordance with federal and state regulations.
- Understand the natural physical laws that govern the plumbing and heating trades.
- Read and interpret blueprints of the plumbing and heating trades, as well as, other related trades.
- Recognize, troubleshoot, and install safe electrical wiring for the associated heating cooling controls, plumbing appliances, lighting, receptacles, and supply circuits from the electrical service panel.
- Perform pipe joining procedures for all major piping systems, including PVC, copper, iron, and plastic (PEX).
- Demonstrate the safe use of hand and power tools.
- Demonstrate correct installation and servicing of jet and submersible pumps.
- Install plumbing pipes and fixtures according to the Maine Plumbing Code.
- Demonstrate correct and safe implementation of routine plumbing service procedures.
- Demonstrate proper threading, grooving and soldering techniques for copper and iron pipe installations.
- Demonstrate the safe/correct procedure for wiring heating appliances, such as warm air furnaces and boilers.
- Install oil or gas supply lines in a building in accordance with federal and state regulations.
- Estimate heating loads for a building.
- Design and install a warm air duct system.
- Size and install piping systems for hot water boilers according to the Maine codes.
- Install correctly, control systems for various types of heating systems.
- Understand the fundamental concepts of solar thermal technology.
- Perform routine service and troubleshooting on #1 and #2 fuel oil and gas fired heating equipment.
- Be eligible for National Propane Gas Association CETP certifications.
- Understand the fundamentals of refrigeration and air conditioning and be eligible for EPA 608 certification.
- Be eligible for Maine State Journeyman Heating License.
- Be eligible for Maine State Journeyman in Training Plumbing License – J.I.T.

PRECISION MACHINING TECHNOLOGY

Associate in Applied Science Degree Program

First Semester		C	L	CR
COL 103	College Success	1	0	1
DRT 109	Mechanical Drafting & Design	1.5	4.5	3
MAT 119	Applied Mathematics	4	0	4
♦ **MTT 113**	**Machine Tool Technology**	**3**	**9**	**6**
♦ **MTT 115**	**NIMS Lab I**	**0**	**3**	**1**
♦ **PMM 102**	**Intro to CNC Operations**	**1**	**3**	**2**
♦ **PMM 104**	**Machine Trades Print Reading**	**1**	**0**	**1**
		11.5	19.5	18
Second Semester				
ENG 111	English Composition	3	0	3
♦ **MTT 119**	**NIMS Lab II**	**0**	**3**	**1**
♦ **MTT 125**	**Machine Tool Tech. II**	**3**	**9**	**6**
♦ **PMM 120**	**Intro. to CNC Programming Set Up & Operation**	**1.5**	**4.5**	**3**
♦ **PMM 212**	**Geometric Dimensioning & Tolerancing**	**1**	**3**	**2**
SAE 117	Occupational Safety	1	0	1
		9.5	19.5	16
Third Semester				
COM 221	Technical Communications	3	0	3
♦ **PMM 117**	**CAM for Milling**	**1**	**3**	**2**
♦ **PMM 119**	**CAM for Turning**	**1**	**3**	**2**
♦ **PMM 223**	**Intro to PMM**	**3**	**9**	**6**
♦ **PMM 227**	**NIMS Lab III**	**0**	**3**	**1**
	Humanities Elective	3	0	3
		11	18	17
Fourth Semester				
PHY 150	Physics	3	2	4
♦ **PMM 231**	**Advanced Precision Metals Manufacturing**	**3**	**9**	**6**
♦ **PMM 233**	**NIMS Lab IV**	**0**	**6**	**2**
♦ **PMM 235**	**Multi-Axis Milling**	**1**	**3**	**2**
	Social Science Elective	3	0	3
		10	20	17
TOTAL REQUIRED				68

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Apply occupational safety and health (OSHA) standards related to the machine tool industry.
- Communicate using proper technical terms and descriptions.
- Demonstrate setup and operation of conventional machine tools.
- Develop CNC programs with the assistance of CAM software.
- Develop entry level CNC programs without the assistance of programming software.
- Develop written inspection plans for first article and final inspection tasks.
- Develop written setup instructions for CNC Vertical Milling Machine Tools.
- Develop written setup instructions for CNC Turning Machine Tools.
- Evaluate machined components utilizing current ASME standards.
- Evaluate machined components utilizing On-Machine-Verification (OMV) probe applications.
- Evaluate machined components utilizing precision measurement tools found in a modern machine shop.
- Integrate learning experiences gained from the general education courses to the practice of the machine tool trade.
- Interpret engineering drawings utilizing current ASME standards.
- Perform algebraic and trigonometric calculations to establish machining conditions.
- Read and comprehend technical manuals.
- Read and comprehend written work instructions.
- Select and use proper cutting tools found in a conventional machine shop setting.
- Select and use the proper measurement tools found in a conventional machine shop setting.
- Understand the natural laws of physics as they pertain to the trade.

Certificate Program

First Semester		C	L	CR
DRT 109	Mechanical Drafting & Design	1.5	4.5	3
MAT 119	Applied Mathematics	4	0	4
♦ **MTT 113**	**Machine Tool Technology**	**3**	**9**	**6**
♦ **MTT 115**	**NIMS Lab I**	**0**	**3**	**1**
♦ **PMM 102**	**Intro to CNC Operations**	**1**	**3**	**2**
♦ PMM 104	Machine Trades Print Read	1	0	1
		10.5	19.5	17
Second Semester				
ENG 111	English Composition	3	0	3
♦ **MTT 119**	**NIMS Lab II**	**0**	**3**	**1**
♦ **MTT 125**	**Machine Tool Tech. II**	**3**	**9**	**6**
♦ **PMM 120**	**Intro. to CNC Programming Set Up & Operation**	**1.5**	**4.5**	**3**
♦ **PMM 212**	**Geometric Dimensioning & Tolerancing**	**1**	**3**	**2**
SAE 117	Occupational Safety	1	0	1
		9.5	19.5	16
TOTAL REQUIRED				33

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

STRUCTURAL WELDING

Certificate Program

First Semester		C	L	CR	
DRR 109	Print Reading for Welders	2	2	3	
MAT 119	Applied Mathematics	4	0	4	
♦ **WEI 101**	**Intro. to Welding**	**2**	**2**	**3**	*4 weeks
♦ **WEI 133**	**Electric Welding**	**2**	**2**	**3**	*4 weeks
♦ **WEI 137**	**Structural Welding I**	**1.5**	**4.5**	**3**	*7 weeks
		11.5	10.5	16	
Second Semester					
ENG 111	English Composition	3	0	3	
SAE 119	Construction Safety	3	0	3	
	OR				
SAE 121	Industrial Safety	3	0	3	
♦ **WEI 136**	**Intro GMAW and GTAW**	**2**	**2**	**3**	
♦ **WEI 138**	**Structural Welding II**	**1.5**	**4.5**	**3**	*7.5 weeks
♦ **WEI 139**	**Open Root Welding**	**1.5**	**4.5**	**3**	*7.5 weeks
		11	11	15	
TOTAL REQUIRED				31	

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

**NOTE: WEI courses less than 15 weeks are offered sequentially, not concurrently.*

Program Outcomes

- Apply occupational safety and health (OSHA) standards related to the welding trade.
- Work cooperatively with others.
- Work independently with minimal supervision.
- Demonstrate safe and proper use of hand and power tools used by the welder.
- Identify the metals being used and the filler wire needed to weld them.
- Demonstrate the ability to fit and tack a v-groove weld correctly.
- Demonstrate the ability to properly weld a 3/8 v-groove in 4 positions.
- Demonstrate the ability to destructively test a 3/8 v-groove weld and meet AWS test specifications.
- Read and interpret welding symbols used on fabrication, manufacturing and construction prints.
- Demonstrate the ability to weld in all positions with all welding equipment.
- Understand how each of the major welding processes work.
- Be eligible for the American Welding Society (AWS) structural certification.

WATER TREATMENT TECHNOLOGY

Associate in Applied Science Degree Program

First Semester		C	L	CR
COL 103	College Success	1	0	1
DRR 117	Blueprint Read for Const Trades	2	2	3
ENG 111	English Composition	3	0	3
♦ **WTT 103**	**Intro to Water Treatment Tech**	**3**	**0**	**3**
♦ **WTT 111**	**Water Treatment I**	**2**	**2**	**3**
♦ **WTT 113**	**Water Plant Operation**	**3**	**0**	**3**
		14	4	16
Second Semester				
♦ CHM 201	Applied Sciences	2	2	3
MAT 119	Applied Mathematics	4	0	4
♦ **WTT 201**	**Water Distribution Systems**	**2**	**2**	**3**
♦ **WTT 211**	**Water Treatment II**	**3**	**2**	**4**
♦ **WTT 120**	**Treatment Plant Safety**	**3**	**0**	**3**
		14	6	17
Third Semester				
♦ **ELS 119**	**Intro to Electronic Systems**	**1**	**2**	**2**
PHY 150	Physics	3	2	4
♦ **WTT 205**	**Wastewater Collection Systems**	**2**	**2**	**3**
♦ **WTT 121**	**Wastewater Treatment I**	**2**	**2**	**3**
	Social Science Elective	3	0	3
		11	8	15
Fourth Semester				
COM 221	Technical Communications	3	0	3
♦ **INS 110**	**Instrumentation & Process Controls**	**2**	**2**	**3**
♦ **WTT 221**	**Wastewater Treatment II**	**3**	**2**	**4**
♦ **WTT 124**	**Wastewater Plant Operation**	**3**	**0**	**3**
	Humanities Elective	3	0	3
		14	4	16
TOTAL REQUIRED				64

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

DRINKING WATER Certificate Program

First Semester		C	L	CR
DRR 117	Blueprint Read for Const Trades	2	2	3
ENG 111	English Composition	3	0	3
♦ **WTT 103**	**Intro to Water Treatment Tech**	**3**	**0**	**3**
♦ **WTT 111**	**Water Treatment I**	**2**	**2**	**3**
♦ **WTT 113**	**Water Plant Operation**	**3**	**0**	**3**
		13	4	15
Second Semester				
MAT 119	Applied Mathematics	4	0	4
♦ **WTT 201**	**Water Distribution Systems**	**2**	**2**	**3**
♦ **WTT 211**	**Water Treatment II**	**3**	**2**	**4**
♦ **WTT 120**	**Treatment Plant Safety**	**3**	**0**	**3**
		12	4	14
TOTAL REQUIRED				29

WASTEWATER Certificate Program

First Semester		C	L	CR
♦ **ELS 119**	**Intro to Electronic Systems**	**1**	**2**	**2**
ENG 111	English Composition	3	0	3
♦ **WTT 103**	**Intro to Water Treatment Tech**	**3**	**0**	**3**
♦ **WTT 205**	**Wastewater Collection Systems**	**2**	**2**	**3**
♦ **WTT 121**	**Wastewater Treatment I**	**2**	**2**	**3**
		11	6	14
Second Semester				
♦ **INS 110**	**Instrumentation & Process Controls**	**2**	**2**	**3**
MAT 119	Applied Mathematics	4	0	4
♦ **WTT 221**	**Wastewater Treatment II**	**3**	**2**	**4**
♦ **WTT 124**	**Wastewater Plant Operation**	**3**	**0**	**3**
♦ **WTT 120**	**Treatment Plant Safety**	**3**	**0**	**3**
		15	4	17
TOTAL REQUIRED				31

Program Outcomes

- Introduction to the Water Treatment Regulatory Authority
- Familiarity of Industry Definitions and Acronyms.
- Competence in Applied Mathematics for Operators.
- Competence in Applied Sciences for Operators.
- Basic Understanding of Hydrology.
- Basic Understanding of Hydraulics.
- Works well in teams and shows versatility at various areas of study.
- Job safety training and awareness.
- Conduct Various Laboratory analyses.
- Fundamental Knowledge of Various Pumps.
- Fundamental Knowledge of Open Channel Flow.
- Able to Perform Wastewater Collection System Inspections.
- Able to Perform Water Distribution System Inspections.
- Utilize computer technology and software applications for operations and reporting purposes.
- Utilize and maintain process documentation in the operation of water and wastewater systems.
- Utilize construction blueprints in the operation and maintenance of water systems.
- Utilize construction specifications in the operation and maintenance of wastewater systems.
- Understand Water Treatment Plant Administrative Duties.
- Understand Wastewater Treatment Plant Administrative Duties.
- Describe the various processes used within the water treatment Industry.
- Describe the various processes used within the wastewater treatment Industry.
- Must be able to lead a Health and Safety Meeting.
- Understand the wastewater treatment unit processes including preliminary, primary, secondary and tertiary treatment.
- Understand the water treatment unit processes including preliminary, primary, secondary and tertiary treatment.
- Identify a specific number of legal and financial issues that influence water resource management.

WIND POWER TECHNOLOGY

Certificate Program

First Semester		C	L	CR
COL 103	College Success	1	0	1
♦ **ELS 117**	**Basic Electricity**	**2**	**4**	**4**
MAT 118	Electrical Math	4	0	4
♦ **WPT 110**	**Safety Fundamentals for Wind Technicians**	**2**	**3**	**3**
♦ **WPT 114**	**Intro to Wind Power Industry**	**2**	**3**	**3**
♦ **WPT 119**	**Wind Turbine Drive Systems**	**2**	**3**	**3**
		13	13	18

Second Semester				
♦ **ELS 124**	**Industrial Electronics**	**2**	**3**	**3**
ENG 111	English Composition	3	0	3
SAE 117	Occupational Safety	1	0	1
♦ **WPT 213**	**Wind Power Control Systems**	**2**	**3**	**3**
♦ **WPT 214**	**Wind Power Delivery Systems**	**2**	**3**	**3**
♦ **WPT 215**	**Troubleshooting Auto. Systems**	**2**	**3**	**3**
		12	12	16

TOTAL REQUIRED 34

♦ ***Major courses; a minimum grade of "C" or 2.0 required.***

Program Outcomes

- Function successfully as technicians on wind farms and/or in other energy production settings.
- Demonstrate an understanding of conceptual foundations of wind energy and the terminology used within the energy industry.
- Demonstrate an understanding of how power generation equipment functions and requirements for it to connect safely to the utility grid.
- Demonstrate an understanding of typical wind turbine construction methods and related safety considerations.
- Demonstrate good math, writing, verbal, and interpersonal skills.
- Demonstrate the skills associated with quality workmanship.
- Demonstrate understanding of electricity, electronics, mechanical systems, and fluid power systems utilized in modern wind turbines.
- Demonstrate an understanding of the National Electrical Code requirements for industrial electrical applications.
- Demonstrate an understanding of NFPA 70E, ANSI, and other industrial standards with respect to electrical safety requirements, HRC, PPE, and LOTO.
- Demonstrate an understanding of OSHA regulations as they apply to best working practices for industrial hygiene, workplace hazards, PPE, confined space, hazardous materials, working at heights, and fall protection.
- Demonstrate an understanding of troubleshooting techniques utilizing SCADA information, electrical, mechanical, fluid power schematics, technical manuals, and other available company resources.
- Demonstrate skills necessary to troubleshoot and repair electrical, electronic, mechanical, and hydraulic systems.
- Demonstrate an understanding of LAN applications, communication architectures, hardware, software, protocols, and troubleshooting skills related to SCADA system function.
- Demonstrate an understanding of communication links such as Ethernet, serial, Optical Fiber, and wireless.
- Demonstrate a working knowledge of PC software applications used for communication activities such as email data entry, spreadsheets, word processing, and internet searches.
- Demonstrate the safe handling and proper use of hand tools, power tools, and rigging equipment.
- Demonstrate skills necessary to select and safely use diagnostic equipment.
- Demonstrate safety skills necessary when working with or around high voltage systems, high angle work sites, and tower rescue procedures.

Course Descriptions

COURSE DESCRIPTIONS

ACC 110 College Accounting **3 credits**
3 class hours

Designed to meet the needs of students who are not accounting majors. Emphasis is on manually applying the process of the accounting cycle. Students will be required to journalize, post, adjust and close for an accounting cycle; prepare payroll and payroll tax records; and prepare financial statements. Service sole-ownership businesses are presented. Students are introduced to computerized accounting procedures after they become proficient with the manual process.

This course cannot be used for credit by accounting and business administration majors.

ACC 111 Principles of Accounting I **4 credits**
4 class hours

This introductory course covers fundamental principles of accounting as related to service and merchandising sole proprietorships. Emphasis is on developing technical procedures of the accounting cycle including journalizing, posting, adjusting entries, closing books and preparing financial statements. Exposes the specific areas of deferrals and accruals, inventories, payroll, receivables, payables and accounting systems. Practical application will be through the use of a computerized homework system and projects.

ACC 112 Computerized Accounting **3 credits**
3 class hours

This course covers small business accounting using computerized accounting software. Topics include creating a chart of accounts, recording customer and vendor transactions, processing payroll, and printing reports. In addition, setting up a new company is covered, as well as advanced topics such as exporting to spreadsheet software, and using the audit trail of the computerized accounting software. Prerequisite: ACC 110 or ACC 111; or permission of instructor.

ACC 113 Payroll Accounting **3 credits**
3 class hours

This course studies federal and state employment laws and their effects on personnel and payroll records with a full explanation of the subject matter using a building block approach to guide the student from the basic principles through the complex applications of payroll. This course is designed to give students a practical working knowledge of the current payroll laws and actual experience in applying regulations. Students are also exposed to computerized payroll procedures. Prerequisite: ACC 110 or ACC 111; or permission of instructor.

ACC 121 Principles of Accounting II **4 credits**
4 class hours

The first part of the course continues to address topics in financial accounting that began in ACC 111. Emphasis is on the corporate form of ownership. Topics include accounting for bonds, investments in stocks and bonds, business combinations, financial statement analysis and the statement of cash flows. Students will apply concepts learned by the completion of a computerized homework system and an investment project. Prerequisite: ACC 111

ACC 125 Managerial Accounting **4 credits**
4 class hours

Introduces a business-management approach to the development and use of accounting information to support managerial decision-making in both manufacturing and service organizations. Major topics include cost behavior, cost analysis, pricing, profit planning, control measures and the statement of cash flows. Cost-volume-profit relationships will be analyzed to make management decisions. Students will make use of standard costs to measure operating performance and profitability. Responsibility accounting, capital budgeting decisions and ethical challenges in managerial accounting are also covered. Prerequisite: ACC 111

ACC 211 Intermediate Accounting I **4 credits**
4 class hours

This is the first semester of a two-semester course designed to give the student an in-depth overview of generally accepted accounting principles and financial reporting. Topics include the foundations of financial accounting and routine activities of a business. Students will prepare comprehensive balance sheets, income statements, and the statement of cash flows. Other topics include inventory costing; accounts and notes receivables; the allowance method of accounting for bad debts; plant and equipment; investments; and other issues. Prerequisite: ACC 121

ACC 214 Federal Taxation I **3 credits**
3 class hours

Study of the U.S. Federal Income Tax laws to provide training in preparation of individual tax returns. Special emphasis is on recognition of taxable income, non-taxable income, personal deductions, gain or loss recognition basis, capital gains, monetary conversion, business expenses and itemized deductions. Prerequisite: ACC 121 or ACC 125

ACC 221 Intermediate Accounting II **4 credits**
4 class hours

Continuation of ACC 211. Additional activities of a business are covered. Emphasis is placed on special problems which may include debt and equity financing, leases, investments, income taxes and employee compensation. Other dimensions of financial reporting, such as earnings per share, accounting changes and error corrections, are also covered. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered. Prerequisite: ACC 211

ACC 225 Federal Taxation II **3 credits**
3 class hours

A study of the current tax code as it relates to corporations, partnerships, estates and trusts, along with other selected topics related to taxation of the business entity. Also covered are estate and gift transfer taxes, with time devoted to family tax planning.
Prerequisite: ACC 214

ACC 234 Accounting Information Systems I **3 credits**
3 class hours

This course covers the functions of an accounting information system within an organization and examines topics in internal controls and system documentation. The course emphasizes a commercial software package integrated with accounting projects. These projects explore systems in banking, customers and sales, vendor purchases and inventory, payroll, budgets, reports, and graphics. Prerequisites: ACC 111

ACR 111 Non-Structural Repairs **6 credits**
3 class hours, 9 lab hours

Covers shop safety and regulations as they pertain to the collision repair industry. Theory and hands-on experience with the removal, replacement and service of complete interior, glass (moveable and stationary), exterior trim and components are applied. Proper metalworking, straightening techniques, plastic and composite repair and pre-paint preparation are also covered.

ACR 121 Structural Analysis/Plastics **6 credits**
3 class hours, 9 lab hours

Covers intermediate body repairs with measuring systems used. Hydraulic equipment is introduced with hands-on training in structural alignment of the vehicle body. Frame measurement and repair on uni-body and full frame vehicles is covered along with proper sectioning techniques. Prerequisite: ACR 111

ACR 209 Auto Collision Blueprinting & Estimating **3 credits**
3 class hours

Provides instruction and hands-on training in the blue printing and estimating of collision damage. Course will also cover topics, such as insurance coverage, working with appraisers and customers. Prerequisite: ACR 121

ACR 211 Painting/Refinishing **6 credits**
3 class hours, 9 lab hours

Covers all of the aspects of the refinishing industry, from safety to the final detailing of the vehicle. Students will also learn color matching procedures using the latest technology and hands-on techniques. Emphasis is placed on base coat/clear coat, tri-coat and waterborne paint products. Prerequisite: ACR 121

ACR 214 Airbrushing Techniques & Graphic Design **3 credits**
2 class hours, 2 lab hours

Course focuses on fundamental techniques of using the airbrush for purposes such as custom painting graphics and murals. Hand lettering and pin striping techniques are demonstrated with students gaining hands-on experience. Prerequisite: ACR 211 or instructor's permission

ACR 223 Structural & Mechanical Repairs **6 credits**
4 class hours, 6 lab hours

Covers repair of major collision damage, including straightening frames, uni-body construction, replacing major body sections, aligning, reshaping and finishing of major damaged areas. Front end alignment theory, suspension and steering, and all power train systems are also covered. Prerequisite: ACR 209, ACR 211

ALH 115 Introduction to the Healthcare Professions **3 credits**
3 class hours

Introduces students to the various roles of the healthcare provider and their professions. In addition to providing an overview of healthcare career choices, this class will present topics that will assist all students to be successful. It introduces common topics encountered by healthcare professionals including medical legal issues, medical asepsis, communication, knowledge of healthcare across the lifespan and professional behavior.

ALH 124 Health & Safety Compliance for Healthcare Professions **1 credit**
1 class hour

In the past several years, regulatory agencies have significantly increased the life and environmental safety requirements for health care agencies. Emphasis on the increases in healthcare provider injuries, the spread of communicable diseases, and the protection of patient health information have resulted in the need for extensive orientation programs for staff and students employed or completing clinical experiences in these settings. This course is designed to meet these regulatory requirements.

ALH 220 Medical Terminology **3 credits**
3 class hours

This study introduces students to essential medical terminology analysis through knowledge of prefixes, suffixes, and root words. The study also includes vocabulary that cannot be analyzes, verbal pronouciation, medical abbreviations, spelling and medical vignettes.

ART 101 Fundamentals of Art **3 credits**
3 class hours

This course will provide the student with an understanding of the fundamental principles of the visual arts. Lectures and slide presentations will introduce students to the formal elements of the visual arts (line, shape, value, texture, color and space) and the

organizing principles used by artists to create works of art. The course will also include a comprehensive overview of the stylistic and technical developments throughout the history of art up until the present moment, with emphasis on the key figures and movements of the 19th and 20th centuries. This course will benefit both practicing artists at any level as well as anyone wishing to gain a better appreciation and understanding of the arts.

ART 110 Introductory Drawing 3 credits
3 class hours

Drawing is the underlying structure for all of the visual arts, including painting, sculpture, graphic design and architecture. Whether used as a preliminary study for more formal work or as a means of making art in and of itself, drawing is a direct means of finding personal expression. Students in this introductory studio course will gain exposure to the drawing experience via a variety of approaches and media while being encouraged to find a personal approach. Working from still lifes, interiors, and models, we will explore line, value, texture, space and composition. Studio work will be supplemented with slide presentations and discussions of the graphic work of established artists and group critiques.

ART 122 Architectural History 3 credits
3 class hours

Introduces students to significant features of ancient to modern architecture. The student will recognize when certain types of structures were constructed, how those structures were built, and relate building features of the past to the present (i.e. why we build as we do today).

AUT 109 Introduction to Auto Technology 1 credit
.5 class hours, 1.5 lab hours

This is an entry level class designed to introduce students to the automotive field and the advances in technology. Students will start with the history of the automobile, then learn about the employment opportunities in the automotive field and what it takes to become an ASE master technician. Students will have the opportunity to learn about shop safety, and the types of tools they will be using and how to use them before going into the shop to start the basic repairs of an automobile such as changing oil, rotating tires and inspecting the vehicle for safe driving. This course meets for 3 weeks.

AUT114 Suspension and Steering 3 credits
1.5 Class Hours/4.5 Lab Hours

Exposes students to the underside of cars and light trucks. Suspension systems: Theory and operation of tires, tire pressure monitoring systems, tire changing, wheel balancing, suspension systems (conventional and McPherson strut) will be discussed in detail. Diagnosis and repair of these systems will also be covered. Steering systems: Theory and operation of conventional and rack and pinion steering systems will be covered, along with how to properly diagnose and repair these systems. Wheel alignment: Theory of front-end geometry including purpose of caster, camber, steering axis inclination, scrub radius, turning radius and toe-in, toe-out will be discussed in detail; techniques of performing thrust angles and four wheel alignments; actual alignments will be done on operational vehicles.

AUT 115 Automotive Electricity 3 credits
2 class hours, 2 lab hours

This course provides students with information in vehicle electricity, which will develop an understanding in vehicle electrical systems. Throughout the course, students will learn the basic concepts of electricity as they apply to vehicle service and repair using a series of trainer activities. Theory of electricity in multiple types of electrical circuits. Students will apply information covered and show their understanding by completing job sheet/worksheets, on-trainer activities, on-trainer troubleshooting techniques and vehicle application, which will reinforce vehicle electrical theory. The understanding of voltage drops in circuits will be discussed and the voltage drop test will be performed with activities, along with electrical schematic reading and techniques in troubleshooting electrical faults.

AUT 116 Brakes 3 credits
1.5 Class Hours/4.5 Lab Hours

Exposes students to the automotive brake system and covers in detail the theory, operation, diagnosis, and repair of these systems. Students will have the opportunity to learn about drum brakes, disc brakes, and combinations of the two, along with parking brake systems and power assist. Principles of hydraulics will be discussed as it pertains to the brake system. The various switches, valves and electronic components related to the standard brake system and Anti-lock brake system will be discussed and diagnosed.

AUT 125 Automotive Electronics 3 credits
2 class hours, 2 lab hours

A continuation of AUT 115, this course covers electrical/electronic systems. Electronic theory is covered giving students an understanding of electronic solid-state components and systems, which will include charging systems, starting systems, ignition systems, anti-lock brakes, supplemental restraint systems and computer controls. Activities completed in this course allow students to learn and understand the concepts of electronics as they apply to vehicle electronic systems and proper diagnosing and repairing these systems. These activities will include an introduction to electronics covering diodes, transistors, capacitors and how these semi-conductor components are used in electronic systems. Electronic system diagnostics will include the importance of using a digital multi-meter and logic probe to prevent meter loading in electronic circuits. Diagnostic laptop/tablet based scan tools, graphing meters, oscilloscopes and other electronic diagnostic equipment

will be used to understand and diagnose electronic systems during lab activities. Prerequisite: AUT 115 or instructor's permission.

AUT 207 Field Trip in Automaking 1 credit
Structured field trip under the direction of transportation trades instructors. Enables students to see and understand the complete assembly process of a vehicle and its power train. Course requires travel to Detroit, Michigan and Windsor, Ontario for tours of a variety of industries. Students must enroll in this course to be eligible for the Detroit trip. Prerequisite: ACR 211 or AUT 214, or DIM 213 or instructor approval

AUT 214 Engine Performance 6 credits
3 class hours, 9 lab hours
Covers the theory and operation of OBD II (On-Board Diagnostics Generation Two) and CAN (Controller Area Network) systems. The complete fuel and emission systems are covered in detail from fuel tank cap to combustion chamber of the engine. Emphasis is placed on fuel injection, ignition and emission control as it pertains to the techniques of diagnostics and distinguishing and interpreting trouble codes by the use of scan tools. Prerequisite: AUT 123 or instructor permission

AUT 216 Motor Vehicle Inspection Regulations 2 credits 2 class hours
This course prepares students for motor vehicle inspection exams. State laws, regulations, and proper vehicle inspection procedures is discussed and studied. Emphasized are safety related components for all inspection classes (A,B,C,D,E,T). Specific tools, equipment, and required materials to perform inspections are also discussed. The course develops diagnostic skills in checking vehicles for safety inspection requirements under Maine motor vehicle safety inspection requirements. Students will be eligible to take the state motor vehicle inspection exams and achieve certification.

AUT223 Manual Drive Train and Axles 3 Credits
1.5 Class Hours/4.5 Lab Hours
Consists of theory and operation of the manual transmission along with diagnosis, removal, repair and replacement of the clutch, manual shift transmissions (conventional and transaxle), drive line and final drive assembly. Transfer cases, four-wheel drive and all-wheel drive systems will be diagnosed and repaired along with drive shafts and related parts. This is a 7.5 week course.
Prerequisite: AUT214 Engine Performance

AUT 224 Engine/Transmissions 6 credits
3 class hours, 9 lab hours
Major Engine Service: Diagnosis of engine problems, disassembly and care of reusable parts, cleaning and storage of engine parts, measurements of wear, replacement of parts and adjustments of parts; lubrication and lubricating clearances, temperature effects and cooling systems, cylinder heads, valves, replacing and/or reconditioning cylinders, pistons, rings, cam shafts and hydraulic lifters.

Automatic Transmissions: History of the automatic transmission, along with construction and operation of the torque convertor; planetary gears, clutches, bands and their application. Emphasis on problems, diagnosis and adjustments of the automatic transmission.

Power Trains: Consists of diagnosis, removal, repair and replacement of clutch, manual shift transmissions (conventional and transaxle), drive line and final drive assembly. Components supplied by the school. Live work is done when available. Prerequisite: AUT 214 or instructor permission

AUT225 Automatic Transmissions 3 Credits
1.5 Class Hours/4.5 Lab Hours
The history of the automatic transmission along with construction, theory and operation of the torque convertor, planetary gears, clutches, bands and their applications will be discussed. Emphasis on diagnosing and repair along with adjustments of the automatic transmission will be performed. Students will have the chance to diagnose and repair concerns on and off the vehicle.
Co-requisite: AUT223 Manual Drive Train and Axles
This is a 7.5 week course.

AUT 228 Alternative Propulsion Systems 3 credits
2 class hours, 2 lab hours
This course is an advanced level course to enhance the student's troubleshooting skills in today's and tomorrow's technologies. The student will use troubleshooting skills developed from previous courses to verify, understand and analyze the fault(s) using schematics, laptop based scan tools, vehicle repair information, technical service bulletins and special service information to pinpoint the cause of the drivability concern. The student will use original equipment manufacturer (OEM) information to repair the vehicle, when other sources of information are not available. The course will also emphasize the safety of working on hybrid vehicles. The student will understand hybrid vehicle safety features and the different procedures and components involved with hybrids whether they are full, medium, or mild hybrids. The student will learn the proper techniques on powering down a hybrid prior to performing any service work, and using the proper tools and personal protective equipment. Upon successful completion of the course, the student will have a greater knowledge of advanced technologies, hybrid vehicle systems and hybrid vehicle safety. Prerequisite: AUT125 Automotive Electronics

AUT 229 Automotive Heating & Air Conditioning 3 credits 2 class hours, 2 lab hours

This course provides students with refrigeration theory, heating, air conditioning, and ventilation system operations and methods used to diagnose, adjust and repair these systems. Information studied from previous course will help students with troubleshooting HVAC electrical/electronic circuit faults. Students will become familiar with the laws of the Federal Clean Air Act related to the motor vehicle air conditioning service and repair. Upon successful completion, the student will be eligible and certify as required under Section 609 of the Federal Clean Air Act in the proper use of MVAC refrigerant, recovery and recycling equipment. Prerequisite: AUT 125 or instructor's permission.

AUT 231 Innovative Automotive Technologies 3 credits 2 class hours, 2 lab hours

This course is an advanced level course and continues with the advancements covered in automotive electronics and electrical systems by enhancing the student's knowledge with innovative automotive systems. The student will use their troubleshooting skills, developed from previous courses, to verify, understand and analyze faults using schematics, laptop-based scan tools, digital storage oscilloscopes, vehicle repair information, technical service bulletins and special service information in pinpointing systems concerns. The student will use original equipment manufacturer (OEM) information to repair the vehicle, when other sources are not available. The course will emphasize the safety of working on innovative electronics systems. The student will learn and understand the proper techniques on safely powering down related systems, prior to performing any service work and using proper tools and personal protective equipment. After successful completion of this course, the student will have a greater knowledge of innovative technologies found on today's vehicles and future concepts. Prerequisites: AUT123 Electrical Systems and AUT125 Automotive Electronics or instructor's permission

BCT 111 Framing Systems 6 credits 3 class hours, 9 lab hours

The focus of the course is on the safe practice and use of hand and power tools needed during building construction. Students will learn floor, wall and roof framing skills. There is an emphasis on various on-center layouts and the mathematics and use of the framing square. There is also an introduction to finishing techniques with pine. Students will compute material lists from sketches, floor plans and scaled drawings.

BCT 121 Interior Materials and Methods 6 credits 3 class hours, 9 lab hours

This course continues the practice and use of hand and power tools needed during building construction. Students will expand the study and practice of floor, wall and roof framing techniques with an introduction to roof venting. Students may work with electrical and plumbing personnel while building and insulating exterior and interior walls, floors and roof structures. Students will install various rigid and fiberglass insulation with the understanding of air quality and moisture effects. Students will install gypsum board and practice dry wall finishing procedures. Student will install asphalt shingles and clad eave and rake fascias with aluminum coil stock. Prerequisite: BCT 111

BCT 211 Adv Framing and Finish Apps 6 credits 3 class hours, 9 lab hours

This course focuses on the continued practice and use of hand and power tools needed during building construction. Emphasis will be on: understanding various house plans/sketches; floor and roof layouts; window and door installations with finish trim work; eave and rake fascia types and returns; stairs, stairwells, terminology and function; sheet rocking and dry walling and transit/elevation and site work.
Prerequisite: BCT 121

BCT 221 Finish Carpentry 6 credits 3 class hours, 9 lab hours

This course will continue the practice and use of hand and power tools needed during building construction. Emphasis will be on understanding various building plans and sketches and material lists; window and door installation; along with more detailed finish trim work for windows and doors, including various moldings; kitchen cabinet and countertop construction and installation; advanced dry walling; house wraps, insulation and vapor barrier techniques; paint and finishing techniques. With both pine and hardwoods students will demonstrate an understanding of building air quality, moisture control and various roof venting techniques.
Prerequisite: BCT 211

BIO 114 Human Biology w/Lab 4 credits 3 class hours, 2 lab hours

Introduces the anatomy and physiology of the human body. All systems of the body are covered, and each system also has a chemistry component relating to its function. Detailed scientific data and terminology are not used, so that a concept approach can be used to learn about the human body. Recommended for students in early childhood education or liberal studies, as well as for those preparing for a medical career but lacking a biology and/or chemistry background.

BIO 201 Anatomy & Physiology w/Lab 4 credits 3 class hours, 2 lab hours

Designed for first year students preparing for a career in the medical field. Topics include: introduction, structure levels and anatomical positions and cavities. This will be followed in a topical manner by the skeletal, muscular and nervous systems. The intent of this approach is to allow the student to develop a concise understanding of how each system of the body functions and interacts. The concepts covered in the lecture course are explored in greater detail in lab. Models, prepared slides and

preserved specimens will all be used to supply the student with a detailed view of the anatomy of the body. Those who have not successfully completed a high school or college lab-based chemistry and biology course are recommended to take BIO 114 prior to this course. An introductory knowledge of both chemistry and biology is essential for course success.

BIO 211 Anatomy & Physiology ll w/Lab 4 credits
3 class hours, 2 lab hours
Continuation of BIO 201. Topics include: sensory, circulatory, urinary, lymphatic, digestive, endocrine, reproduction systems and fluids, electrolytes and acid-base control, as well as nutrition and metabolism. The intent of this approach is to allow the student to develop a concise understanding of how each system of the body functions and interacts. The concepts covered in the lecture course are explored in greater detail in lab. Models, prepared slides and preserved specimens will all be used to supply the student with a detailed view of the anatomy of the body. Prerequisite: BIO 120

BIO 218 Microbiology Lecture & Lab 4 credits
3 class hours, 2 lab hours
A basic introduction to the science of microbiology. Students develop a broad understanding of theoretical and laboratory aspects of the science. Topics include general characteristics of bacteria, viruses, protozoa and fungi; disease transmission; immunology; epidemiology; and microbial control. Students will have the opportunity to practice techniques for specimen collection, culturing, staining and microscope observation of representative species. Prerequisite: BIO 130 or BIO 114

BTE 251 Business Internship 1 credit
Provides the student with on-the-job training at an approved worksite in an occupational field directly related to the student's major. At least 45 clock hours must be completed for 1 credit. To qualify for an internship, a students in an associate degree program must have completed 30 credits of course work, have attained a 2.5 GPA, and must be recommended by the department chair and course instructor. *Before registering for this course, students must meet with the course instructor to determine internship site and process paperwork.*

BTE 252 Business Internship 2 credits
Provides the student with on-the-job training at an approved worksite in an occupational field directly related to the student's major. At least 90 clock hours must be completed for 2 credits. To qualify for an internship, a student in an associate degree program must have completed 30 credits of course work, have attained a 2.5 GPA, and must be recommended by the department chair and course instructor. *Before registering for this course, students must meet with the course instructor to determine internship site and process paperwork*

BTE 253 Business Internship 3 credits
Provides the student with on-the-job training at an approved worksite in an occupational field directly related to the student's major. At least 135 clock hours must be completed for 3 credits. To qualify for an internship, a student in an associate degree program must have completed 30 credits of course work, have attained a 2.5 GPA, and must be recommended by the department chair and course instructor. *Before registering for this course, students must meet with the course instructor to determine internship site and process paperwork.*

BUS 101 Introduction to Business 3 credits
3 class hours
Introduces students to the environment in which business is transacted by presenting an overview of functional areas of business and the basic concepts of the business world.

BUS 106 Effective Customer Service 3 credits
3 class hours
A loyal customer base is one of an organization's most important assets. This course covers the concepts and skills needed for success in business careers. Emphasis is given to dealing with customer service problems and how to handle conflicts and stress.

BUS 109 Entrepreneurship 3 credits
3 class hours
Covers the essentials of how to start and operate a small business. Students create customized business plan content while examining entrepreneurial opportunities, financing, marketing, selling and customer service, cash flow, managing employees, and growing a business. Recommended for all students who aspire to business ownership and management.

BUS 113 Sales Fundamentals 3 credits
3 class hours
Assists students to analyze the importance of personal preparation for selling effectively, by understanding of self, the product or service, and the customer.

BUS 114 Personal Finance 3 credits
3 class hours
Designed to help individuals analyze and direct their own financial affairs. Students will practice and apply skills to begin a lifelong journey of personal financial planning. This course will provide strategies for managing personal financial resources, buying decisions, insurance, investing, and retirement planning. Open to all students.

BUS 117 Business Law I 3 credits
3 class hours
Provides a background in the sources of American law and the global legal environment. Provides a basic

knowledge of courts and procedures, ethics, torts and crimes, contracts, property and its protection, and debtor-creditor relationship

BUS 119 Legal Environment of Business **3 credits 3 class hours**

A survey of the law applicable to business and its environment. The course will help students gain a greater understanding of the standards and methods of reasoning that are used to answer questions about the legal environment in which businesses function. It also covers the legal issues that commonly confront businesses and the way in which our legal system is organized and operates.

BUS 150 Special Topics in Business Technology **3 credits 3 class hours**

This survey course is intended to provide the opportunity to offer courses of variable content on emerging issues or technology of special interest to the college community that would not normally be part of the NMCC curriculum. Topics and content will vary from semester to semester. This course will increase the awareness of current issues and technology surrounding the student.

BUS 201 Leadership **3 credits 3 class hours**

Designed to expose senior level students to areas of competence and knowledge that are fundamental to the practice of leadership in a variety of business and life settings. Students will examine the prominent leadership theories, acquire skills common to successful leaders, and listen to opinions of leaders of our own community from business, government, and social service organizations. Course requires significant written and oral communication, project management and critical thinking skills. Prerequisite: ENG 111.

BUS 210 Principles of Insurance **3 credits 3 class hours**

Covers basic ideas, problems and principles found in all types of modern insurance and other methods of handling risk. Personal and business risk management will be included.

BUS 214 Project Management **3 credits 3 class hours**

Topics include project management life cycle and process; identifying and selecting projects; developing a project proposal; techniques for planning, scheduling, resource assignment, budgeting and controlling project performance; project risks; project manager responsibilities and skills; project team development and effectiveness; project communication and documentation; and project management organizational structures. The concepts in the course support the project management knowledge areas of the Project Management Institute's *A Guide to the Project Management Body of Knowledge* (PMBOK@Guide).

BUS 215 Business Ethics **3 credits 3 class hours**

Introduces contemporary and controversial ethical issues that face the business community. Case studies are utilized to study the competing values and interests involved in ethical situations. Upon completion, students should be able to demonstrate an understanding of their moral responsibilities and obligations as members of the workforce and society.
Prerequisite: ENG 111 and BUS 217

BUS217 E-Commerce **3 Credits 3 Class Hours**

This course explores the opportunities and challenges associated with electronic commerce and the internet. Students will learn the key business strategies and technological elements of electronic commerce essential to succeeding in today's internet-based economy.

BUS 229 Principles of Management **3 credits 3 class hours**

Enlivens management principles through its emphasis of real-world management practices. The experiences of people and businesses used in class illustrate the relevance of each theoretical management concept and how those concepts apply to actual business situations. Due to constantly changing management practices, leadership and change management concepts are integrated in the issues and applications throughout the course.

BUS 233 Supervisory Management **3 credits 3 class hours**

Designed to provide theoretical and practical knowledge of the management process in a variety of organizational settings. Covers basics of management relationships, individual motivation and behavior in business, and development of skills for daily supervision. This course involves a high level of team work and interaction among students.

BUS 239 Human Resources Management **3 credits 3 class hours**

An organization's human resources management function focuses on its people. It includes practices that help the organization deal most effectively with all people in the pre-selection, selection and post-selection phases of the employment cycle. This course covers human resource management trends and changes, equal employment opportunity/affirmative action, job analysis, recruiting, testing, selection, training, performance appraisal, compensation/benefits, labor relations, discipline, workplace health and safety, ethical dilemmas, and cultural diversity. Prerequisite: ENG 111

BUS 241 Principles of Marketing **3 credits 3 class hours**

Designed for the student planning to take only one marketing course. Provides an overview of the marketing skills and techniques used in product planning

and promotion. Explores the strategy behind and implementation of a marketing plan, while covering consumer behavior, product life cycle, marketing communications, and pricing tactics.
Prerequisite: ENG 111

BUS 242 Small Business Management **3 credits 3 class hours**
Covers the concepts of starting and operating a small business. The application of marketing, accounting, human resources management and general management courses is essential for the completion of the required business plan. Prerequisites: BUS 241

BUS 250 Advanced Seminar in Business Technology **3 credits 3 class hours**
This in-depth course is intended to provide the opportunity to offer courses of variable content on emerging issues or technology of special interest to the college community that would not normally be part of the NMCC curriculum. As such, the topics and content will vary from semester to semester. This course will increase the awareness of the most current issues and technology surrounding the student. Prerequisites: permission from the instructor.

CIS 105 Introduction to PC Operating Systems **1 credit 1 class hour**
Provides an introductory overview of the most commonly used operating systems for personal computers.

CIS 108 Spreadsheet Applications for Business **3 credits 3 class hours**
Provides a comprehensive coverage of electronic spreadsheets using Microsoft Excel. An important part of this course will be using Excel to solve business problems by completing hands-on activities to design, create and modify basic to advanced electronic spreadsheets. Activities will include the following concepts and techniques: formulas and functions, spreadsheet designs, charts and graphics, lists, sorting and filtering, templates, consolidation and 3-D formulas, protection, data validation, Web features, data tables, scenario management, importing data, using macros, and VBA.

CIS 112 Fundamentals of Computer Concepts **3 credits 2 class hours, 2 lab hours**
This course is an introduction to end-user computer concepts and applications. The course focuses on personal computer software applications, computer concepts and terminology regularly used in a computerized business environment to solve business problems. An important part of this course will be hands-on activities using Microsoft Office Suite to demonstrate various information system concepts. Activities will involve the following introductory concepts: Windows operating systems and utility programs, word processing, electronic spreadsheets, database management systems, presentation graphics, and several Internet applications. It will also cover common computer concepts pertaining to security, safety, privacy and network communications and components of the system unit.

CIS 113 Introduction to Microcomputer Applications **3 credits 3 class hours**
Provides an overview of microcomputer applications, including a brief introduction to computer concepts, microcomputer operating systems, and hands-on experience with a business software suite consisting of word processing, spreadsheets, databases, and presentation graphics.

CIS 118 Office Computer Applications **3 credits 3 class hours**
This course is designed to develop student proficiency in data manipulation, data exchange and information presentation using a desktop workstation. The lab software used is the Microsoft Office suite of applications operating in a Windows environment. Advanced projects in Word, Excel, Access and PowerPoint are complete.
Prerequisite: CIS 112 or CIS 113

CIS 129 Database Applications for Business **3 credits 3 class hours**
Provides a comprehensive coverage of database management systems using Microsoft Access. An important part of this course will be using Access to solve business problems by completing hands-on activities to design, create and modify basic to advanced database applications. Activities will include: designing databases, creating and maintaining a database, defining table relationships, using queries and action queries, creating forms and reports, using the switchboard manager, integration and Web features, using macros and VBA, managing and securing a database.

CIS220 Web Development and Publishing **3 credits 3 class hours**
Examines the development, handling and moving of information primarily using Web based technology for the purpose of increased office information. The course emphasis is on Internet Web page development using HTML tagging language and Web authoring tools with emphasis using Microsoft FrontPage. Desktop publishing using Adobe PageMaker is included for exposure to various types of professional publications which can be converted to HTML or PDF formats for electronic viewing. Because the use of images in business publications is essential to effective print and Web publications, this course also provides a survey of digital imaging concepts and technologies.
Prerequisite: CIS 112 or CIS 113

COE 112 Introduction to Linux 3 credits
2 class hours, 2 lab hours

Through lectures, discussions, demonstrations, textbook exercises, and classroom labs, this course teaches students the skills and knowledge necessary to understand core concepts of Linux. The course helps prepare students for the Linux+ Certification exam administered by the Computing Technology Industry Association (CompTIA). CompTIA Linux+ is a vendor-neutral certification, generic across distributions, targeted to individuals with a minimum of six to twelve months of practical Linux experience. The CompTIA Linux+ exam covers functional management of Linux systems from the command line, user administration, file permissions, software configuration and management of Linux-based clients. Oracle and Novell recognize CompTIA Linux+ in certain certification tracks, and it is recommended for Hitachi Electronics and Fujitsu Japan employees. The Linux+ certification exam is the final exam for the course.

COE 116 A+ Certification Prep 3 credits
3 class hours

Principles of computer servicing including system configuration, memory interfacing, CPU and support circuits, keyboards, hard drives – SATA – SCSI – IDE, floppy drives and modems. Troubleshooting and maintaining of peripherals such as monitors, multimedia, drives, and printers, including laser. Considerable hands-on time is spent graining troubleshooting skills using test equipment and software diagnostics. The A+ exam is the final exam for the course; the cost is approximately $91 per exam (2016 academic pricing). One exam covers core technology, and the other covers operating systems. Co-requisite: COE 118

COE 118 A+ Certification Prep Lab 3 credits
9 lab hours

This course is the laboratory component of COE 116 A+ Cert Prep. Co-requisite: COE 116

COE 119 Operating Systems Configur. 4 credits
Windows 8.1 2 class hours, 4 lab hours

Operating Systems covers the first of two exams required for Microsoft Certified Solutions Associate (MCSA): Windows 8.1 certification. Students master configuration or support for Windows 8 computers, devices, users and associated network and security resources. Those in this IT Professional career field are prepared to work with networks configured as a domain-based or peer-to-peer environment with access to the Internet and cloud services. In addition, these IT Professionals will have mastered the skills required to be a consultant, full-time desktop support technician, or IT generalist who administers Windows 8-based computers and devices as a portion of their broader technical responsibilities. Additional skills addressed, including the recent 8.1 objectives: Install and Upgrade to Windows 8, Configure Hardware and Applications, Configure Network Connectivity, Configure Access to Resources, Configure Remote Access and Mobility, Monitor and Maintain Windows Clients, and Configure Backup and Recovery Options. The Microsoft 70-687 certification exam is the final exam. Approximate cost for the exam is $150.

COE 125 Computer Networking 3 credits
Hardware 2 class hours, 2 lab hours

Provides the student with basic knowledge and skills needed to install and maintain a network. The course prepares students to become Network+ certified. Network+ is a leading vendor-neutral certification in the computer industry for network technicians. The course covers network security, installing operating systems (Windows 2008 Server and Windows 7); installing network interface cards; cabling; peer-to-peer networks; client/server networks; configuring TCP/IP, DHCP, TCP/IP utilities; 100BaseT; wireless technology; star, ring, bus topologies; monitoring network traffic; protocols and the OSI model; accessing the Internet; measuring server performance; analyzing network traffic; and maintaining and supporting the network. The Network+ exam is the final exam for the course. The cost of the exam is approximately $141 (2016 academic pricing). Includes considerable hands-on experience.

COE 128 Advanced Operating Systems 3 credits
2 class hours, 2 lab hours

Helps prepare students for the second of two exams required for Microsoft Certified Solutions Associate (MCSA): Windows 8.1 certification. Students master configuration or support for Windows 8.1 computers, devices, users and associated network and security resources. Those in this IT Professional career field work with networks configured as a domain-based or peer-to-peer environment with access to the internet and cloud services. These IT Professionals could be consultants, full-time desktop support technicians, or IT generalists who administer Windows 8.1 based computers and devices as a portion of their broader technical responsibilities. Additional skills addressed, including the recent 8.1 objectives: Design an Installation and Application Strategy, Maintain Resource Access, Maintain Windows Clients and Devices and Manage Windows 8 Using Cloud Services and Microsoft Desktop Optimization Pack. The Microsoft 70.688 certification exam is the final exam. Approximate cost is $150.00. Prerequisite: COE 119

COE 217 Installing & Configuring 4 credit hours
Servers 2 class hours, 4 lab hours

This course prepares students for the first of a series of three exams which validate the skills and knowledge necessary to implement a core Windows Server 2012 infrastructure into an existing enterprise environment. This Microsoft Official Academic Course is mapped to the 70-410 Installing and Configuring Windows Server 2012 exam objectives. This course focuses on real skills for real jobs and prepares students to prove mastery of core services such as Active Directory and networking services. In addition, this book also covers such

valuable skills as: Managing Active Directory Domain Services Objects, Automating Active Directory Domain Services Administration, Implementing Local Storage, Implementing File and Print Services, Implementing Group Policy and Implementing Server Virtualization with Hyper-V. The Microsoft 70-410 exam is the final exam. Approximate cost $150.00

COE 218 Network Administration 4 credits
2 class hours, 4 lab hours

Using Microsoft Windows Server 2012 the course provides students with information covering the basics of network administration. Deploying and managing server images, implementing patch management, monitoring servers, configuring distributed file systems, configuring file services and disk encryption, configuring advanced audit polices, configuring DNS zones, configuring DNS records, configuring VPN and routing, configuring direct access, configuring a network policy server, configuring NPS policies, configuring network access protection, configuring server authentication, configuring domain controllers, maintaining active directory, configuring account policies, configuring group policy processing, configuring group policy settings, managing group policy objects and configuring group policy preferences. The course prepares students for the Microsoft Administering Windows Server 2012 exam (70-411). The Microsoft 70-411 exam is the final exam. Approximate cost $150.00

COE 219 Electronics for Computer Technicians 3 credits
2 class hours, 3 lab hours

The Electronics for Computer Techs course prepares students to solve electronic problems involving current, voltage, resistance and power. Students will be able to explain the relationship between current, voltage, resistance and power. Students will be able to discuss the relationship between electricity and magnetism. Students will construct DC circuits, using a schematic diagram as a guide, with components such as resistors, relays, switches, lamps, batteries and capacitors. Students will use multi-meters, power supplies and electronic trainers throughout the course.

COE 220 Intro. to Computer Forensics 3 credits
2 class hours, 2 lab hours

The course will guide the student toward becoming a skilled computer forensics investigator. Topics include: history of computer forensics, understanding computer investigations, requirements and equipment for a forensics lab, data acquisition, current forensic tools, Linux boot process, recovering graphics files, e-mail investigations, report writing, and ethics for the expert witness. Guidance software EnCase will be used in the course. A networking background is necessary for the student to understand how computers operate in a networked environment. Prerequisite: COE 125 or instructor permission

COE 227 Configuring Adv Windows Server 4 credits
2 class hours, 4 lab hours

Configuring Advanced Windows Server 2012 covers the third of three exams required for Microsoft Certified Solutions Associate (MCSA): Windows Server 2012 certification. This course will help validate the skills and knowledge necessary to administer a Windows Server 2012 Infrastructure in an enterprise environment. The three MCSA exams collectively validate the skills and knowledge necessary for implementing, managing, maintaining and provisioning services and infrastructure in a Windows Server 2012 environment. This Microsoft Official Academic Course is mapped to the 70-412 Configuring Advanced Windows Server 2012 Services exam skills, including the recent R2 objectives. This course focuses on real skills for real jobs and prepares students to provide mastery of Advanced Windows Server 2012 Services such as advanced configuring tasks necessary to deploy, manage and maintain a Windows Server 2012 infrastructure. It covers such skills as fault tolerance, certificate services and identify federation. In addition, this course also covers such valuable skills as: Implementing Advanced Network Services, Implementing Advanced File Services, Implementing Dynamic Access Control, Implementing Network Load Balancing and Implementing Failover Clustering. The Microsoft 70-412 exam is the final exam. Approximate cost $150.00. Pre-requisite: COE218

COE 228 Security+ Certification 3 credits
2 class hours, 2 lab hours

Teaches students the skills and knowledge necessary to understand core concepts of computer security. Explained are key security concepts, including understanding encryption technologies, securing communications and applications, and responding to incidents. The course helps prepare students for the Security+ Certification exam administered by the Computing Technology Industry Association (CompTIA). The Security+ Certification exam is considered as part of the final grade for the course. The cost of the exam is approximately $197 (2016 academic pricing).

COL 103 College Success 1 credit
1 class hour

College Success is designed to help students feel comfortable with the experience of being a college student. As a class, we will examine the academic culture of college and look at ways to be successful at NMCC. Through interactive exercises and assignments, the class will discuss a variety of topics including the transition to college life, goal setting, study skills, time management, campus resources, and information literacy. The ultimate purpose of the course is to provide an opportunity for students to learn and adopt strategies to be successful in college and beyond. Students who have successfully completed at least 15 hours with a GPA of 2.0 are exempt from this requirement.

COM 111 Speech **3 credits**
3 class hours

An oral communication course offering experience in selection and organization of speech content, audience analysis and delivery. Classroom experience emphasizes preparation and delivery of informative, persuasive, short speeches plus other types of oral presentations.

COM 210 Mass Communications: Media & Culture **3 credits**
3 class hours

Introduces the field and the study of mass media/ communication and its impact on society. Students will explore, observe, discuss and analyze media, using a cultural perspective as a basis for/of communication and media studies. Special attention is paid to understanding aspects of media and mass communication in the context of comparative cultural studies with special attention to: "texts" of culture, media, and communication, including print, the internet, television, film, music, and radio. Co-requisite: ENG 111

COM 212 Business Communications I **3 credits**
3 class hours

Focuses on principles of nonacademic spoken and written expression that will help the student succeed in a business occupation. Concentrates on the practical written and oral applications of communication theory in the forms of business correspondence, memoranda, employment related documents and oral presentations. The class also includes technological applications and ethical and cross-cultural considerations in business communication practices. Other interpersonal communication topics that may be discussed are nonverbal communication, listening skills, telephone skills and business etiquette. Prerequisite: ENG 111

COM 221 Technical Communications **3 credits**
3 class hours

Designed to strengthen oral and written skills. It focuses on the elements of technical writing, report writing and business correspondence. Particular emphasis is given to utilizing visual aides effectively, writing several types of job-related technical reports, and giving oral presentations. Prerequisite: ENG 111

DIB 113 Intro. to Digital Systems **3 credits**
2 class hours, 2 lab hours

Virtually all electronic and electrical systems today use digital techniques to accomplish their functions. After completing this course, students will be familiar with a wide range of integrated circuits, their uses and characteristics. Students will have a working knowledge of semiconductor devices, logic circuits, memory devices, data conversion, and digital troubleshooting. The course concludes with a design project which incorporates circuitry studied throughout the course. Co-requisite: ELS 117

DIM 112* Intro. to Diesel Hydraulics Technology **3 credits**
3 class hours, 9 lab hours

Introduces the diesel technician to the field and shop operating procedures and preventive maintenance programs. Covered in detail are; preventative maintenance for trucks and equipment used in the transportation industry; personal, work and tool safety, laws regulating hazardous material, and shop record keeping requirements of the federal motor vehicle safety standards. Performing a preventative maintenance inspection will be practiced during an overview of the various P.M.I areas.

DIM 114* Engine Diagnosis & Tune-up **3 credits**
3 class hours, 9 lab hours

Diagnosis and service of diesel engines to include details of construction, theory of operating of two and four cycle engines, plus failure analysis. Disassembly and rebuilding for service and study of engine components is done on mechanical and electronic controlled engines. Engine tune-up, valve settings injector timing, and dynamic/static timing will be practiced for competency and accuracy.
This course meets for 8 weeks.

DIM 122* Electrical Systems (Heavy Equipment) **3 credits**
3 class hours, 9 lab hours

Emphasizes the practical aspects of a charging system, starting system, lighting and accessory components, as well as the proper use of the test equipment needed. Reading wiring diagrams and schematics and following circuits through each is practiced. Introduction into the electronic controls of diesel engines is covered extensively with hands-on training.
Prerequisite: AUT 115, DIM 112, DIM 114
This course meets for 8 weeks.

DIM 123* Brake Systems **1.5 credits**
3 class hours, 9 lab hours

Truck air brake systems are explained in detail throughout this course. Air brake operation, system components and the Federal Motor Vehicle Safety standard will be discussed along with practical hands on learning of servicing, inspecting, adjusting and identifying common brake failures systematically to ensure brake balance. Basic ABS systems failure diagnosis is introduced. Basic component adjustment and replacement is also covered.
Prerequisite: DIM 112, DIM 114
This course meets for 4 weeks.

DIM 125* Suspension & Steering Systems **1.5 credits**
3 class hours, 9 lab hours

Detailed analysis of the four main suspension systems used in the trucking industry, walking beam, air, spring and torsion bar design. Troubleshooting and repair of these systems will be covered in detail. Maintenance of tire and wheel components along with wheel end adjustment, replacement and inspection procedures will

be practiced. Front axle alignments and adjustments to toe angle will be practiced for competency and accuracy. Introduction to equipment suspensions will be introduced; tract and roller systems.
Prerequisite: DIM 112, DIM 114
This course meets for 4 weeks.

DIM 211* Hydraulics Technology 3 credits
3 class hours, 9 lab hours
Introduction to fluid forces and their application to power transfer. Emphasis on troubleshooting and repair of hydraulic systems. To include schematic terminology, construction, circuit analysis and testing of the hydraulic system. This unit will also expand the student's knowledge of hydraulic braking and steering systems.
Prerequisite: DIM 122, DIM 123, DIM 125
This course meets for 8 weeks.

DIM 213* Diesel Engine Rebuilding Technology 3 credits
3 class hours, 9 lab hours
Diagnosis and service of diesel engines to include details of construction, theory of operation of two cycle engines and four cycle engines, plus failure analysis. Disassembly and rebuilding for service and study of engine components is done on mechanical and electronic controlled engines. Students have the opportunity to expand their knowledge and apply technical skills.
Prerequisite: DIM 122, DIM 123, DIM 125
This course meets for 8 weeks.

DIM 221* Drive Train Systems 3 credits
3 class hours, 9 lab hours
Includes diagnosis, removal, repair and replacement of components from engine to drive axles. Includes clutches, manual transmissions, axles, differentials, propeller shafts,axle and tracked suspension systems.
Prerequisite: DIM 211, DIM 213
This course meets for 8 weeks.

DIM 222* Air Conditioning Systems/ Transport Refrigeration 3 credits
3 class hours, 9 lab hours
Introduces theory of operation of mobile refrigerated units. Emphasis is on maintenance, service and diagnosis of air conditioners on automotive and heavy equipment. Students will have an opportunity to expand their knowledge of and apply foundation skills and workplace competencies as described in SCANS.
Prerequisite: DIM 211, DIM 213
This course meets for 8 weeks.

DRR 109 Print Reading for Welders 3 credits
2 class hours, 2 lab hours
This course provides students the knowledge to read and comprehend the various types of prints found in the welding industry. Content includes print reading basics, math and measurement, an overview of welding processes, types of welds and joints, and welding symbol use.

DRR 117 Blueprint Reading for Construction Trades 3 credits
2 class hours, 2 lab hours
This course introduces students to orthographic drawings and interpretation of construction documents. Students will review architectural, civil structural, mechanical, and electrical prints to become familiar with drawing used in residential and light commercial construction. Interpreting technical specifications and preparing a construction cost estimate are also included.

DRR 212 Architectural Drafting I 3 credits
2 class hours, 3 lab hours
This course covers residential design and development and introduces computer aided drafting basics as it applies to residential architectural drafting. Course topics include residential building codes, space planning and design. Green building technology standards are incorporated into all aspects of the design. Students will begin an individual residential design project and will develop floor plans, exterior elevations and site plans.

DRR 215 Architectural Drafting II 2 credits
1 class hour, 3 lab hours
Students continue residential design development on their individual houses. Topics include foundations, floor framing, roof framing, stairs, kitchen design and perspective drawing. Green building technology is incorporated into the designs. Working drawings will be prepared using computer drafting software.
Prerequisite: DRR 212

ECE 101 Healthy Learning Environments for Children 3 credits
3 class hours
Examines organizing space and equipment for indoor and outdoor activities; helping children learn to play together; understanding and providing for children's health, safety and nutritional needs; and maintaining a safe learning and play environment in and outside of the classroom.

ECE 105 Advancing Intellectual & Social Development in the Young Child 3 credits
3 class hours
Covers the intellectual (cognitive) and social development of children and the ways that teachers support development in their daily interactions with young children. Topics will include encouraging young children to explain, experiment and question; advancing language use and comprehension; and building positive self-concept in the young child. Focus of the course will be applying developing knowledge of young children to help them learn in a manner that supports development in the whole child.

ECE 120 Programmatic and Professional Development in the Child Care Field 3 credits
3 class hours
Covers topics including: techniques for establishing

positive and productive relationships with the families of child care/development program participants; program management skills such as planning, record keeping, communication and cooperation; and the processes inherent in establishing and maintaining a demonstrated commitment to professionalism.

ECE 192 Field Experience in Early Childhood Education I **3 credits 9 lab hours**

Provides students with the opportunity to actively experience work in the child care/early education field through exposure and hands-on experience working with infants, toddlers, preschool and/or school-aged children in community-based group-care settings. Field experience allows students to implement and practice skills learned in related coursework, while periodic seminars help students to connect their field work to related theory and receive support from peers completing field experience in other settings. Satisfies the first 90 hours of total practical experience required for CDA credential. *Program immunization requirements and criminal background checks are required for course enrollment.*

ECE 196 Field Exp. in Early Childhood Education II **4 credits 1 class hour, 9 lab hours**

Provides students with practical experience in working with and observing young children in a variety of community-based child care settings; allows students to actively experience work in the child care field and learn from skilled practitioners. Students will implement and practice skills learned in related coursework to observe, plan and implement developmentally appropriate learning activities for children in infant, toddler, preschool and/or school-aged children's programs. Regular (weekly or bi-weekly) seminars are an integral part of the experience and will allow students to connect their field work with professional theory and philosophy as well as experience support from colleagues enrolled in field experiences in a variety of settings. Satisfies 180 hours of total practical experience requirement for CDA credential. Prerequisite: ECE 192. Enrollment limited to students matriculated in Early Childhood Education program. *Program immunization requirements and criminal background checks are required for course enrollment.*

ECE 197 Field Exp. in Early Childhood Education III **5 credits 1 class hour, 12 lab hours**

Continues to build on the foundation of skills begun in previous practicum work. Students will have increased involvement with children and will develop, understand and practice techniques for child assessment and planning. Course requires students to take a more active role in observing, planning for and delivering curriculum to young children. Periodic seminars remain an integral part of the experience and allow students to share learning experiences from different field sites. Students may elect to conduct their field experience in a specialized area of early childhood education. Satisfies final 180 hours of total practical experience requirement for CDA credential. Prerequisite: ECE 196. Enrollment limited to students matriculated in Early Childhood Education program. *Program immunization requirements and criminal background checks are required for course enrollment.*

ECE 200 Child Growth and Development **3 credits 3 class hours**

Development of children from conception to pre-adolescence will be studied. Focus of the course will be on four age groups of early childhood -- infants, toddlers, preschoolers, and early elementary children -- in relation to the four domains of development: physical, cognitive, social-emotional, and acquisition of language and communication. Includes exploration of the latest child development research, including the neurological bases of learning or “brain-based” learning. Students will develop an understanding of how experiences provided in childcare settings can impact the development of the young child.

ECE 205 Children’s Literature **3 credits 3 class hours**

Emphasis is placed on the creation of an environment that supports development of emergent literacy and encourages young children's exploration and enjoyment of literature. Experiences will include development of reading centers; storytelling; creative dramatics; and evaluation, selection and presentation of age appropriate reading materials. Students will directly explore a variety of children's literature appropriate for use in early childhood settings.

ECE 210 Child Guidance and Discipline **3 credits 3 class hours**

Discusses the differences between punishment and discipline and techniques for guiding young children. Topics will include positive reinforcement, redirection of negative behavior, setting and enforcing limits, and the natural and logical consequences of a child’s choices. Students will also learn techniques for self-control and stress management, and will develop an understanding that effective discipline follows development of a respect for the dignity of the child. Prerequisite: PSY 101, ECE 105 or ECE 200 or commensurate experience

ECE 220 Education of Young Children with Special Needs **3 credits 3 class hours**

Includes: observation and documentation of child behavior; categories and descriptions of special needs; adapting curriculum to meet individual needs; and developing healthy attitudes and behaviors in children, staff and parents toward the special needs child. Emphasis will be placed on developing and maintaining supportive relationships with parents of children with special needs and developing cooperative relationships with other professionals involved with the child, including therapists, social workers and medical personnel. Prerequisite: ECE 200 or commensurate experience

ECE 230 Curriculum in Early Childhood Education (Birth-3 years) 3 credits 3 class hours

Provides an in-depth study of the development and implementation of developmentally appropriate curriculum for infants and toddlers based on an understanding and knowledge of child development, individual children, the group of children, and community and program goals. Topics will include assessment of children; age-appropriate scheduling and instructional planning; and maintaining a physically and psychologically safe learning environment. Students will develop creative instructional materials and will evaluate and utilize commercially developed products. Prerequisite: ECE 200 or commensurate experience

ECE 235 Curriculum in Early Childhood Education - (Ages 3-8) 3 credits 3 class hours

Continues topics studied in ECE 230 with emphasis on the development and evaluation of curriculum and materials suitable for the preschool child and for school-aged children in childcare settings. Coursework will focus on curricula as exemplars of developmentally appropriate practice in early childhood education and on practical issues around implementation of curricula for children in this age group. Students will work toward development of their personal definition, goals and values around curriculum. Prerequisite: ECE 105 and ECE 200 or commensurate experience

ECO213 Macroeconomics 3 Credits 3 Class Hours

This course is based on a basic theory of macroeconomics which provides a unique textual and visual learning system that presents and reinforces core concepts, then immediately assesses comprehension to ensure understanding highlights the latest information on economic growth, income distribution, federal deficits, environmental issues, and other economic developments while applying concepts to everyday life.
**Note: Students who have already completed or are enrolled ECO111 Prin of Economics will substitute.*

EET 221 Control Systems & PLCs 3 credits 2 class hours, 3 lab hours

Programmable Logic Controllers are used extensively in process control as well as machine control. The course provides a strong foundation for understanding the fundamentals that apply to all PLC brands and offers an introduction to applications where PLC are used in industry. Theory will be reinforced by applying ladder diagram concepts from hardwired circuits to ladder logic programming using PLC equipment. Students will gain experience with hardware and software systems for the Koyo DL105 as well as Allen Bradley SLC 500, PLC 5, Compact Logix and Control Logix Platforms. Introductions to DeviceNet and Panel View Plus systems will also be presented. Prerequisites: DIB 113, ELS 124, ELS 125

ELC 110 National Electrical Code 3 credits 3 class hours

Presents the fundamentals of the current National Electrical Code. Classroom discussion emphasizes single and multi-family dwellings while reviewing concepts of motors, control wiring and commercial wiring systems. Introduces the concept of using the NEC book as a tool and emphasizes methodology of reading and understanding the NEC. Periodic examinations are given. An excellent course for beginning electricians preparing for the journeyman license exam.

ELC 116 National Electrical Code for Industry 3 credits 3 class hours

Presents the fundamentals of the current National Electrical Code. Classroom discussion emphasizes commercial and industrial wiring techniques while reviewing residential wiring concepts. Introduces the concept of using the NEC book as a tool and emphasizes methodology of reading and understanding the NEC. Periodic examinations are given. An excellent course for electricians preparing for the master license exam. Prerequisite: ELC 110 or instructor's permission

ELE 112 Basic Residential Wiring 3 credits 2 class hours, 2 lab hours

A beginning course in electrical wiring methods using electricians' tools and wiring materials. Wiring projects include single-pole switching, 3-way switching, and 4-way switching of lighting circuits, receptacle circuits including GFCI and AFCI protection, and installation of romex cable, boxes, and associated hardware.

ELE 117 Heating & Cooling Controls 3 credits 2 class hours, 3 lab hours

An introductory course for beginning technicians in the Heating, Air Conditioning and Refrigeration disciplines. This course will begin with the basic principles of electron flow and the generation of electrical current. The major focus will be the installation and troubleshooting of controls typically used in the heating and cooling of residential and light commercial buildings. A comprehensive study along with hands-on applications of basic electrical circuits will progress into the use of thermostats, relay, pressure and manual switches, temperature controls, low voltage controls, electric motors, and new technologies in the field.

ELE 210 Electrical Construction & Maintenance I 3 credits 3 class hours

Students learn the elements involved in residential and commercial wiring, acquiring the skills necessary to plan, layout and install wiring materials and devices common to building construction in accordance with the guidelines set forth in the National Electrical Code and in accordance with usual practices in the industry. Students will obtain a basic fundamental knowledge of DC and AC power technology motors and transformers

on which to build an applied knowledge of control techniques. Prerequisites: ELE 112, ELS 124 and ELS 125 Co-requisite: ELE 212

ELE 212 Electrical Construction & Maintenance I Lab **3 credits 9 lab hours**
Lab component of ELE 210. Co-requisite: ELE 210

ELE 222 Electrical Construction & Maintenance II **3 credits 3 class hours**
Students will learn the key elements involved with commercial and industrial wiring, acquiring the skills necessary to install wiring materials and devices common to the commercial and industrial construction in accordance with the National Electrical Code and in accordance with usual practices in the industry. Prerequisite: ELE 210 and ELE 212; Co-requisite: ELE 223

ELE 223 Electrical Construction & Maintenance II Lab **3 credits 9 lab hours**
Lab component of ELE 222. Co-requisite: ELE 222

ELS 117 Basic Electricity **4 credits 3 class hours, 4 lab hours**
Examines the subject at the beginner's level. Topics include current, voltage, resistance, OHM's Law, magnetism, electrical measurements, DC circuits, inductance, capacitance, AC measurements, and transformers.

ELS 119 Intro to Electronic Systems **2 credits 1 class hours/2 lab hours**
This course will introduce students to the basic concepts required to maintain and troubleshoot electronic control systems. The course begins with a study of the relationships between current, voltage and resistance in both DC and AC systems, then progresses to a comparison of analog and digital measuring instruments. Electrical safety as well as an introduction to components used in industrial control systems will be presented next. The course concludes with an introduction to schematic diagrams and troubleshooting techniques used to maintain typical water and wastewater control systems.

ELS 124 Industrial Electronics **3 credits 2 class hours, 3 lab hours**
Integrates concepts learned in AC and DC circuits as they apply to industrial manufacturing equipment. It provides an introduction to industrial control systems with a focus on equipment applications. Topics include: power supplies, thyristers, operational amplifiers, discrete and analog sensors and devices, opto-electronics computer based control equipment, and industrial network communication. Lab exercises provide practical experience with shop equipment, troubleshooting circuits and reading schematics. Prerequisite: ELS 117

ELS 125 Motors and Controls **3 credits 2 class hours, 3 lab hours**
Studies electric motors and how they are controlled. Units of study include: single phase motors; motor control basics; three phase motors and control; specialty motors and control; power distribution and monitoring systems; and DC motors, generators and control. Laboratory exercises using real life motors and control devices help students gain practical experience with equipment they will encounter in the work environment. Prerequisite: ELS 117

EMS 109 Emergency Medical Responder **3 credits 30 class hours, 45 lab hours**
This course is designed to give students through lecture and practical lab entry level knowledge and skills to provide basic on-scene emergency medical care for patients who access the emergency medical system. Upon successful course completion, students are eligible to take the National Registry of EMT's certification examinations at the EMR level. Students will learn to perform necessary interventions and patient assessment skills to stabilize patients at the scene while awaiting higher levels of care within the Emergency Medical System to respond. This is an ideal course for the student that has interest in assisting others in a time of need or for the student wanting to explore the possibilities within Emergency Medicine.

EMS 111 Emergency Medical Technician **5 credits 45 class hours, 90 lab hours**
This course is designed to give students, through lecture, practical lab, and clinical experience, the entry-level knowledge and skills necessary to provide basic emergency medical care and transportation for patients who access the emergency medical system. Upon successful course completion, students are eligible to take the National Registry of EMT's certification examinations at the EMT level. Students will perform interventions necessary to provide patient care and transportation including basic level patient assessment, airway management and oxygen administration, CPR, spinal immobilization, shock management, bandaging and splinting, and medication administration. Knowledge and skills obtained at the EMT level provide the foundation for further advancement to Advanced EMT and Paramedic levels. Co-requisites: ALH 124

EMS 112 Respiratory Emergencies **2 credits 23 class hours, 22 lab hours**
This course is designed to provide students with an in depth understanding of the respiratory system. Topics will include a review of anatomy and physiology of the respiratory system, respiratory pathophysiology, assessment and management of the respiratory patient. Students will practice basic as well as advanced level airway management techniques and procedures. This course serves as the major fundamental foundation for Advanced EMT licensure and practice.

EMS 113 Cardiology I **2 credits**
30 class hours

This course is designed to provide students with an understanding of the cardiovascular system, including conduction system of the heart, electrocardiography, 12-lead ECG, and beginning treatment of a patient presenting with chest pain. Students will demonstrate use of the ECG monitor/defibrillator including defibrillation, non-invasive pacing, and cardioversion. Topics will include a review of the anatomy and physiology of the heart and circulatory system, electrophysiology, and assessment of the cardiac patient.

EMS 114 AEMT Lab **1 credits**
45 lab hours

This laboratory course is designed to enhance students overall patient management skill level. Subject matter is complementary to instruction provided in the Fundamentals of EMS, Respiratory Emergencies, and Cardiology I courses. Students will perform with proficiency skills such as airway management, medication administration, peripheral and intraosseous access, and patient assessment/management. This course is required before any AEMT student enters the clinical setting.
Co-requisites: EMS 113, EMS 115

EMS 115 Fundamentals of EMS **3 credits**
38 class hours, 22 lab hours

This course introduces the student to the role of the advanced life support provider. Topics covered include roles and responsibilities of the EMS professional, medical terminology, self-care, and an introduction to pathophysiology. Students will also learn how to perform a health history and advanced level physical examination, intravenous and intraosseous cannulation, medication administration, and introductory pharmacology concepts. Prerequisite: Matriculation in the AAS or AEMT Certificate program.

EMS 122 Intermediate Clinical Externship I **2 credits**
100 clinical hours

This clinical course provides students with the opportunity to apply in the hospital setting, skills and knowledge learned in the classroom and lab. Students partner with assigned preceptors at local hospitals to develop skills in critical decision making, ECG interpretation, physical assessment, and advanced airway management. Hospital rotations include ER, ICU, OR, IV therapy, and others. Students must complete the minimum number of hours and skills established by MEMS and the program to be eligible for certification exams. This is one of two required clinical courses for the AEMT program.
Prerequisite: EMS 114

EMS 126 Intermediate Clinical Externship II **2 credits**
100 clinical hours

Building on skills learned in lab and the hospital setting, students will apply their knowledge to actual patient situations in prehospital settings. Students are partnered with preceptors who will assist the student into the role of an advanced level EMS professional. Students must complete the minimum number of hours and skills established by MEMS and the program to be eligible for certification exams. This is one of two required clinical courses for the AEMT program.
Prerequisite: EMS 114
Co-requisite: EMS 122

EMS 130 EMT-Intermediate Skills Seminar **1 credit**
45 lab hours

This course can serve as a refresher course for those who are currently licensed Advanced EMTs or Critical Care EMTs wishing to become Paramedics, as well for students who wish to become nationally certified at the AEMT level. Students will review and practice all AEMT skills in an interactive seminar format. Multiple case studies, interactive lab sessions, and creative teaching methods are used, concluding with mandatory skills and written testing to assure mastery of topics, prior to sitting for the NREMT – AEMT exams. This is a pass/fail course. Prerequisite: EMS 114
Co-requisite: EMS 126

EMS 205 Medical Emergencies **3 credits**
45 class hours

This course explores the pathophysiology and management of selected diseases and conditions. Topics include infectious and communicable diseases, toxicology, hematology, neurologic, endocrine, allergy and anaphylaxis, renal, and gastroenterology emergencies. Prerequisites: EMS 213

EMS 213 Advanced Emergency Cardiovascular Care **4 credits**
45 class hours, 45 lab hours

A comprehensive study of cardiac and vascular disorders. Topics include pathophysiology, advanced cardiac assessment, detection and treatment of cardiac rhythm disturbances, 12-lead ECG analysis, and treatment of cardiovascular disorders. Lecture and lab sessions include cardiac arrest management, and clinical decision making. Students successfully completing this course will receive a certificate in Advanced Cardiac Life Support (ACLS). There is an additional cost for this certification.
Prerequisite: EMS 130

EMS 214 Adv. Emergency Pharmacology **3 credits**
38 class hours, 8 lab hours

This course provides students with knowledge about the principles of pharmacology. It includes pharmacologic classifications, mechanisms of drug

actions, pharmacokinetics, key adverse effects and drug interactions. An overview of the bodily effects of drugs as well as review of major drug categories. This course provides students with knowledge, responsibilities, and accountability in the administration of medications across the lifespan. This course will also cover dosage calculations necessary for safe preparation and administration of medications.
Co-requisite: Matriculation into the Paramedic Certificate Program or associate degree program.

EMS 216 Paramedic Clinical Externship I **5 credits 225 clinical hours**
This faculty directed practicum gives each student the changes to develop competency in the clinical setting while working one on one with an experienced preceptor. Clinical rotations occur in both the hospital and field, including: cardiac care units, emergency departments, operating rooms, ambulance services, to name a few. Students must complete the minimum number of skills and hours established by MEMS and this program to be eligible for certification exams. This is one of three required clinical courses at the paramedic level.
Co-requisites: ALH 124, EMS 205, EMS 220, & EMS 222

EMS 220 Pediatric Emergencies **2 credits 23 class hours, 22 lab hours**
This course is designed to allow students to integrate pathophysiologic principles and assessment findings to formulate a field impression, and implement an assessment and treatment plan for the neonatal and pediatric patient. Topics will include age specific assessment and management of respiratory, cardiac, trauma, neurological, obstetric and gynecological emergencies. The lab portion of this course includes Pediatric Advanced Life Support and Neonatal Resuscitation certifications (these certifications require additional fees).

EMS 222 Trauma Management **3 credits 31 class hours, 37 lab hours**
This course covers the pathophysiology, kinematics and management of the trauma patient. Topics include, but are not limited to, multisystem trauma, burns, spinal, head, orthopedic, and internal injury, as well as current trends in trauma management. Through the lab portion of this course students will complete a Prehospital Trauma Life Support (PHTLS) course. There is an additional cost for this certification.

EMS 226 Paramedic Clinical Externship II **4 credits 170 clinical hours**
Building on the skills and knowledge presented in previous courses, this externship will allow students to assume the role of paramedic. Participants will spend this rotation perfecting clinical and assessment skills in a variety of settings. Students will immerse themselves in emergency ambulance response, interfacility transport ambulances, OB units, Intensive Care Units, and physician offices. Students will assume the role of "crew chief" where they are responsible for developing leadership skills while partnered with an experienced EMS preceptor. Students must complete the minimum number of skills and hours established by MEMS and this program to be eligible for certification exams. This is one of three required clinical courses at the paramedic level. Prerequisites: EMS 216

EMS 229 Paramedic Skills Seminar **1 credit 45 lab hours**
Designed as the capstone course for the paramedic education program, this course will provide students with an intense review of didactic and psychomotor experiences that simulates professional practice. Students completing this course will practice the skills necessary to successfully pass the national examinations and to become effective entry level field practitioners. Additionally, a comprehensive review of didactic content is included. Topics include ambulance service management, concepts of lifelong learning, Maine's Paramedic Interfacility Transport Module (PIFT), quality improvement, and the ALS providers' role in the community. Students will have the opportunity to perfect assessment based management through a case scenario approach. The course concludes with students taking the National Registry Certification Examination.
Co-requisite: EMS 226

EMS 231 Special Populations **1 credit 15 class hours**
This course is designed to allow students to integrate pathophysiologic principles and assessment findings to formulate a field impression, and implement an assessment and treatment plan for the geriatric and psychiatric patient, as well as the patient with special needs. Topics will include age/condition specific assessment and management of respiratory, cardiac, trauma, neurological, and behavioral emergencies.

EMS232 Paramedic Clinical Capstone **1 Credit 45 Clinical Hours**
Designed as the clinical capstone course for the paramedic program. Students will apply and integrate all key didactic, psychomotor, affective, and clinical constructs of the EMS program and apply it to contemporary practice in the pre-hospital setting. Students will demonstrate and exercise the ability to function as an entry-level paramedic while being guided, overseen, and evaluated by experienced paramedic preceptors.
Co-requisites: EMS226

EMS 233 EMS Operations **1 credit 45 lab hours**
Upon completion of this course students will be able to utilize knowledge and skills gained to safely manage multi-casualty incidents and rescue situations; utilize air medical resources; identify hazardous materials and other specialized incidents. *Some portions of this*

course may take place off campus for a better student experience.

EMS 236 Paramedic Assessment Based Management **1 credit 45 lab hours**

Designed to be a summative laboratory course, students will be evaluated in both the team lead and team member role in scenarios. This course serves to culminate the skills practiced and evaluated in previous courses and evaluate the student's ability to be both a team member and the clinical decision maker in given patient care scenarios. The scenario lab component provides students the contextual opportunity to demonstrate competence in the simulated environment prior to progressing to the role of Team Lead in a field clinical environment.
Co-requisite: Matriculation into the Paramedic Certificate Program or associate degree program.

EMS 243 Community Paramedicine **8 credits 90 class hours, 30 lab hours**

This course takes the experienced paramedic and expands upon their role into the role of community paramedic. Course content includes medical legal issues, scope of practice, financial implications, nutrition, and public health. A significant portion of this course is reserved for discussion of the social determinates of health and the role of the community paramedic in public health. Students will learn about high risk populations, health promotion and injury prevention strategies, as well as chronic disease management. Advanced physical assessment, laboratory test interpretation and bed side diagnostics are introduced. Co-requisite: Matriculation in the Community Paramedicine program.

EMS 245 Community Paramedicine Clinical **3 credits 90 clinical hours**

Designed to allow students to apply the skills learned in the didactic and lab courses to a variety of clinical settings under the direction of a preceptor. Clinical rotations occur at hospitals, schools, public health facilities, long term care facilities, clinical diagnostic laboratories, primary care offices, and in a variety of other specialty areas. The goal of the clinical experience is to expose the student to a variety of roles.

EMS 246 Leadership in EMS **2 credits 30 class hours**

This course serves to provide the student with a deeper understanding of the major components and principles of a leadership role, as well as adapting to the changing role of the EMS provider. The student will learn different styles of leadership and investigate the qualities of a successful leader. The student will develop a comprehensive understanding of public relations, education, and Medical Direction; and their roles in the advancement of a stronger EMS system.

EMS 247 Community Paramedic Seminar **1 credit 45 lab hours**

Designed as a capstone course the seminar will provide the student with an intense lab experience that simulates professional practice, as well as present their capstone project worked on throughout the program. Additional topics covered include ambulance services management, concepts of lifelong learning, quality improvement, and the provider's role in their community. Prerequisite: EMS 245

EMS 296 Critical Care Emergency Medical Transport **7 credits 100 Lecture Hours**

This course is the nationally accepted University of Maryland-Baltimore County Critical Care Emergency Transport Program. This program is designed to prepare paramedics and nurses to function as members of a critical care transport team. Critical patients that must be transported between facilities require a different level of care from hospital or emergency field patients. Participants will gain an understanding of the special needs of critical patients during transport, become familiar with the purpose and mechanisms of hospital procedures during transport. Topics include: The Critical Care Environment, Breathing Management, Surgical Airway Management, Hemodynamic Management, Cardiac Management, Pharmacological Management, GI, GU and Renal Management, Neurological Management, Complications of Transport and Special Considerations. Students with 100% attendance will be evaluated with a written examination at the end of the course. Successful participants are issued a renewable certificate from the University of Maryland-Baltimore County (valid for three years) Prerequisites: Must be a licensed Paramedic or Registered Nurse with certifications in BLS, ACLS, ITLS/NCC/PhTLS, PALS and one year of field experience

ENG 015 Basic Grammar Review **1 credit* 1 class hour**

This course will provide a quick and efficient review of the grammar necessary when preparing to take any high school and college test. This course concentrates on basic usage and a general review of grammatical problem areas. The course is ideal for all types of self-motivated students who want to get an edge on taking a high school, college, or a job related English exam and anyone wishing to update their grammar skills. This is a pass/fail course.
**Credit from this course is not applicable towards graduation.*

ENG 017 Reading & Writing Fundamentals **4 credits* 4 class hours**

Designed to help students improve their reading vocabulary; writing skills, including paragraph and essay development; comprehension; and study and test-taking abilities. This course will cover critical reading and writing skills, main ideas, vocabulary development, supporting details, organizational patterns and inference. A wide variety of resources, such as the textbooks,

a novel, newspapers, magazines, internet websites blogs and books, will be used to help the student strengthen and build reading and writing skills, as well as background knowledge, at the same time.
**Credit from this course is not applicable towards graduation.*

ENG 018 Reading Basics Review **1 credit***
1 class hour

This course will provide a quick and efficient review of the basic reading skills necessary when preparing to take any high school and college test. This reading comprehension course concentrates on fundamental skills such as using the dictionary, understanding prefixes and suffixes, and using reading strategies to figure out meaning. Learners will be able to study at their own level and move at their own pace. This is a pass/fail course.
**Credit from this course is not applicable towards graduation.*

ENG 111 English Composition **3 credits**
3 class hours

Basic writing course intended to strengthen the student's ability to think logically and to write clearly. The course will cover grammar, paragraph organization, the essay and the research paper with a strong emphasis on revision.

ENG 113 Working in America **3 credits**
3 class hours

A thematic study of the world of work through readings of poetry, literature, and essays to better understand the role of work in our lives.

ENG 226 Introduction to Literature **3 credits**
3 class hours

An introduction to the study of literature designed to help students develop the ability to read, interpret, and criticize a variety of literary forms and to appreciate literature as a source of insight into human values. Prerequisite: ENG 111

ENG 227 Advanced Composition **3 credits**
3 class hours

Students will review the writing process and the strategies for drafting, revising and editing covered in English Composition. Students will continue to work on developing the ability to critically read and analytically write papers that clearly express their ideas. Emphasis will be on primary and secondary research skills and the use of MLA and APA style documentation. Students will learn and practice the writing conventions used within their major area of study. The course will prepare students for upper level course work in their majors, research in the workplace, and/or transfer to four-year programs. Prerequisite: ENG 111

ENG 228 Topics in Literature **3 credits**
3 class hours

Close reading of texts related by topic, theme, or historical period. May be repeated for credit. Prerequisite: ENG 111

ENG 231 Women in Literature **3 credits**
3 class hours

Examines and explores the role of literary expression in defining, understanding and communicating the experience of being alive and female, as it has been expressed in texts written in the English language. This course analyzes how women have used literature to claim a voice, defining and writing themselves and their experiences into existence. This course will consider the ways that race, class, ethnicity, sexuality, age, region and physical ability inform women's struggle for understanding, self-determination and power in a world dominated by patriarchal privilege. Students will read a variety of women's perspectives that will address these issues and develop their own skills and voice in understanding, speaking and writing about women's literature. Prerequisite: ENG 111

ENG 239 Intro. to Creative Writing **3 credits**
3 class hours

The course is portfolio based and broken into two eight-week units, fiction and poetry. In each section, students will read a great deal, up to three short stories or several works by multiple poets each week. Class time will be used to write and discuss exercises, workshops and analyze texts. Prerequisite: ENG 111

HIS 117 World Civilization to 1715 **3 credits**
3 class hours

Emphasis will be placed on the ideas, institutions and cultural heritage of civilization, as well as political events. Key themes are: the political, philosophical and cultural legacies of ancient Greece and Rome; the origins and beliefs of Judaism and Christianity; Medieval society and institutions; the Renaissance and Reformation; European exploration and colonization; the emergence of capitalism; the English Revolution; Constitutionalism and Absolutism; the Scientific Revolution; and the Enlightenment.

HIS 119 World Civilization 1715 to Present **3 credits**
3 class hours

Within this time frame particular emphasis will be placed on the ideas, institutions and cultural heritage of the West as well as a more traditional focus on political events. Key themes are: the legacy and meaning of the American and French Revolutions; the Industrial Revolution; the ideologies of the 19th and 20th century Europe; imperialism and decolonization; the origin and impacts of the two world wars; and postwar superpower relations.

HIS 123 U.S. History, 1500-1865 **3 credits**
3 class hours

A survey of the political, social, economic and cultural forces that shaped American history from the beginnings of European exploration to the end of the Civil War.

HIS 125 U.S. History 1865 to Present **3 credits**
3 class hours

A survey of the political, social, economic, and cultural forces that shaped American history from the end of the Civil War until the present.

HIS 203 Religion in America **3 credits**
3 class hours

A study of the key movements, events and people in history of religion in America from the colonial era to the present.

HIS 206 American Sports History **3 credits**
3 class hours

This course is a survey of American sports history from the colonial era to the present. An emphasis will be placed on the role of sports in American life and how broad social and cultural changes in American society have been reflected in and by sports.

HIS 207 Maine History **3 credits**
3 class hours

A survey of Maine history from the age of discovery to the present.

HIT 111 Medical Law & Ethics **3 credits**
3 class hours

Provides the student with a study of law and legal concepts as they apply to the practice of health information management. Emphasis is on HIPAA Privacy/Rule regarding privacy and confidentiality; health record documentation management and release of information practices; and use and disclosure of patient information. Other topics will include state and federal statutory regulations for legal health records, medical staff appointments, healthcare provider credentialing, healthcare risk management, physician liability, and the expanding role of medical record information and subsequent impact due to the advance of electronic health records. Issues that occur in biomedical ethics will also be presented. It will provide the language and framework for understanding more about ethics within the context of dealing with complex health information issues as well as the process that HIM professionals can use to make appropriate ethical choices and to analyze what is and is not justified from an ethical perspective. Co-requisites: BIO 211

HIT 113 Clinical Classification Systems I **3 credits**
3 class hours

Emphasizes the principles and conventions of clinical classification systems used in today's healthcare settings. Emphasis is placed on ICD-9-CM. A history of nomenclatures and classifications systems is covered, as well as the relationship between coding and health care reimbursement. Other topics include: applicable licensing and regulatory issues relative to coded data, payment and reimbursement systems, professional ethics content of the medical record, decision-making processes, data validity and integrity, classification systems and nomenclature, quality assessment and improvement, work and legal standards related to reimbursement, and retrieval of information. There will also be emphasis on ICD-10-CM and ICD-10-PCS in preparation of implementation on the compliance date. Co-requisites: BIO 211 & ALH 220

HIT 115 Clinical Applications of Pathophysiology & Pharmacology **3 credits**
3 class hours

Designed to educate HIM students on the study of pathophysiology and general health management of disease and injuries across the human life span. The course will examine the fundamentals of pathophysiology as it is manifested within each body system. It will include pathogenesis etiology, clinical manifestations, current diagnostics, and pharmacological and other treatment modalities. Emphasis will be on disease terminology and abbreviations with identification of disease symptomatology, differential diagnosis and evaluation of laboratory data and drug therapy through textbook readings. It will also focus on the principles of drug action and how the use of drugs alters the disease process. Also included will be the cellular mechanisms of drug actions and the mechanisms of adverse drug effects. Co-requisites: BIO 211.

HIT 213 Clinical Classification Systems II **3 credits**
3 class hours

Emphasizes the principles and conventions of the HCPCS/CPT clinical classification systems used in today's health care settings. Other topics include applicable licensing and regulatory issues relative to coded data, payment and reimbursement systems, professional ethics, content of the medical record, decision-making processes, data validity and integrity, classification systems and nomenclature, and quality assessment and improvement. Students will be expected to apply decision making in record review for complete, accurate, and timely coding. HCPCS/CPT coding will also be practiced and applied in conjunction with ICD-9/ICD-10 for hospital ambulatory surgery, the physician's office setting and other outpatient settings. The CMS developed Prospective Payment System for ambulatory care will be reviewed. Prerequisite: HIT113 Co-requisites: BIO 211

HPB 110 High Pressure Boiler Operator **3 credits**
3 class hours

Meets the education requirements necessary to take the State of Maine high pressure boiler operator examination. Emphasis on boiler classification, design, accessories and theory of operation, as well as State of Maine boiler rules.

HPR 110 Lifelong Wellness **3 credits**
3 class hours

Provides students with the tools to be an active participant in their own health and wellness. Since knowledge by itself rarely results in change, the course will actively engage the student in assessing how the various topics presented in the course can affect their own lifestyle. Wellness is an all-encompassing term and the purpose of the course is to allow the student to gain the knowledge necessary to result in positive behavior changes that will result in habits, beliefs and attitudes that will result in a high level of health. This course will also discuss ergonomic issues that can result in a healthy and safe work environment for the individual.

INS110 Instrumentation & Process Controls 3 credits
2 class hours, 3 lab hours

This course will introduce students to the fundamentals of process measurement and control systems. The course will begin with a study of industrial instrumentation including pressure, level, flow and analytical measurement systems. A thorough understanding of 4-20mA process signals will be provided as well as an introduction to PID process loop controllers. The course will conclude with an introduction to motor speed control concepts including configuration and troubleshooting variable frequency drive systems. Prerequisite: ELS119 Intro to Electronic Systems

MAT 012 Basic Mathematics Review **1 credit***
1 class hour

This course provides a quick review of the basic math skills necessary when preparing to take any high school and college test. This course concentrates on basic computation, measurement, and problem solving strategies, giving students exposure to real-life problems and solutions. The course is ideal for all types of self-motivated students who want to get an edge on taking a high school, college, or a job related math exam and anyone wishing to update their mathematical skills. This is a pass/fail course.

**Credit from this course is not applicable toward graduation.*

MAT 016 Basic Algebra Review **1 credit***
1 class hour

This course will provide a quick and efficient review of the basic algebra skills necessary when preparing to take any high school and college test. Basic Algebra Review concentrates on basic number ideas, linear equations, monomials, graphing, conversion of percents, decimals and fractions, other special topics. Problem solving strategies are embedded across the curriculum, giving students exposure to real-life problems and solutions. The course is ideal for all types of self-motivated students who want to get an edge on taking a high school, college, or a job related algebra exam and anyone wishing to update their mathematical skills. This is a pass/fail course.

**Credit from this course is not applicable toward graduation.*

MAT 064 Elementary Algebra **3 credits***
3 class hours

Designed so each student can begin at a level of proficiency corresponding to that individual's background in math and algebra. This course prepares the student for upper-level math courses and fulfills the basics for a good background in elementary algebra.

**Credit from this course is not applicable toward graduation.*

MAT 115 Business Mathematics **3 credits**
3 class hours

Designed to provide solid, practical and current coverage of the mathematical topics students must master to succeed in business today. Students will develop the computational and vocabulary skills necessary for retailing, marketing, accounting, business management, and finance. Topics include: interest, banking, depreciation systems, payroll, statistics, and graphs. It includes expanded discussion of key business topics in an algebra-based context.

MAT 118 Electrical Math **4 credits**
4 class hours

Students learn to use numeric, algebraic and trigonometric methods to analyze DC and AC circuits and systems. Topics include measurement; series, parallel and series-parallel circuits; capacitance; inductance; transformers power; resistance of wire and the AWG; line drops; and three-phase systems.

MAT 119 Applied Mathematics **4 credits**
4 class hours

This applied mathematics course reviews and strengthens the student's understanding of fundamental algebra, measurement, plane geometry, solid figures and geometric constructions skills. Emphasis is placed on problem solving in the specific trade areas to prepare the student to meet the mathematical challenges that they will encounter in physics, technical lab, and field of employment.

MAT 125 College Algebra **3 credits**
3 class hours

Includes the number system, operations with algebraic expressions, factoring, linear equations, exponents, radicals, quadratic equations, fractions and graphs.

MAT 151 College Algebra & Trigonometry **3 credits**
3 class hours

Fundamental concepts and operations, trigonometric functions, systems of linear equations, factoring and fractions, quadratic equations, vectors and oblique triangles, exponents and radicals. Prerequisite: MAT 125 or permission of advisor.

MAT 210 Statistics **3 credits**
3 class hours

Develops techniques for organizing, evaluating and analyzing data. Includes frequency distributions, measures of central tendency, variation, probability, the normal and binomial distributions and hypothesis testing. Prerequisite: MAT 125 or instructor's permission.

MAT 227 Calculus **4 credits**
4 class hours

Calculus focuses on differential and integral calculus. Topics include basic concepts of differentiation and integration and their applications. Prerequisite: MAT 151.

MDA 110 Medical Assisting Office Procedures **3 credits**
3 class hours

Introduces the student to the healthcare industry and the medical assisting profession. It will assist the student to develop skills necessary to perform effectively within the medical office, to include: interpersonal skills, professional behavior, computer and telephone techniques, patient processing, office operations, health information management, financial and practice management. Co-requisite: BIO 120 & ALH 124

MDA 111 Medical Assisting Procedures with Lab I **4 credits**
2 class hours, 2 lab hours

Provides the groundwork for the fundamentals of medical assisting to include infection control, patient assessment, patient education, nutrition and health promotion, and vital signs. It will also cover assisting with the physical exam, emergency preparedness,venipuncture, and clinical laboratory and tests. In the lab, students practice skills introduced in the classroom. Prerequisite: MDA 110 or MDA 124

MDA 124 Medical Insurance Processing **3 credits**
3 class hours

Focuses on understanding medical insurance and billing of the diverse medical insurances, including Blue Cross/ Blue Shield, Medicare and Medicaid in the healthcare industry. Provides an overview of insurance claim procedures and legal aspects of billing. Provides a forum in which students strive for accuracy in completing medical insurance forms. Co-requisite: ALH 220

MDA 211 Medical Assisting Procedures with Lab II **4 credits**
2 class hours, 2 lab hours

Building on the content and skills of Medical Assisting Clinical Procedures with Lab I, this course examines the intricacies of care of the client in specialty offices. Obstetrics and gynecology, pediatrics, geriatrics, cardiovascular, urological, neurological, psychiatric, rehabilitative and surgical office practice skills are introduced. Lab skills include performance of specialized diagnostic tests, pharmacology and medication administration, electrocardiography and assisting with minor procedures. Prerequisite: HIT 115, MDA 111, SES 108; Co-requisites: MDA 212

MDA 212 Medical Coding **3 credits**
3 class hours

Emphasizes the principles and conventions of diagnosis and procedural coding systems used in today's healthcare setting. Emphasis is placed on ICD-9-CM/ ICD-10-CM and CPT/HCPCS Classification Systems. Other topics in the course include: professional ethics, content of the medical record, data validity and integrity, legal standards related to reimbursement and retrieval of information. Prerequisite: ALH220. Co-requisite: MDA211

MDA 223 Medical Assisting Externship **5 credits**
1 class hour, 4 lab/clinical hours

Allows students to gain practical experience in performing administrative and clinical tasks that occur in a medical office. Students are given the opportunity to apply skills under professional supervision and to gain proficiency in all domains. Upon completion, students should be able to function as an entry-level health care professional. Prerequisite: ALH 124, MDA 211, program director approval and current first aid and CPR certification (American Heart Association Health Care Provider level)

MDA 224 Electronic Health Records **3 credits**
3 class hours

This course is designed to prepare the student to more efficiently use the computer software of an electronic health record. The course emphasizes that thorough documentation is essential for the highest reimbursement possible. Hands-on activities will provide students with transferable skills that will prepare them for success in the medical office, regardless of what software their practice uses.

MTT 113 Machine Tool Technology I **6 credits**
3 class hours, 9 lab hours

This course provides the student with an introductory experience in manual machine tool operations. The training introduces the student to precision measuring, layout, cutting tools, project planning, manual drilling, manual turning, machining formulas and work-holding. An integral part of the instruction will include safe work practices and material handling. Students will machine several projects to develop skills utilizing the various machining techniques.
Co-requisites: MTT 115

MTT 115 NIMS Lab I **1 credit**
3 lab hours

This course provides additional shop time to develop basic competency on milling machines, lathes, and precision measuring methods and instruments. This course will prepare students for NIMS Level I or other industry certification by completing a NIMS Performance Part(s) and other assigned projects.
Co-requisite: MTT 113

MTT 119 NIMS Lab II 1 credit
3 lab hours

This course provides additional shop time to develop basic competency in milling machines, lathes, and precision measuring methods and instruments. This course will prepare students for NIMS Level I/II or other industry certification by completing a NIMS Performance Part(s) and other assigned projects.
Co-requisite: MTT 125

MTT 125 Machine Tool Technology II 6 credits
3 class hours, 9 lab hours

This course focuses on developing intermediate skills in manual milling and turning of machine components to industry standards of tolerance and finish. Training at this level will prepare students for NIMS Machine Level I & II Certification. An integral part of the instruction will include safe work practices and material handling. Prerequisite: MTT 113. Co-requisites: MTT 119, PMM 212

NUR 100 Nursing Program Success 1 credit
First Semester Experience 15 class hours

This course is designed to equip the incoming nursing student with tools that promote success. Students will be engaged in several academic advising sessions in both individual and group formats and will be expected to complete a Personal Learning Plan, focusing on the student's strategy towards success in the nursing program. Classes will address issues such as learning styles, communication skills, study habits, time management, establishing professional collaborative relationships, test taking skills and coping strategies. This foundational course must be taken in the student's first semester of the nursing program.
Co-requisite: NUR 115, NUR 125

NUR 115 Pharmacology for Nurses 3 credits
3 class hours

This course provides nursing students with knowledge about the general principles of pharmacology. It includes an overview of the bodily effects of drugs as well as a review of major drug categories. Pharmacologic classifications, mechanisms of drug actions, pharmacogenomics, key adverse effects, and drug interactions will be discussed. This course provides students with knowledge about nursing responsibilities and accountability in the administration of medications across the lifespan. This course will also cover dosage calculations necessary for safe preparation and administration of medications. There is no clinical component to NUR 115. Prerequisite: None

NUR 117 Nutrition 3 credits
3 class hours

This course provides nursing students with knowledge about fundamental concepts of nutrition across the lifespan, including the relationship of nutrition to health, necessary nutrients for healthy functioning, energy balance and fitness, food safety, and national guidelines, with applications to individuals and groups. Strategies include classroom presentations, nutritional assessments of self and case-study clients, planning of interventions, and evaluation of various nutritional approaches. There is no clinical component to NUR 117. Prerequisites: None

NUR 124 Role Transition 1 credit
15 class hours (1 week)

Designed for LPNs who are entering the nursing program for semester three. The course focuses on the role change of the licensed practical nurse to that of an associate degree nurse. The role of the AD nurse as a member within the discipline of nursing, provider of care and manager of care is emphasized. The nursing process is utilized as a method to assist the learner to meet the basic, biopsychosocial needs of individuals throughout the life span. Prerequisites: State of Maine LPN licensure, one or more years work experience as practical nurse. This is usually taught as a one week summer course.

NUR 125 Foundations of Nursing 7 credits
4 class hours, 9 lab/clinical hours

Introduces students to concepts that form the foundation for the practice of nursing. Student learning is focused on the basic human needs of individuals presented within the framework of the nursing process. Includes basic principles of nutrition, pharmacology, applied physiology, and the role of the nurse which addresses ethical and legal responsibilities. Clinical learning experiences provide an opportunity for students to develop, practice and refine basic nursing skills in both lab and clinical settings. Prerequisites: Current American Heart Association BLS (Health Care Provider) certification; nursing major; Co-requisites: ALH 124, BIO 201, ENG 111, NUR 100, NUR 115

NUR 127 Nursing Across Life Span I 7 credits
4 class hours, 9 lab/clinical hours

Provides students with continuing opportunity to assess the biopsychosocial aspects of individuals throughout the life span. Includes: an introduction to the biopsychosocial aspects of the childbearing/childrearing family through a family-centered approach; exploration of the normal prenatal period and progresses throughout adulthood; common well-defined health problems and developmental needs of persons of all age groups; and common alterations of basic human needs from prenatal through death. Through the use of the nursing process, students further develop the necessary knowledge and skills to provide nursing care to the childbearing/ childrearing family and to individuals experiencing alterations in meeting basic human needs. Selected clinical learning experiences utilize the nursing process in the development and provision of nursing care in structured health settings. Prerequisites: NUR 125
Co-requisites: NUR 117, BIO 211, PSY 101

NUR 195 Clinical Externship **3 credits**
135 clinical hours

Provides nursing students with an opportunity to develop and further refine nursing skills acquired in NUR 125 and NUR 127. This course is an elective for nursing students planning to progress directly to NUR 226 or by permission of the instructor. Clinical learning experiences utilize the nursing process to provide nursing care to clients in structured health care settings. Prerequisite: NUR 127

NUR 226 Nursing Across the Life Span II **9 credits**
5 class hours, 12 lab/clinical hours

Emphasis is placed on a holistic approach to providing nursing care to an individual throughout the life span experiencing common, well-defined health problems. Through the use of the nursing process as the mechanism for the delivery of nursing care, emphasis is given to the restoration maintenance of an individual's biopsychosocial needs. Clinical learning experiences occur in structured health care settings and are correlated with classroom instruction. Prerequisites: NUR 127, NUR 124*, PSY 101. Co-requisites: BIO 218, PSY 207, MAT 125

**For LPNs, this prerequisite must have been successfully completed within three years prior to acceptance into NUR 226.*

NUR 229 Nursing Across the Life Span III **9 credits**
5 class hours, 12 lab/clinical hours

Focuses on a holistic approach to the care of the individual or groups of individuals throughout the life span who are experiencing multiple, common, well-defined health problems. Emphasizes the completion of the role change process as the student prepares to assume the full scope and legal framework of associate degree nursing practice. Students explore the impact of current issues in nursing on the role of the ADN. Clinical learning experiences occur in structured health care settings and are correlated with classroom instruction. Prerequisites: NUR 226

NUT 101 Intro to Nutrition **3 credits**
3 class hours

This course provides an overview of nutrition and wellness promotion. Fundamental concepts of nutrition across the lifespan are introduced, including the relationship of nutrition to health, necessary nutrients for healthy functioning, energy balance and fitness, food safety, and national guidelines, with applications to individuals and groups. Strategies include classroom presentations, nutritional assessments of self and case-study clients, planning of interventions, and evaluation of various nutritional approaches. Self-care strategies are presented, including the use of non-pharmacologic, integrative interventions.

PHI 104 Philosophy of Work **1 credit**
1 class hour

Through a series of readings in poetry, literature and essays, students will study the individual and moral dimensions of work and develop a personal philosophy of work.

PHI 111 Everyday Ethics **3 credits**
3 class hours

An introduction to virtue ethics and how the virtues apply to the dilemmas of everyday life.

PHI 121 Introduction to Philosophy **3 credits**
3 class hours

An introduction to reading, analyzing, and discussing philosophical texts. Students will explore the principal concerns of philosophy, including the limits of our knowledge, the nature of reality, the existence of God and free will, and the relationship between the individual and society. Students will apply philosophical concepts and methods to contemporary problems in the world.

PHI 201 Ethics **3 credits**
3 class hours

An introduction to morality, moral theory and moral thinking. Students will be exposed to basic moral concepts, theory, and reasoning before applying that knowledge to specific moral problems.
Prerequisite: ENG 111

PHI 206 World Religions **3 credits**
3 class hours

World Religions is an introduction to the world's major religions through the study of their founders, beliefs, rituals, practices, sacred texts, and sects.

PHY 107 Introduction Meteorology **3 credits**
3 class hours

This course provides the student with a basic understanding of weather phenomenon and how weather is predicted. Students will master the terminology of weather prediction, explore the water cycle, and how the sun affects weather. The course will also cover atmospheric circulation, cloud formation and identification. Students will learn how to make weather assumptions based on observations of temperature, pressure, humidity, wind direction, and sky cover. Students will also learn how weather data is collected and how forecasters make predictions based on previous and current weather observations. Emphasis on the weather we get in Maine.

PHY 110 Introduction to Astronomy **3 credits**
3 class hours

Designed to acquaint the student with the fundamentals of astronomy, as well as the basic precepts of science. Although helpful, no significant science and/or math background is required, only a spirit of discovery. While building a foundation in astronomy, the student will battle common misconceptions, witness recent breakthroughs, conduct his/her own observations, exercise critical thinking, explore interactive technology and thrill to spectacular images.

PHY 150 Physics **4 credits**
3 class hours, 2 lab hours

Physics is the most basic of sciences. It deals with the behavior and structure of matter. This algebra/trigonometry-based course is designed to acquaint the student with basic physical concepts relating to measurement, the interaction of forces, work and energy, properties of fluids, vibrations and waves, and heat and thermodynamics. Employing a systems approach, unifying principles are applied to four major energy systems: mechanical, fluid, electric, and thermal. The student will read, attend lectures, view demonstrations, participate in class discussions, complete homework exercises in the text, and complete laboratory activities. Prerequisite: MAT 118 or MAT 119

PLH 101 Plumbing Technology **3 credits**
3 class hours

This course will introduce the student to the fundamental principles of plumbing technology. The course stresses quality plumbing installations along with the basic knowledge of how plumbing systems function with relationship to the Maine State Plumbing Code. The course begins with safety, fundamentals of plumbing drainage, venting of the plumbing system, potable water pipe installation, subsurface drainage systems, pipe and fitting identification and several other basic principles of the art of plumbing. Areas to be covered include: hand and power tool safety, pipe and fitting identification, common methods of pipe fitting assembly such as copper, IPS, PEX, and PVC systems, drain waste and vent system fundamentals and sizing, potable water fundamentals, fixture installation and plumbing service.

PLH 109 Plumbing Lab 1 **3 credits**
9 lab hours

Provides hands-on training in three major areas associated with the plumbing career: pipefitting, water pumps and plumbing. The first five weeks begin with the assembly of the common piping systems including copper, IPS, PEX and PVC. The next five weeks are dedicated to the set-up, service and repair of submersible and jet water pumps. The last six weeks will lead the student through installation of basic plumbing systems. Co-requisite: PLH 108

PLH 113 Pipefitting Calculations **3 credits**
3 class hours

Introduces students to pipe fitting mathematics with particular attention given to the plumbing and heating trades. Emphasis is to help the student develop a strong skill in commonly used pipe calculations. This course will particularly help candidates for the Maine plumbing journeymen or master license examination.

PLH 122 Plumbing Code Review **3 credits**
3 class hours

Introduces the student to the Maine State Plumbing Code and explains each chapter in detail. Particular attention will be given to the sizing of DWV, potable and storm water piping systems. This course is designed to be a preparation for the Maine Journeyman's exam. Prerequisites: PLH 108, PLH 109, PLH 113, PLH 115 Co-requisites: PLH 123

PLH 123 Plumbing Lab II **3 credits**
9 class hours

This is a skills based course which gives the student hands on training in many areas of the plumbing and pipe fitting trades. The majority of lab time will be used to develop skills in proper assembly and testing of potable hot and cold water lines, DWV lines, various plumbing fixtures and appliances, domestic hot water sources, and faucet installation and repair. Prerequisites: PLH 101, PLH 109, PLH 113, PLH 115 Corequisite: PLH 122

PLH126 Water Pumps and Water Treatment **2 Credits**
1 Class Hour/2 Lab Hours

This course will introduce students to fundamentals of residential water pumps and water treatment. Review of well types, the hydrological cycle, basic operation of jet and submersible pumps, tank and pump accessories, troubleshooting and a review of Maine laws that apply to installation of water pumps will be the major focus of the water pump portions of this course.

PLH 211 Heating I **6 credits**
3 class hours, 9 lab hours

Introduces the career of a heating technician. Students will gain knowledge of the fundamental process of supplying heat for comfort. The major focus is heating fundamentals, warm air systems, hydronic systems including radiant floor, system sizing and computer software for heat load calculations. Prerequisite: PLH 122, PLH 123 or instructor's permission

PLH 212 Refrigeration and Air Conditioning **2 credits**
1 class hour, 3 lab hours

The course covers the fundamentals of refrigeration and air conditioning. Upon completing the course, students can test for the EPA 608 Certification. The students will be trained to safely use the tools required for the trade. Major topics discussed will be: refrigeration, heat pump installation and service, compressors, controls, refrigerants, along with hemetic systems. Considerable time will be spent on the refrigerant evacuation and re-fill and line testing. Co-requisite: ELE 117

PLH 213 Solid Fuel Equipment **2 credits**
1 class hour, 3 lab hours

This course focuses on the different solid fuel appliances and the proper sizing, installation and service of the equipment for central heating of buildings.

PLH 216 Propane & Natural Gas I **3 credits**
2 class hours, 2 lab hours

Meets the criteria for three fuel gas licenses. Students will study basic principles and practices, appliance servicing, and installation of propane and natural gas equipment. Each section will include examination for state licensing, which is necessary for employment in the field of propane and natural gas in Maine. The coursework consist of a combination of lectures, demonstrations, homework and tests.

PLH 219 Propane & Natural Gas II 3 credits
2 class hours, 2 lab hours

This course is a continuation of PLH 216 and meets the criteria for additional fuel gas licenses. Students will study the basic principles and practices, appliance servicing and installation of propane and natural gas equipment. Each section will include examination for state licensing which is necessary for employment in the field of propane and natural gas in Maine.
Prerequisite: PLH 216

PLH 222 Heating II 5 credits
2 class hours, 9 lab hours

A continuation of PLH 211, covering the following: fuel oil and its application to domestic burners; oil tanks and tank piping; fuel units; combustion theory; chimneys and draft; commercial oil burners; combustion efficiency testing; heating control wiring; heating system design and sizing; and customer satisfaction. Lab time will also be used to properly install control wiring. Prerequisite: PLH 211

PLH 225 Maine Oil & Solid Fuel Code 1 credit
1 class hour

Introduces the student to the laws and rules that apply to all oil and solid fuel burning appliances in Maine. Discussions and lectures will be centered around the State of Maine rules book for the installation of oil and solid fuel burning appliances, National Fire Protection Association pamphlets #31 and #211, and portions of the National Electrical Code. Prerequisite: PLH 211 or instructor's permission

PMM 102 Intro to CNC Operations 2 credits
1 class hour, 3 lab hours

An introductory course in setting up and operating Computer Numerical Control (CNC) mills and lathes, to provide a variety of machined components. This course will focus on maintaining quality and safety standards; keeping records; maintaining equipment and supplies. Program training includes basic CNC operator skills and CNC set-up processes.

PMM 104 Machine Trades Print Reading 1 credit
1 class hour

This is an introductory course in reading and understanding basic mechanical drawings in the machine trades industry. Actual industrial prints prepare the student for the real conditions found in a machine shop. This course will focus on print reading skills, specifically, views, lines, symbols, dimensions & tolerances, and notes. This course will reinforce use of the Machinery's Handbook to reference data and formulas.

PMM 117 CAM for Milling 2 credits
1 class hour, 3 lab hours

This course provides students with an understanding of how to create toolpath for parts requiring prismatic milling. It also includes an introduction to rotary axis indexing, suitable for both 4-axis milling. The student will also be introduced to the ToolStore, providing the basic knowledge required to begin adding user-specific cutting tools, stock, fixtures and setup information to the database. Students will learn how to create toolpath using solid models, focusing on toolpath creation (CAM), with most of the classroom training spent on creating toolpath using solid models, not drawing part geometry (CAD). Importing DXF<DWG & IGES and sketching wire-frame geometry are also covered, but the focus is on machining solids. Pre-requisite: Knowledge of basic CNC machining; proficient with Microsoft Windows

PMM 119 CAM for Turning 2 credits
1 class hour, 3 lab hours

The course provides students with an understanding of how to create toolpath for parts requiring 2-axis turning. The class also introduces students to the ToolStore, providing the basic knowledge required to begin adding user-specific cutting tools, stock, fixtures and setup information to the database. Students will learn how to create toolpath using solid models. Please note that this class is focused on toolpath creation (CAM), with most of the classroom training spent on creating toolpath using solid models, not drawing part geometry (CAD)> Importing DXF, DWG & IGES and sketching wire-frame geometry are also covered, but the focus is on machining solids. Pre-requisite: Knowledge of basic CNC machining; proficient with Microsoft Windows

PMM 120 Intro. to CNC Setup, Programming & Operations 3 credits
1.5 class hours, 4.5 lab hours

This course focuses on computer numerical control (CNC) milling machines. This course provides the fundamental technical information in machining systems, positioning and coordinate systems, as well as part programming, program procedures and basic setup and operation of CNC vertical milling machines. Students will write simple programs to perform contouring and hole-making operations for typical CNC milling machines and perform the required setup and operation to produce parts to print specifications in the college's state-of-the-art CNC lab. Emphasis is placed on developing an understanding of typical G and M codes used in modern CNC controls. Students will be required to perform calculations for speeds and feeds for various tooling. Safe work practices and materials handling will be an integral aspect of the classroom and work environment.
Prerequisite: MTT 113, MTT 115

PMM 212 Geometric Dimensioning & Tolerancing **2 credits**
1 class hour, 3 lab hours

The guidelines for consistent and clear application of dimensions and tolerances are defined by the standards of the American National Standards Institute (ANSI) as written by the American Society of Mechanical Engineers (ASME). This course provides the student with the complete fundamentals of geometric dimensioning and tolerancing (GD&T) concepts as adopted by ANSI and published by ASME. It builds on prior knowledge of prints and machined parts and applies that knowledge to geometric toleranced drawings. Students will learn the terminology and definitions of geometric dimensioning and tolerancing and how to apply its concepts. This comprehensive course will prepare students for ASME's GDTP Certification.
Prerequisite: MTT 113, MTT 115 and PMM 104

PMM 223 Intro. to Precision Metals Mfg. **6 credits**
3 class hours, 9 lab hours

This course offers hands-on experience under work-like conditions and in-depth "live" CNC projects that build on skills acquired in MTT 113, MTT 125, and PMM 120. Set-up of CNC machine tools including the selection of tooling, developing custom work-holding fixtures, manual programming techniques, troubleshooting, calculation and input of offsets, and maintaining quality through a production run are developed beyond the introductory level of PMM 120. An integral part of the instruction will include safe work practices and material handling. Prerequisite: MTT 125, PMM 120; Corequisite: PMM 227

PMM 227 NIMS Lab III **1 credit**
3 lab hours

This course provides additional shop time to develop intermediate competency in programming, setup and operation of CNC mills and lathes, as well as precision measuring methods through the use of a coordinate measuring machine (CMM).
Co-requisite: PMM 223

PMM 231 Advanced Precision Metals Manufacturing **6 credits**
3 class hours, 9 lab hours

This course offers the student intermediate to advanced hands-on experience, under work-like conditions and in-depth "live" CNC projects including 3 and 4 axis operations. Manual programming and CAM software will be used to prepare CNC programs for both mills and lathes. Training in manufacturing process improvement will focus on the methods used by leading firms to eliminate non-value added activities from their manufacturing processes. Machine tool probes will be used to establish machine set-ups, inspect cutting tools and measure machined components. An integral part of the instruction will include safe work practices and material handling. Prerequisite: PMM 223; Co-requisite: PMM 233

PMM 233 NIMS Lab IV **2 credits**
6 lab hours

This course provides additional shop time to develop intermediate competency in programming, setup and operation of CNC mills and lathes, as well as precision measuring methods through the use of a coordinate measuring machine (CMM). This course will prepare students for NIMS Level II (CNC) or other industry certification by completing a NIMS Performance Part(s) or other assigned project(s).Co-requisite: PMM 231

PMM235 Multi-Axis Milling **2 credits**
1 class hour, 3 lab hours

This intermediate Edgecam training course provides insight into effectively using the software for multi-axis CNC milling. This course is geared to users who want to gain a deeper understanding of creating toolpath for multiple setups, multiple parts and rotary axis applications. By learning through hands-on exercises, students will learn software functions for changing work coordinate systems within a program, 4th and 5th axis indexing, using multiple setups within a single part, and machining multiple parts. The course provides the Edgecam user with the software knowledge needed for multi-plane rotary axis and multiple part milling applications.

POL 101 American Government **3 credits**
3 class hours

Introduces the origins and development of the American system of government. Special consideration will be given to the United States Constitution, the powers and limitations of the executive, legislative and judicial branches of government, the political process and the policy-making process.

PSY 101 General Psychology **3 credits**
3 class hours

Introduces the field of psychology as a study of human behavior. Through lecture and discussion in such areas as learning, human growth and development, an introduction of motivation, sensation/perception, personality, emotions, behavior disorders and self and society are presented.

PSY 207 Developmental Psychology **3 credits**
3 class hours

The development of the individual is an exciting process, beginning at birth and continuing through the intricate changes of growth and aging. The study of the life span is also intriguing because each of us, and everyone we care about, is constantly developing. This course therefore includes the biosocial, cognitive and psychosocial domains of human development.
Prerequisite: PSY 101

PSY 209 Abnormal Psychology 3 credits
3 class hours

Students will demonstrate mastery of past and current theoretical perspectives on abnormal behavior. The course will evaluate issues relating to classification, etiology, and treatment of basic abnormal behaviors identified in the diagnostic and statistical manual. Case studies will be examined as they relate to various disorders. Prerequisite: PSY 101

SAE 117 Occupational Safety 1 credit
1 class hour

This course is intended to provide a variety of training on OSHA 1910 General Industry safety and health standards to entry level workers. The class is designed to emphasize hazard identification, avoidance, control and prevention to students. Students successfully completing all of the requirements will be eligible for the 10-hour OSHA certification.

SAE 121 Industrial Safety 3 credits
3 class hours

Designed as a course to review 1910 standards, the causes of industrial and occupational accidents, and preventive measures. This includes governmental codes and regulations, ways to develop company safety and related procedures in areas as lockout/tagout, machine guarding, hazard communications, personal protective equipment and recordkeeping. Students successfully completing all of the requirements will be eligible for the 30-hour Outreach Program Certification card.

SES 129 Office Procedures 3 credits
3 class hours

Includes lectures, discussion and/or experience concerning office-support topics; technical and knowledge; communication, problem-solving, compilations, office-support, employment, and critical-thinking skills. A training/teaching presentation and a program-specific application project are included. Prerequisite: CIS113

SOC 111 Sociology 3 credits
3 class hours

Introduces students to sociology, the "science of society," and its approach to human social life. The course shows students how sociologists conduct research, and it describes the basic concepts and theories sociologists use to explain the social world.

SOC 215 Social Issues and Problems 3 credits
3 class hours

An analytical introduction to contemporary social issues and problems in the United States, with emphasis on the underlying causes of and competing solutions to each issue. Issues to be discussed include abortion, aging, crime and violence, race and ethnic relations, medical care, family dysfunction and overpopulation. Prerequisite: SOC 111 or permission of the instructor.

SPA 101 Elementary Spanish I 3 credits
3 class hours

By using five aspects of language learning...speaking, listening, reading, writing and culture...the student will begin to attain an understanding of and ability to use the Spanish language.

SPA 102 Elementary Spanish II 3 credits
3 class hours

Builds upon the skills learned in SPA 101, allowing students to attain a greater understanding of and ability to use the Spanish language. Prerequisite: SPA 101 or instructor's permission

TEC 112 Building Science I 3 credits
1.5 class hours, 3 lab hours

Introduces students to appropriate materials and methods as found on residential and light commercial construction projects. Units of instruction include: site work, concrete, foundations, masonry, framing systems, and roofing. Environmentally sustainable construction materials will be highlighted.

TEC 123 Building Science II 3 credits
1.5 class hours, 3 lab hours

This course continues to familiarize the student with building construction materials and methods, with an emphasis on sustainable building technology. Students will have practical experience working with a variety of materials and building construction products. Heat loss analysis for a residential or light commercial building will be conducted. Prerequisite: TEC 112

TEC 221 Construction Management 3 credits
3 class hours

Introduces construction specifications, project manuals, contract management, quantity take-off, cost estimating, construction procedures and scheduling. Prerequisite: TEC 123

TTE 251 Trade Internship 1 credit

Provides the student with on-the-job training at an approved worksite in an occupational field directly related to the student's major. At least 45 clock hours must be completed for 1 credit. To qualify for an internship, a student in an associate degree program must have completed 30 credits of course work, have attained a 2.5 GPA, and must be recommended by the department chair and course instructor. *Before registering, students must meet with the course instructor to determine internship site and process paperwork.*

TTE 252 Trade Internship 2 credits

Provides the student with on-the-job training at an approved worksite in an occupational field directly related to the student's major. At least 90 clock hours must be completed for 2 credits. To qualify for an internship, a student in an associate degree program must have completed 30 credits of course work, have

attained a 2.5 GPA, and must be recommended by the department chair and course instructor. *Before registering, students must meet with the course instructor to determine internship site and process paperwork.*

TTE 253 Trade Internship 3 credits
Provides the student with on-the-job training at an approved worksite in an occupational field directly related to the student's major. At least 135 clock hours must be completed for 3 credits. To qualify for an internship, a student in an associate degree program must have completed 30 credits of course work, have attained a 2.5 GPA, and must be recommended by the department chair and course instructor. *Before registering, students must meet with the course instructor to determine internship site and process paperwork*.

WEI 101 Intro to Welding 3 credits
2 class hours, 2 lab hours
This is an introductory welding course that helps students develop a basic knowledge of welding processes. An introduction to gas welding techniques including oxy-acetylene welding, cutting, and plasma cutting is provided. Students are also introduced to the arc welding process. Discussion of equipment and materials used is also provided. Lab activities provide practice in developing an understanding of the equipment, proper selection of the welding process determined by materials being joined, and the differences in technique necessary for welding in different positions. Safe handling of welding equipment and supplies is strongly emphasized as is overall shop safety.

WEI 103 Welding for Automotive Tech 3 credits
2 class hours, 2 lab hours
This is an introductory welding course that helps students develop a basic knowledge of welding processes. An introduction to gas welding techniques include oxy-acetylene welding, cutting and plasma cutting is provided. Students also develop a basic knowledge of the gas metal arc welding (GMA W) process. Discussion of equipment and materials used is also provided. Lab activities provide practice in developing an understanding of the equipment, proper selection of the welding process determined by materials being joined, and the differences in technique necessary for welding in different positions. Safe handling of welding equipment and supplies is strongly emphasized as is overall shop safety.

WEI 113 Thin Metals Welding 3 credits
2 class hours, 2 lab hours
Provides classroom and hands-on training in the welding skills commonly used in automotive collision repair. The course covers the proper safety, setup, and operation of oxyacetylene welding and GMAW welding equipment for welding on the metals used in the manufacturing of automobiles. Students will perform GMAW plug welding, continuous welding, and stitch welding on various metals with a concentration on the thin metal welding in the horizontal, vertical and overhead positions. Students will perform oxyacetylene cutting, heating, brazing and welding. The course includes all elements of the welding module in I-CAR standards.

WEI 133 Electric Welding 3 credits
2 class hours, 2 lab hours
This course helps the student develop basic knowledge and skills necessary to the understanding of welding through a primary focus on arc welding. Discussion focuses on developing an understanding of the different arc welding processes, associated types of equipment and welding materials, and the appropriate selection of welding process as dictated by the materials being joined. Lab activities provide practice in developing basic skills in arc welding processes related to the student's chosen field. The focus is on developing an understanding of equipment operation, proper selection of welding process determined by the material being joined, and the differences in technique for welding in different positions on different thickness materials. Safe handling of equipment and supplies and overall shop safety is strongly emphasized. Prerequisite: WEI 101 or WEI 113 or permission of instructor

WEI 136 Gas Metal Arc Welding and Gas Tungsten Arc Welding 3 Credits
2 class hours, 2 lab hours
This is an introductory welding course that helps students develop a basic knowledge of the Gas Metal Arc Welding and the Gas Tungsten Arc Welding processes. An introduction to G.M.A.W. techniques and G.T.A.W. techniques is provided. Discussion of equipment and materials used is also provided. Lab activities provide practice in developing an understanding of the equipment, proper selection of the welding process determined by materials being joined, and the differences in technique necessary for welding in different positions. Safe handling of welding equipment and supplies is strongly emphasized as is overall shop safety. Prerequisite: WEI 101. Co-requisite: WEI 133

WEI 137 Structural Welding I 3 credits
1.5 class hours, 4.5 lab hours
This course provides students with an understanding of the requirements of the American Welding Society Structural Welding Code D1.1, and A.W.S. 3 – 89 Standard for Certified Welders . The student will be given the opportunity to develop skills in the Shielded Metal Arc Welding process on 3/8 steel plate with E7018 electrodes. Co-requisite: WEI 133

WEI 138 Structural Welding II 3 credits
1.5 class hours, 4.5 lab hours
This course provides the student with the practice time required to prepare for The American Welding Society's Structural Welder Certification. The student will be given the opportunity to further develop the skills in the shielded metal arc welding process using E7018 electrodes. Students will work on 3/8 steel plate in the 3G and 4G positions. Safe handling of equipment, supplies and overall shop safety is strongly emphasized. Prerequisite: WEI 137

WEI 139 Open Root Welding 3 credits
1.5 class hours, 4.5 lab hours
This course is designed to give the student the ability to develop the skills necessary to successfully complete open root welds on mild steel plate in four positions using E6010 electrodes with the shielded metal arc welding process. Safe handling of equipment, supplies and overall shop safety is strongly emphasized. Co-requisite: WEI 138

WPT 110 Safety Fundamentals for Wind Technicians 3 credits
2 class hours, 3 lab hours
Course focuses on understanding safety and risk assessment related to working with wind turbine systems. Topics include evaluation of high angle work considerations, tower rescue systems and procedures along with related electrical safety standards. Lecture discussions and lab activities include evaluation of power industry tasks related to working with automated systems. These include risk mitigation methods such as training requirements and working procedures for electrical hazards, LOTO, confined space, elevated working surfaces, cranes, rigging and tool safety. Course references include OSHA Regulations 29 CFR 1910, 29 CFR 1926, ANSI Z359 and NFPA 70E Standards. Students may earn certifications for Competent Wind Energy Rescue and Rigging Basics upon satisfactory completion of this course. Course requirements: Basic First Aid, CPR, AED certifications and CPT physical assessment.

WPT 114 Introduction to Wind Power Technology 3 credits
2 class hours, 3 lab hours
Students will be introduced to the wind power industry through discussions on technician skill requirements, career opportunities, latest industry trends and challenges, along with an overview of wind turbine systems, and project operations. Classroom discussions and lab activities will include review of wind data resources, wind turbine siting requirements, hands-on exercises with a variety of wind turbine systems and simulation trainers, industrial wiring practices, along with electric motor function and control. Co-requisite: ELS 117

WPT 119 Introduction to Wind Power Technology 3 credits
2 class hours, 3 lab hours
This course provides an understanding of mechanical systems utilized in wind turbine systems. Discussion topics include: mechanical drive systems, shafts and sealing devices, gear systems, and bearings. The course will also cover hydraulic principles necessary to control modern wind turbines such as pumps, actuators, fluid control devices and ancillary systems. Discussion will focus on preventative maintenance practices, which include lubrication requirements, fastener technology, component alignment and vibration testing and monitoring. Some discussions will focus on the use or preventative maintenance data analysis that may be utilized for process improvements through predictive maintenance planning.

WPT 213 Wind Power Control Systems 3 credits
2 class hours, 3 lab hours

Considers systems utilized to control wind turbines: AC and DC motor applications, motor control system applications, automated process controls (PLCs), communication systems, remote access and related farm operations. Topics include: basics of AC & DC motor types and function, motor control system fundamentals, introduction to motor control ladder logic & applications, PLC architecture, I/O device introduction, PLC programming fundamentals and use of wind farm management tools. Course also includes an introduction to communication media fundamentals for Ethernet & optical fiber network applications. Lab exercises provide hands-on activities with basic motor and control applications, automated system applications with PLCs and motor control, introduction to PLC programming, networking basics, along with data storage, transfer and analysis activities. Network activities include hardware assembly, cable installation and related testing equipment.

WPT 214 Wind Power Delivery Systems 3 credits
2 class hours, 3 lab hours
This course considers the elements fundamental to generate electricity and then move that electricity to an end-user. Subjects of study include generators; converters; collection, transmission and distribution of energy; and the architecture of power electronics. Lab activities include use of electrical test instruments for circuit analysis, power quality and insulation resistance along with a variety of exercises on transformer technology and related power system operation. Prerequisite: ELS 117

WPT 215 Troubleshooting Automated Systems 3 credits
2 class hours, 3 lab hours
Course considers troubleshooting and repair of electrical, electronic, hydraulic and mechanical systems utilized to operate wind turbines, wind farm infrastructure and remote equipment operations. Topics include: use of control system information such as fault codes, operations data, production data along with service activity reports to assist with system defect analysis and correction. Discussions also use system diagrams, schematics, manufacturers supplied information and other resources

for troubleshooting and repair activities. Lab exercises provide hands-on activities with control system assembly, troubleshooting and repair. Co-requisite: WPT 216

WTT103 Intro to Water Treatment Tech 3 credits
3 class hours

This course is designed to teach students the skills they need to succeed in the WTT program and at NMCC. It will provide an overview of how to access classroom lectures, assignments and NMCC resources using the latest online technologies and the NMCC Portal Interface. It will provide an introduction into using computer software programs used to complete homework assignments as well as introduce how these programs are used by professionals in the WTT industry. This course will also introduce students to fundamental mathematical and scientific concepts essential to understanding the water and wastewater industry. It will prepare students to succeed in WTT211 Water Treatment II, WTT113 Water Plant Operation and WTT201 Water Distribution Systems.

WTT111 Water Treatment I 3 credits
2 class hours/2 lab hours

The course will begin with a study of the safe drinking water and public health protection through operation of water treatment facilities. Topics include coagulation, flocculation, sedimentation, filtration, disinfection, corrosion control as well as taste and odor control. This course will prepare students for the State of Maine Class I & II Water Treatment Operator License exam. Co-requisite: WTT103 Intro to Water Treatment Technology

WTT113 Water Plant Operation 3 credits
3 class hours

This course is designed to introduce students to the fundamentals required to understand the regulatory requirements and the day-to-day operational processes used by Water Treatment Plants. It will also provide an introduction into various physical and chemical processes used within the industry. This class will introduce the student to documentary and record keeping procedures as well as utilizing computer software and analysis techniques. A brief introduction into the interface between plant operation and water distribution systems is provided. This course will prepare students for the Maine Department of Health and Human Services Water Plant Operator Exam Levels I and II and the Water Distribution Exam Levels I and II.

WTT120 Treatment Plant Safety 3 credits
3 class hours

This course is designed to reinforce the commitment of students to the necessity of Safety Requirements within the Water and Wastewater Treatment Industry. It includes discussion of the hazards from the biological, chemical and physical processes used by the Water/ Wastewater Treatment Industries. This course will assist in the preparation for the Maine Department of Health and Human Services Water Plant Operator, Water Distribution Examinations Levels I and II as well as the Maine Department of Environmental Protection Wastewater Collection System and Wastewater Plant Operator Examinations Levels I and II.

WTT121 Wastewater Treatment & Operations I 3 credits
2 class hours/2 lab hours

The course will provide an introduction to the operation of wastewater treatment plants. The course will begin with a look at the role of treatment plant operators and a general overview of wastewater treatment facilities. Next students will explore treatment processes including bar racks, screens, comminutors, grit removal, sedimentation, trickling filters, rotating biological contactors, activated sludge, stabilization ponds and disinfection. This course will prepare students for the State of Maine Grade I & II Wastewater Treatment Plant Operator Certification. Co-requisite: WTT103 Intro to Water Treatment Tech

WTT124 Wastewater Plant Operation 3 credits
3 class hours

This course is designed to introduce students to the fundamentals required to understand the regulatory requirements and the day-to-day operational processes used by Water Treatment Plants. It will also provide an introduction into various physical and chemical processes used within the industry. This class will introduce the student to documentary and record keeping procedures as well as utilizing computer software and analysis techniques. A brief introduction into the interface between plant operation and wastewater collection systems. This course will prepare students for the Maine Department of Environmental Protection Wastewater Exam Levels I and II.

WTT201 Water Distribution Systems 3 credits
2 class hours/2 lab hours

The course will focus on municipal water distribution systems and will cover hydraulics, piping systems, pumps metering and water storage. This course will prepare students for the State of Maine Class I & II Water Distribution Operator License exam. Prerequisite: WTT111 Water Treatment I

WTT205 Wastewater Collection Systems 3 credits
2 class hours/2 lab hours

The course will cover wastewater collection systems for operators and managers. Topics include an introduction to wastewater collection, safety procedures, pipe inspection and cleaning, maintenance, underground repair and construction. Prerequisite: WTT121 Wastewater Treatment I

WTT211 Water Treatment II **4 credits**
3 class hours/2 lab hours

This course is designed to reinforce an understanding of the regulatory requirements and day-to-day operational processes used by most Water Treatment Plants. It will strengthen the understanding of mathematical and scientific principles required to understand the biologic, chemical and physical processes used in Water Treatment Plants with a review of those processes. The student will review documentary and record keeping procedures as well as utilizing computer software and analysis techniques used in the industry. A brief of the interface between treatment plant operation and water collection systems. This course will prepare students for the Maine Department of Environmental Protection Water Plant Operator Exam Levels I and II and the Water Collection Exam Levels I and II.

WTT221 Wastewater Treatment II **4 credits**
3 class hours/2 lab hours

This course is designed to reinforce an understanding of the regulatory requirements and day-to-day operational processes used by most Wastewater Treatment plants. It will strengthen the understanding of mathematical and scientific principles required to understand the biologic, chemical and physical processes used in Wastewater Treatment Plants with a review of those processes. The student will review documentary and recordkeeping procedures as well as utilizing computer software and analysis techniques used in the industry. A brief of the interface between treatment plant operation and wastewater collection systems. This course will prepare students for the Maine Department of Environmental Protection Wastewater Plant Operator Exam Levels I and II and the Wastewater Collection Exam Levels I and II.

Faculty, Professional Staff & Governance

FULL-TIME FACULTY

Jessica Bartlett, English/Communications. BA, 2004, St. Lawrence University; MS, 2006, Oregon State University

John Belyea, Water Treatment Technology. BS, 1997, University of Central Florida; MS, 1998, University of Central Florida

Heidi Broad-Smith, Early Childhood Education. BS, 1987, University of Maine Presque Isle; MEd, 1995, University of Maine Orono

Angela Buck, Nursing. RN, MSN, FNP-C AAS, 2001, Northern Maine Technical College; BSN, 2007, University of Maine Orono; MSN, 2009, University of Maine Orono; FNP Certification 2009 American Academy of Nurse Practitioners

Pamela Buck, Trade and Technical Occupations Department Chair. AAS, 1982, Vermont Technical College; Licensed Professional Engineer, 2000; BUS, 2008, University of Maine Orono; MS, 2013, University of Southern Maine

Ryan Bugbee, Automotive Technology. Diploma, 2003, Northern Maine Technical College; AAS, 2016, Northern Maine Community College; ASE Master Certified Technician; ASE A9; ASE G1; ASE L1; State of Maine Vehicle Inspection Certified

Reuben Caron, Computer & Network Technology. BS, 2004, University of Maine Orono; MS, 2007, Norwich University

Dwight Clayton, Business Technology Department Chair. AAS, 1995, Northern Maine Technical College; BS, 1997, Husson College; MSB, 2000, Husson College

Michelle Collins, Business Technology. BA, 1996, Dartmouth College; MBA, 1999, University of Maine Orono

Robert Collins, Automotive Collision Repair. Certificate, 1985, Northern Maine Vocational Technical Institute; NIASE certified, 1985; AAS, 1995, Northern Maine Technical College; BS, 1998, University of Southern Maine; 2007, I-CAR Steel Welding Certification; Steel GMA, Welding, Steel Sectioning Certification

Mary Cornelio, RN, MSN, Nursing & Allied Health Department Chair. ASN, 1979, Central Maine Medical Center School of Nursing; BSN, 1991, University of Maine Fort Kent; MSN, 1998, University of Texas at El Paso

Nancy A. Cowett, Accounting. BA, 1988, University of Maine Presque Isle; MSB, 1997, Husson College

Angela Davis, RN, BSN, Nursing. ADN, 2012, Northern Maine Community College; BSN, 2014, University of Maine at Fort Kent
Ryan Drost, Math. BS, 2006, University of Maine Presque Isle; MA, 2013, University of Houston

Susan Dugal, RN, MSN, Nursing. Diploma, 1978, St. Mary's School of Nursing; BSN, 2009, St. Joseph's College; MSN, 2012, Saint Joseph's College

Dean Duplessis, Machine Tool Technology/ Precision Metals Manufacturing. AAS, 1985, Eastern Maine Vocational Technical Institute; BS, 2008, University of Southern Maine; ASME Technologist GDTP; NIMS Level I & II Certified

Andrew Gagnon, EMS Department Chair. AS EMS, 2003, Northern Maine Community College; AS Nursing, 2005, Northern Maine Community College; BSN, 2014, St. Josephs College

Shelli Good, Social Sciences. BA, 2002, University of Maine Presque Isle; MS, 2010, Husson University

Loren Gordon, Plumbing & Heating. AAS, 2016, Northern Maine Community College; Maine State Master Plumbing License, Maine State Master Heating License, Maine State Solid Fuels License, and Universal Refrigeration License; Propane & Natural Gas Technician

Jennifer Graham, English/Communications. BA, 1996, St. Michael's College; MA, 1997, Hollins College; Ed.D., 2018, University of New England

Joan Haines, RN, MSN, FNP-C, Nursing. MLT, 1982, University of Maine at Presque Isle; AS, 1994, Northern Maine Community College; BSN, 2002, University of Maine at Fort Kent; MSN, 2009, University of Maine Orono

Rhonda Harvey, MBA, RHIA, CCS, Medical Coding. AAS, 1990, Northern Maine Technical College; AAS, 1992, Northern Maine Technical College; BS, 2007 Stephens College; MBA, 2008, Stephens College

Karl J. Jackson, Business Technology. AAS, 1982, Northern Maine Vocational Technical Institute; BA, 1993, Husson College; MSB, 1997, Husson College.

Charles H. Kelley, Related Electrical. AAS, 1984, Northern Maine Technical College; BS, 2000, University of Southern Maine; ISA Level III Certified Control System Technician (CCST); Certified Electronic Technician (CET); Licensed Master Electrician; Certified Energy Manager (CEM)

Wayne Kilcollins, Wind Power Technology. AAS, 1983, Vermont Technical College; BSE, 1996, Century University; MBA, 2007, Century University; Certified Trainer: Competent Person & Wind Energy Competent Rescuer. Author: Maintenance Fundamentals for Wind Technicians Textbook and Workbook (Delmar-Cengage Learning); General Electric Certified O&M Technician Level 3; General Electric Certified Power Converter Technician; Fiber Optic Association – Certified Fiber Optic Technician (CFOT), Coast Guard Certified STCW '95 Personal Survival Techniques & HUET Sea Survival.

Emily Knowles, English. BA, 1999, College of St. Joseph; MA, 2014, University of Southern Maine, Stonecoast

Paul LaJoie, Automotive Technology. AAS, 1991, Northern Maine Technical College; BS, 2015, Husson University; ASE-Certified Master Automotive Technician A1-A8; ASE G1; ASE L1; ASE L3; ASE X1; Hybrid/Electric Vehicle Specialist; Certified Class A,B,C,D,E,T Inspection Technician; EPA Section 609 MVAC Certified.

Taylor LeBlanc, CMA, Medical Assisting, BS 2018 Husson University, AAS 2013 Northern Maine Community College

Todd Maynard, Electrical Construction and Maintenance. AAS, 1990, Northern Maine Technical College; BS, 2007, Husson College; State of Maine Master Electrician

Eileen R. McDougal, RN, MS Nursing. AS/ Diploma, 1979, Pine Manor College/NEBH School of Nursing; BSN, 1980, Coe College; MS, 1988, Texas Woman's University; Certified in General Nursing Practice, 1998, ANCC

Eric Pelkey, English. BA, 2001, University of Maine Presque Isle; MA, 2003, University of Rhode Island

Frank Pytlak, Building Construction Technology. BA, 1985, University of Maine Presque Isle

David Raymond, Arts & Sciences Department Chair. BA, 1980, University of Maine Presque Isle; MA 1985, University of Maine; MA, 2001, California State University - Dominquez Hills

Robert A. Rice, Diesel Hydraulics Technology. ASE Master Certified

Trena Soucy, Life Sciences. BS, 2001, University of Maine Orono; MS, 2010, John Hopkins University

Rick Taggett, Structural Welding. Certificate, 1984, Technical Careers Institute; 2012, I-CAR Steel Welding Certification

Shari Ward, Arts & Sciences. BS, 2004, University of Maine Presque Isle; MS, 2011, Montana State University

ADJUNCT FACULTY

Matthew M. Beil, CCEMTP, Emergency Medical Services. EMS Paramedic Certificate, 2002, Northern Maine Technical College; Certificate, 2008, University of Maryland at Baltimore Count

Christopher Bossie, Arts & Sciences. BA, 1994, Bowdoin College; MALS, 2008, Dartmouth College

Amy Bouchard, Nursing & Allied Health. BSN, 1998, University of Maine Orono; MSN, 2000, University of Tennessee

Daryl Boucher, Emergency Medical Services. BSN, 1992, University of Maine Fort Kent; MSN, 2001, St. Joseph's College of Maine, EdD, 2012, Capella University

Jared Carter, Arts & Sciences. BS, 2012, University of Maine at Presque Isle; MS, 2013, University of Maine Orono

Beth Collamore, MD, Emergency Medical Services. BS, 1991, University of Massachusetts; MD, 1997, University of Massachusetts Medical School

Steve Davis, Trade & Technical Occupations. Diploma, 1981, Northern Maine Vocational Technical Institute; State of Maine Master Plumber, State of Maine Master Fuel Board, EPA 608 Certified

Keith Dumond, Trade & Technical Occupations. Diploma, 1997, Eastern Maine Community College

Michael Ehlermann, Trade & Technical Occupations. (US Navy, Retired); Boiler Plant Equipment Mechanic; Air Conditioning Equipment Mechanic Leader for US Navy.

Moriah Erickson, Arts & Sciences. BA, 2010, College of St. Scholastica; MFA, 2013, Fairfield University

Kenneth Ervin, Business Technology. BS, 1996, Franklin Pierce College; MS, 2003 Franklin Pierce College

Nancy Escobar, MSN, CNM, RN Nursing. AAS, 1977, Rockland Community College; BSN, 1996, Florida International University; MSN, 2000, University of Miami

Helena Ford, RN, BSN Nursing. AS, 1993, Nassau Community College; BSN, 2012, Western Governors University; MS, 2013, Western Governors University

William Gerrish, Trade & Technical Occupations. AS, 1987, University of Maine Orono

Warren Grass, Emergency Medical Services. AAS in Emergency Medical Services, 2010, Northern Maine Community College

Michael Hannigan, Arts & Sciences. BA, 1988, St. Joseph's College; PhD, 1998, University of Connecticut

Donald Hanson, Trade & Technical Occupations. AAS, 2002, Northern Maine Technical College; BS, 2004, University of Southern Maine

Kyle Hews, Trade & Technical Occupations. AAS, 2014, Northern Maine Community College; AAS, 2016, Northern Maine Community College

Melissa Ivey, Arts & Sciences. BA, 1993, Clark University; MA, 1995, Boston College; EdD, 2004, University of Sarasota

J.R. Kierstead, Arts & Sciences. BA, 2010, University of Maine Presque Isle

Timothy Levesque, Business Technology. AAS, 2006 & 2009, Northern Maine Community College; BS, 2013, Husson University

Brian McDougal, Trade & Technical Occupations. BSEE, 1972, University of Maine; Master Electrician, 1976; Registered Professional Engineer, 1978; MEd, 1994, Antioch University

Janice McDougal, RN, Arts & Sciences. BA, 1973, Bethel College; BSN, 1982, University of Minnesota; MSN, 1991, University of Minnesota

Scott J. Michaud, CCEMTP, Emergency Medical Services. AAS, 1998, Dyess AFB; Certificate, 2006, Northern Maine Community College; Certificate, 2010, University of Maryland at Baltimore County

Penny Mints, CMA, RDMS (OB/OBGYN), MT (ASCP), Nursing & Allied Health.
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Tina Murphy, CCMA, Medical Assisting, CCMA Certification, US Career Institute 2011

Tammy Nelson, Arts & Sciences. BA, 1985, University of Maine Orono; MATL, 1996, University of Southern Mississippi; MEd, 2007, University of Maine Orono

Jes E. Olson, Business Technology, MBA, 2011 Husson University, BS, 2007 Husson University, AAS, 2006, Northern Maine Community College

Barrett Potter, Business Technology. BA, 1991, University of Maine at Presque Isle; MS, 1992, University of Maine Orono

Alison Reece, Arts & Sciences. BS, 2009, University of Maine at Farmington; BA, 2009 University of Maine at Farmington; MS, 2011, Wheelock University

Susan Shain, Arts & Sciences. BA, 1990, University of Maine Orono; MA, 1996, University of Maine Orono

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David Wyman, Business Technology. AA, 1980, University of Maine at Fort Kent; BS, 1982, University of Maine Orono; AAS, 2002, Northern Maine Community College; MBA, 2010, Husson University

PROFESSIONAL STAFF

Andre Anderson, Asst. Director of Admissions. BS, 2011, University of Maine Fort Kent; Certificate, 2014, National Academy of Sports Medicine

Jon Blanchard, Director of Residential Life. BA, St. Anselm College

Wendy Bradstreet, Director of Admissions. AAS, 1992, Northern Maine Technical College; BA, 1996, University of Maine Presque Isle; MS, 2007, Husson College

Leah Buck, Assistant Dean of Continuing Education. AA, 1988, University of Maine at Presque Isle; BA, 1992, University of Maine at Presque Isle; MSB, 2002, Husson College

Wendy Caverhill, Business Office Manager. BS, Husson University; AAS, Northern Maine Community College

Abby Clark, Administrative Specialist II, Nursing & Allied Health, Emergency Medical Services, and Trade and Technical Departments. BA, 2015, University of Maine Presque Isle

Julie Clark, Accountant I. AAS, 2009, Northern Maine Community College.

Shannon Cook, On Course for College Coordinator. AAS, 1992, Northern Maine Community College; BS, 2009, Husson University

Timothy D. Crowley, President. BA, 1975, University of Southern Maine; MEd, 1977, University of Southern Maine

Courtney Cyr, Administrative Coordinator. AAS, 2011, Northern Maine Community College; AAS 2013 Northern Maine Community College.

Gayle Dickinson, Administrative Specialist III, Student Affairs Office

Kelly Dooner, Administrative Specialist II, Development & College Relations Office.

Dennis Dyer Jr, Commercial Driving Academy Program Coordinator. State of Maine Class A Driver Education Instructor license with Commercial Vehicle Endorsement

William G. Egeler III, Dean of Students. BS, 1976, University of Maine; MSB, 1981, Husson College; Ed.D, 2008, Argosy University

Jarrod Flanders, Information Systems Specialist II. AAS, 2001, Northern Maine Community College.

Nancy Gagnon, Senior Administrative Secretary, Academic Dean's Office. AAS, 2003, Northern Maine Technical College

Peter Goheen, College Security Coordinator. BS, 1997, University of Maine, Presque Isle

Griffin Goins, Associate Director of Development and College Relations. BS, 2008, University of Oregon.

Brian Hall, Assistant Director for Financial Aid. BA, 2013, University of Maine Presque Isle; MBA, 2015, Husson University

Betsy Harris, Registrar. Diploma, 1977, Northern Maine Vocational Technical Institute; AAS, 1986, Northern Maine Technical College

Beth Hummel, Payroll/Human Resources Coordinator. AAS, 1997, Northern Maine Community College; BA, 2006, University of Maine Presque Isle; MBA, 2011, Husson University

J.R. Kierstead, Arts & Science, Instructional Designer. BA, 2010, University of Maine Presque Isle

Barry A. Ingraham, Director of Physical Plant & Technology. AAS, 1990, Northern Maine Technical College; AAS, 1991, Northern Maine Technical College; Certified Novell Administrator, 1996; Master Electrician; BS, 2015, Capella University.

Johna Lovely, Trio/SSS Counselor. AAS, 1994, Northern Maine Technical College; BS, 2002, University of Maine Presque Isle; MS, 2012, Husson.

Carol McCleary, Accountant I. AAS, 1987, Northern Maine Vocational Technical Institute; 1989, Diploma, Northern Maine Vocational Technical Institute.

Laura J. McPherson, Academic Success Center Coordinator. BS, 1986, University of Maine at Presque Isle; M.Ed., 2008, University of New England

Dorothy Martin, Dean of Development & College Relations. BS, 1976, Louisiana College; MEd, 1981, Northwestern State University; Ed.S., 1987, Northwestern State University, Ph.D., 1996, University of Mississippi

Cheryl L. Murchison, Secretary, Trio Office. AAS, 2016, Northern Maine Community College

Tammy L. Nelson, Director of Counseling. BA, 1985, University of Maine; MATL, 1996, University of Southern Mississippi; MEd 2007, University of Maine

Christopher Perry, Information Systems Specialist I. AAS, 2014, Northern Maine Community College.

Nicole Poulin, Admissions Specialist. AAS, 2009, Northern Maine Community College

Tammy Putnam, Accountant I. AAS, 1994, Northern Maine Vocational Technical Institute

Thomas J. Richard, Director of Wellness Center. AAS, 1984, Northern Maine Vocational Technical Institute; BA, 1992, University of Maine at Presque Isle; M.Ed., 1994, Antioch University

Gail Roy, Assistant Dean of Learning Resources. BA, 1985, University of Texas at Austin; MLS, 2002, Southern Connecticut State University

Norma Smith, Assistant Director of Financial Aid. AAS, 1991, Northern Maine Technical College

Robert Smith, Manager of Energy & Information Systems. AAS, 1993, Northern Maine Technical College

Angela Wardwell, Use of Facilities & Test Center Coordinator. AAS, 1989, Northern Maine Technical College

Ruth White, Regional Director, EMBARK. BS, 1977, University of Maine; MSB, 1993, Husson College

Michael Williams, Director of Finance. BS, 1989, University of Maine Orono; Certified Public Accountant, Certified Internal Auditor

Edward Wright, Business & Industry Coordinator. BS, 1992, Louisiana Tech; MBA, 1997, Thomas College.

David Wyman, Senior Programmer Analyst. AA, 1980, University of Maine at Fort Kent; BS, 1982, University of Maine Orono; AAS, 2002, Northern Maine Community College; MBA, 2010, Husson University

GOVERNANCE

The college is governed by the Maine Community College System Board of Trustees. The president of the Maine Community College System is J. Members of the board, their business affiliation and their location are:

William Cassidy (Vice Chair), *President Emeritus*
Washington County Community College
Standish

Patricia Duran, *Superintendent of Schools*
Hermon School District
Hermon

Jean Ginn Marvin (Chair), *Innkeeper*
Nonantum Resort
Scarborough

Laurence Grondin, *Partner/Aggregate Manager*
R.J. Grondin & Sons
Scarborough

Kimberly Lindlof, *President & CEO*
Mid-Maine Chamber of Commerce
Fairfield

Beth Anne Lorigan, *Superintendent*
Jonesport-Beals School District
Brewer

David MacMahon, *Former President and CEO*
Maine Machine Products Company
Poland

Shawn Moody, *President*
Moody's Collision Centers
Gorham

Robert Moore, *President and CEO*
Dead River Company
Cumberland

Paula Silsby, *Former U.S. Attorney for Maine*
Portland

Emily Smith, *Manager/Partner - President*
Smith's Farm
Presque Isle

Michael Thibodeau, *Accounting Manager*
MMG Insurance Company
Presque Isle

Nicki Fowlie, *Student Trustee*
Appleton

Robert Hasson, *Commissioner (Ex officio, voting member)*
Maine Department of Education

John Butera, *Commissioner (Ex officio, non-voting member)*
Maine Department of Labor

The Maine Community College System office is located at 323 State Street, Augusta, Maine 04330.
The telephone number is (207) 287-1070.

Academic Calendar

NORTHERN MAINE COMMUNITY COLLEGE
ACADEMIC CALENDAR 2018 - 2019

FALL SEMESTER 2018

August	27	First Day of Classes
	31	End of Add/Drop*
September	3	Labor Day (No Classes, Offices Closed)
October	8 - 9	Columbus Day (No Classes, Offices Closed Oct 8)
November	12	Veterans' Day Observed (No Classes, Offices Closed)
	21-23	Thanksgiving Break (No Classes, Offices Closed Nov 22 & 23)
December	14	Classes End
	17	Grades Due by Noon

SPRING SEMESTER 2019

January	9	First Day of Classes
	15	End of Add/Drop*
	21	Martin Luther King Holiday
February	18-22	Winter Break (No Classes)
April	1 - 5	Spring Break (No Classes)
	5	Patriots' Day (No Classes)
May	7	Last Day of Classes
	9	Grades Due by Noon
	10	Graduation

All day and evening classes will meet on all scheduled days unless designated a No Class day.

* If you drop a class after the end of the add/drop period, you will be charged tuition and fees for that class. See your academic advisor if you have questions.

NORTHERN MAINE COMMUNITY COLLEGE
ACADEMIC CALENDAR 2019 - 2020

FALL SEMESTER 2019

August	26	First Day of Classes
	30	End of Add/Drop*
September	2	Labor Day (No Classes, Offices Closed)
October	14 & 15	Columbus Day (No Classes, Offices Closed Oct 8)
November	11	Veterans' Day Observed (No Classes, Offices Closed)
	27-29	Thanksgiving Break (No Classes, Offices Closed Nov 28 & 29)
December	13	Classes End
	16	Grades Due by Noon

SPRING SEMESTER 2020

January	8	First Day of Classes
	15	End of Add/Drop*
	20	Martin Luther King Holiday
February	17-21	Winter Break (No Classes)
March	30-	
April	3	Spring Break (No Classes)
	20	Patriots' Day (No Classes)
May	5	Last Day of Classes
	7	Grades Due by Noon
	8	Graduation

All day and evening classes will meet on all scheduled days unless designated a No Class day.

* If you drop a class after the end of the add/drop period, you will be charged tuition and fees for that class. See your academic advisor if you have questions.

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FOR MORE INFORMATION

Main Number		**(207) 768-2700**	
President	Timothy Crowley	768-2812	
Academic Dean			
Administrative Secretary	Nancy Gagnon	768-2812	
Dean of Students	William Egeler	768-2792	
Dean of Development and College Relations	Public Information	Dottie Martin	768-2806
Associate Director	Griffin Goins	768-2809	
Foundation/Inst'l Advancement Asst.			
Director of Finance	Michael Williams	768-2712	
Asst. Dean of Continuing Ed.	Leah Buck	768-2768	
Director of Admissions	Wendy Bradstreet	768-2786	
Asst. Director of Admissions	Andre Anderson	768-2789	
Admissions Specialist	Nicole Poulin	768-2785	
Director of Financial Aid	Norma Smith	768-2790	
Assistant Director for Financial Aid	Brian Hall	768-2707	
Registration/Placement Clerk	Gayle Dickinson	768-2787	
Registrar/Affirmative Action Officer	Betsy Harris	768-2791	
Director of Residential Life	Jon Blanchard	768-2795	
Human Resource/Payroll	Beth Hummel	768-2739	
Bookstore Annex/College Store	Becky Maynard	768-2715	
Asst. Dean of Learning Resources	Gail Roy	768-2734	
Library Circulation Desk		768-2718	
Director of Physical Plant & Technology	Barry Ingraham	768-2706	
Info. Support Specialist	Robert Smith	768-2851	
Computer Programmer	David Wyman	768-2705	
Business Manager	Wendy Caverhill	768-2708	
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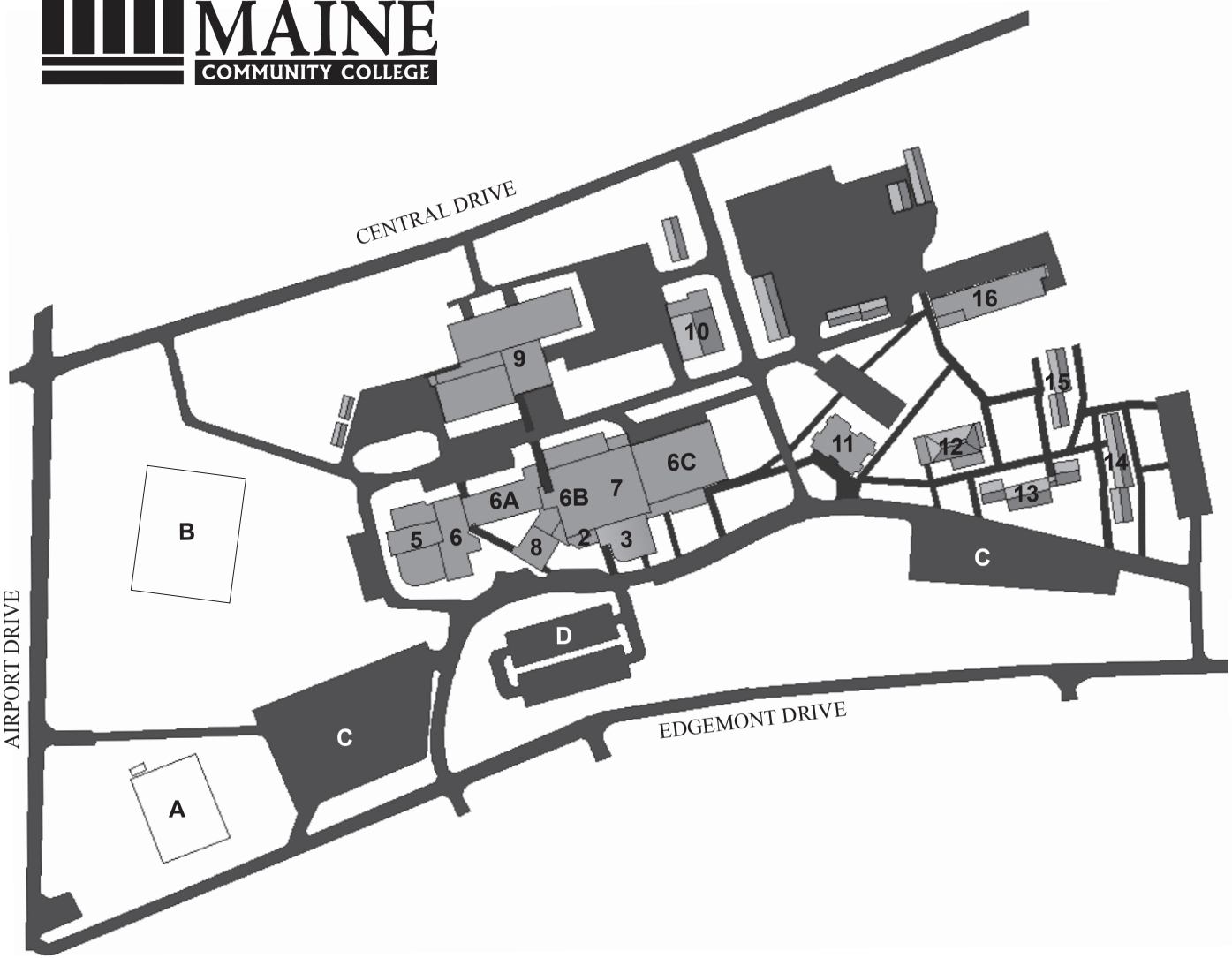
Business Tech. Dept.	Dwight Clayton	768-2738	
EMS Department	Andrew Gagnon	768-2753	
Nursing & Allied Health Dept.	Mary Cornelio	768-2746	
Trade & Technical Occupations Dept.	Pam Buck	768-2763	
Health Center	Linda Mastro	768-2804	
Counseling Office/TRIO	Tammy Nelson	768-2747	
Counselor	Johna Lovely	768-2829	
Student Advisor			
Staff Assistant	Cheryl Murchison	768-2839	
EMBARK	Ruth White	768-2856	
On Course for College	Shannon Cook	768-2771	
Testing Center & Facilities Use	Angela Wardwell	760-1125	
Off-Campus Courses	Houlton	521-3100	

For a more complete listing of employee phone numbers, including faculty, please see your Student Handbook or visit ***nmcc.edu***

NORTHERN MAINE COMMUNITY COLLEGE



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