PARAMEDIC TECHNOLOGY

The Paramedic Technology Certificate program is designed to provide current basic and/or advanced emergency medical technicians, with one year of work experience or 75 documented patient contacts, the opportunity to advance to paramedic level certification. The curriculum has been designed to meet or exceed the content and competency of the latest edition of the National Emergency Medical Services Education Standards for Paramedics. These standards provide a detailed framework that prepares students to take the written and psychomotor National Registry of EMTs Paramedic Exam.

PARAMEDIC TECHNOLOGY (PAC) (SELECTIVE)

The Paramedic Technology Certificate program will seek programmatic accreditation through the Commission on Accreditation of Education Programs for Emergency Medical Services Professions (CoAEMSP) and the Massachusetts Office of Emergency Medical Services.

The Mount Wachusett Community College Paramedic Technology Certificate program has been issued a Letter of Review by the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP Executive Office). This letter is NOT a CAAHEP accreditation status. It is a status signifying that a program seeking initial accreditation has demonstrated sufficient compliance with the accreditation standards through the Letter of Review Self Study Report (LSSR) and other documentation. Letter of Review status is recognized by the National Registry of Emergency Medical Technicians (NREMT) for eligibility to take the NREMT’s Paramedic credentialing examination(s); however, it is NOT a guarantee of eventual accreditation.

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FAX 214-703-8992
www.coaemsp.org (http://www.coaemsp.org/)

**Year 1**

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<th>Fall</th>
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<td>BIO 152</td>
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<td>HCC 220</td>
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<td>Summative Paramedicine Review</td>
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<td>HCC 221</td>
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<td>Capstone Paramedic Field Internship</td>
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| Total Credits: | 48 |

1  **BIO 203 Anatomy and Physiology I** (formerly BIO 199) and **BIO 204 Anatomy and Physiology II** may be taken in place of **BIO 152 Essentials of Anatomy and Physiology**. Grade must be a C+ or better.

2  **PAC students must complete HCC 221 with a grade of B- or better.**

Campus

Offered at the Gardner campus. The program will be offered in the evening and some Saturdays.
Requirements for consideration
All applicants must have evidence of current Basic and/or advanced EMT certification. A minimum of one year of work experience or 75 documented patient contacts as an EMT. See Selective Program Requirements for Paramedic Technology Certificate Program (http://catalog.mwcc.edu/admissions/selectiveprogramrequirements/paramedictechnology/) for specific details or refer to the Paramedic Technology Certificate application (http://mwcc.edu/admissions/selective/) for complete details.

Student Success Tips
Because of an extensive classroom/clinical commitment, students are encouraged to complete some of the general education requirements prior to beginning paramedic courses. Students are expected to have proficient computer skills and the ability to access the internet via desktop/laptop computer or tablet. Internet access may be from home or through a public site, such as a local public library, public college or at any Mount Wachusett Community College campus.

Special requirements
Applicants must meet all requirements for consideration before entering the program. Admitted students must meet technical standards and additional requirements including immunizations; CPR certification; liability insurance; health insurance; and a Criminal/Sexual Offender Records Information (CORI/SORI) check; fingerprinting; drug testing. Some of these may be done at the student’s expense. (See Selective Program Requirements for Paramedic Technology Certificate Program (http://catalog.mwcc.edu/admissions/selectiveprogramrequirements/paramedictechnology/).)

Please note: Marijuana, though legal in Massachusetts, is recognized as a controlled substance by the federal government. Marijuana use whether for medicinal or recreational purposes will lead to a positive drug test; making the student ineligible to attend a practicum site.

Please note: All BIO and HCC courses require a grade of B- or better to be eligible for promotion to the next level. Credits must be completed no more than ten years prior to the program's application deadline.

Career options/Earning potential

PROGRAM STUDENT LEARNING OUTCOMES FOR PAC
Upon successful completion of the Paramedic Technology Certificate students will be able to:

1. Demonstrate personal behaviors consistent with professional and employer expectations of an entry-level paramedic
2. Demonstrate technical proficiency in all skills necessary to fulfill the role of an entry level paramedic
3. Comprehend, apply and evaluate information relative to the role of an entry level paramedic
4. Demonstrate a passing score on the National Registry written and practical exams

TECHNICAL STANDARDS FOR PAC

1. Comprehend textbook material at the 11th grade level.
2. Communicate and assimilate information either in spoken, printed, signed or computer voice format.
3. Gather, analyze and draw conclusions from data acquired from patient treatment.
4. Stand for a minimum of two hours.
5. Walk for a minimum of six hours, not necessarily consecutively.
6. Stoop, bend, and twist for a minimum of 30 minutes at a time and be able to repeat this activity at frequent intervals.
7. Lift heavy loads (patients or equipment) that may exceed 100 pounds.
9. Manipulate gauges and valves associated with, for example, oxygen delivery.
10. Manipulate small devices such as syringes, IVs, resuscitation equipment, etc.

11. Read measurement units with or without corrective lenses.

12. Identify behaviors that would endanger a person’s life or safety and intervene quickly in a crisis situation with an appropriate solution.

13. Remain calm, rational, decisive, and in control at all times, especially during emergency situations.

14. Exhibit social skills appropriate to professional interactions.

15. Maintain cleanliness and personal grooming consistent with close personal contact.

16. Function without causing harm to self or others if under the influence of prescription or over-the-counter medications.

HCC 111. Emergency Medical Technician I (Evening Only). 4 Credits.
This is the basic course for Emergency Medical Technician/Ambulance that follows the guidelines outlined by the United States Department of Health Education and Welfare in conjunction with the National Traffic Safety Administration, Department of Transportation. This is a lecture, discussion, demonstration, and practical application of the knowledge and skill necessary to care for individuals who have life-threatening emergencies and injuries. This is the first half of the requirement for certification. Prerequisites: ENG 098, FYE 101, RDG 098, or placement. Evening only.

HCC 112. Emergency Medical Technician II (Evening Only). 4 Credits.
This is a continuation of EMT Emergency Medical Technician I, dealing with the care of individuals who have common medical emergencies, childbirth, problems of children as patients, lifting and moving patients, environmental emergencies, and extrication from automobiles. This course is the second half of the requirement for certification. Prerequisite: HCC 111 with a C grade or higher. Evening only.

HCC 201. Paramedicine I. 3 Credits.
This course is the first course designed for Emergency Medical Technicians (EMT) with at least one year as an EMT Basic or Advanced to obtain certification/licensure as a paramedic. Course concepts which will be taught to the National EMS Education Standards for paramedics will include: the history of EMS systems and development, workforce safety and wellness, EMS/EMD communications, life span development, medical/legal, documentation, therapeutic communications and public health. After completion of this course, the student will understand the origins and present-day structure of emergency medical care delivery systems. The paramedic’s roles and responsibilities and his or her relationship to the emergency medical services (EMS) system are explained, as well as the paramedic’s role in the quality-improvement process. Other EMS provider levels are described. The foundations necessary for being a competent, effective, caring, and ethical paramedic are presented. The interrelationships of the National Highway Traffic Safety Administration’s components of the EMS system are outlined, as well as the paramedic’s impact on research, data collection, and evidence-based decision making. The paramedic’s responsibilities as a student and a practitioner are also studied. Adherence to the attendance policy and completion of this course with a final grade of B- or better must be achieved in order to advance in the PAC program. Prerequisites: ENG 098, RDG 098 and FYE 101 or placement; HCC 111, HCC 112 or current State or National EMT Certification from another Accredited EMT Training Program and 1 year of experience/or 75 patient contacts; BIO 152, HCC 202, HCC 203 (corequisites). Fall.

HCC 202. Paramedicine II. 4 Credits.
This course is designed to be taught to the National EMS Education Standards for paramedics. Upon completion of this course, the student through didactic, critical thinking group assignments and laboratory skills demonstration and simulations will be able to describe and integrate scene and patient assessment findings with epidemiology and pathophysiology to form a field impression, to use clinical reasoning to develop a list of differential diagnosis and modify the assessment to formulate a treatment plan. These sections will include scene size up, primary survey, history taking, secondary assessment, use of monitoring and diagnostic devices, reassessment and integration to assessment findings to medicine. They will understand the significance and characteristics of respiratory emergencies in infant, child, and adult populations. Students should be able to demonstrate a fundamental comprehension of the following topics: respiratory anatomy and physiology, pathophysiology, signs and symptoms of various respiratory etiologies (eg, asthma, chronic obstructive pulmonary disease, pneumonia), and the assessment and management necessary to provide basic and advanced care in the prehospital setting. Students will then learn airway management, respiration, and artificial ventilation which integrates complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of ensuring a patent airway, adequate mechanical ventilation, and respiration for patients of all ages. Adherence to the attendance policy and completion of this course with a final grade of B- or better must be achieved in order to advance in the PAC program. Prerequisites: ENG 098, RDG 098, FYE 101 or placement; HCC 111, HCC 112; BIO 152, HCC 201, HCC 203 (corequisites). Fall.
HCC 203. Paramedicine III. 3 Credits.
This course will be taught to the National EMS Education Standards for Paramedics. After completion of the course the student will have an understanding of pathophysiology as it pertains to cellular changes in response to stressors. The understanding of what happens when the cellular system can no longer maintain homeostasis is a key component of patient evaluation and treatment. Medication administration includes fluids and electrolytes—balanced and imbalanced—and the processes of osmosis and diffusion, discusses the various types of IV solutions used in the prehospital setting and the techniques of IV therapy and intraosseous infusion. Describes the mathematical principles used in pharmacology and for calculating medication doses (bolus and maintenance infusion). Paramedics administer medication in different forms and a discussion of these routes for administering medications. Childbirth and pregnancy are normally occurring states, but they are not without potential complications, including maternal death and fetal death. With the advent of modern medicine, maternal and infant mortality rates have been significantly reduced, and close medical monitoring usually discovers problems well before childbirth. Finally students should be able to recognize behaviors that are associated with risk to providers, the patient, or others. They should be able to discuss medical/legal concerns of the treatment and transport of the patient having a psychiatric emergency. Students should be able to identify situations when restraints may be justified and whether chemical or physical restraint is the preferred method. Discuss potential causes of behavioral emergencies and medications that may be used in the treatment of psychiatric disorders. Describe the assessment process and safe management of the patient having a psychiatric emergency. The attendance policy must be followed and completion of this course with a final grade of B- or better must be achieved in order to advance in the PAC program. Prerequisites: ENG 098, RDG 098 and FYE 101 or placement; HCC 111, HCC 112; BIO 152, HCC 201, HCC 202 (corequisites). Fall.

HCC 211. Paramedic Pharmacology. 3 Credits.
This course taught to the National Educational Standards for Paramedics integrates comprehensive knowledge of pre hospital pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient. Medication administration is a defining element of paramedic clinical practice. Paramedics use the science of pharmacology in a variety of ways, course content includes medication safety, medication legislation, naming, classifications, schedules, pharmacokinetics, storage and security, autonomic pharmacology, metabolism and excretion, mechanism of action, phases of medication activity, medication response relationships, medication interactions and toxicity. This course will conclude with an overview of the application of pharmacology to patients medical and trauma conditions. Adherence to the attendance policy and completion of this course with a final grade of B- or better must be achieved in order to advance in the PAC program. Adherence to the attendance policy and completion of this course with a final grade of B- or better must be achieved in order to advance in the PAC program. Prerequisites: BIO 152, HCC 201, HCC 202, HCC 203 with a B- or higher; HCC 212, HCC 213, HCC 214 (corequisites). Spring.

HCC 212. Cardiology. 4 Credits.
Course concepts which will be taught to the National EMS Education Standards for Paramedics. Upon course completion the students will be able to describe the anatomy and physiology of the cardiovascular system as well as discuss epidemiological and pathophysiological conditions that impact this system. Students will be able to apply various patient presentations, integrate assessment findings, formulate a field impression, and implement a comprehensive treatment plan for management of these conditions involving the cardiovascular system. They will be able to recognize signs and symptoms of common cardiovascular conditions and disorders, demonstrate relevant assessment techniques for cardiac function, perform diagnostic testing of cardiac status, and manage patients using techniques and skills for cardiovascular emergencies. Students will be able to discuss pathophysiology, risk factors, and common medications that may be seen in the cardiovascular emergency patient. They will be able to safely perform interventions and treatments for patients having a cardiovascular emergency. Students must successfully complete the American Heart Association Advanced Cardiac Life Support Course at the end of this program in order to go to Clinical 2. Prerequisites: BIO 152, HCC 201, HCC 202, HCC 203 with a B- or higher; HCC 211, HCC 213, HCC 214 (corequisites). Spring.

HCC 213. Medical Emergencies. 3 Credits.
The course concepts will be taught to the National EMS Education Standards for Paramedics. Upon course completion the students will be able to discuss epidemiological and pathophysiological conditions that impact these systems. Students will be able to apply various patient presentations, integrate assessment findings, formulate a field impression, and implement a comprehensive treatment plan for management of medical emergencies related to the following systems: respiratory, neurological, endocrine, abdominal and gastrointestinal, diseases of the ears, eyes, nose and throat, genitourinary and renal systems, hematologic, immunologic, toxicology, infectious diseases, OB/GYN and psychiatric emergencies and environmental emergencies. Adherence to the attendance policy and completion of this course with a final grade of B- or better must be achieved in order to advance in the PAC program. Prerequisites: BIO 152, HCC 201, HCC 202, HCC 203 with a B- or higher; HCC 211, HCC 212, HCC 214 (corequisites). Spring.

HCC 214. Paramedicine Clinical I. 3 Credits.
Students will complete a minimum of 100 hours in a hospital/clinical or lab setting. Student will participate in instruction within the clinical experience under the supervision of a preceptor. Clinical rotations will be completed in the following areas: psychiatric, labor and delivery and the OR anesthesia department. Students must document and complete all classroom work, clinical time and...
skills performed to the complete program requirements. In addition the student must complete all of the minimum number of clinical hours and skills as outlined in the clinical manual. Each clinical rotation has different hours that are assigned to the students so as a result after meeting the minimum hours and skills the student must complete in class Clinical and/or lab sessions to achieve 100 hours. Adherence to the attendance policy and completion of this course with a final grade of B- or better must be achieved in order to advance in the PAC program. Prerequisites: HCC 211, HCC 212, HCC 213 (corequisites). Spring.

HCC 215. Special Populations/EMS Operations. 1 Credit.
This course will be taught to the National Education Standards for Paramedics and upon course completion the students will be able to discuss epidemiological and pathophysiological conditions that impact these systems. Students will be able to apply various patient presentations, integrate assessment findings, formulate a field impression, and implement a comprehensive treatment plan for management of medical emergencies related to the following special patient populations including obstetrics, neonatal care, pediatrics, geriatrics and patient with special challenges. Students will develop an understanding of the anatomy, physiology, psychological development differences within these age groups. Students will demonstrate a foundational understanding of the various issues that are associated with the aging process, including physiological, psychological, and social changes that accompany advanced age. Students will develop a working understanding of Hazardous Materials Awareness, crime scene safety and awareness, emergency transportation and patient handling, triage / MCI, and terrorism response. Adherence to the attendance policy and completion of this course with a final grade of B- or better must be achieved in order to advance in the program. Prerequisites: BIO 152, HCC 201, HCC 202, HCC 203 with a B- or higher; Corequisites include HCC 211, HCC 212, HCC 213, HCC 214. Spring.

HCC 216. Paramedicine Clinical II. 5 Credits.
Students will complete a minimum of 200 hours in a hospital/clinical setting. Student will integrate instruction within the clinical experience under the supervision of a preceptor. Clinical rotation will be conducted in a variety of medical-related facilities critical care areas including emergency division intensive/critical care units and pediatric units. Several in class days will be scheduled to evaluate students clinical performance in the laboratory setting. Students must document all clinical time and complete program requirements. Students will demonstrate satisfactory performance of all program requirements and be successfully signed off by the program medical director at the end of this course. Adherence to the attendance policy and completion of this course with a final grade of B- or better must be achieved in order to advance in the PAC program. Prerequisites: HCC 214 with a B- or higher; HCC 217 (corequisite). Summer.

HCC 217. Trauma. 3 Credits.
This course will be taught to the National Standards for Paramedic Training and will prepare the student for clinical and field internships. Students will be able to integrate comprehensive knowledge of trauma systems, mechanisms of injury, the causes, pathophysiology and basic and advanced management of traumatic injuries to the following areas: Soft tissue trauma and bleeding, burns, face and neck trauma, head and spine trauma, chest trauma, abdominal and genitourinary system trauma, orthopedic and environmental trauma. Students must also successfully complete and pass the National Association of EMT’s PreHospital Trauma Life Support Course. Prerequisites: HCC 211, HCC 212, HCC 213, HCC 214 with a B- or higher; HCC 216 and successful completion of PHTLS (corequisites). Summer.

HCC 220. Summative Paramedicine Review. 4 Credits.
Students will be able to apply various patient presentations, integrate assessment findings, formulate a field impression, and implement a comprehensive treatment plan for management of medical and traumatic emergencies by completing the card carrying certification courses and their objectives. The student will take the NREMT Advanced Medical Life Support, AHA Pediatric Advanced Life Support, Neonatal Resuscitation Program, NREMT Geriatric EMS and NREMT Tactical Emergency Casualty Care program certifications. In addition, the summative course will review all materials that have previously covered in the paramedic program to prepare the students for taking the National Registry of EMT’s – Paramedic Exam. This review will be a cooperative program of written review, scenario-based practical review, and final terminal competencies with the program medical director. Prerequisites: HCC 201, HCC 202, HCC 203, HCC 211, HCC 212, HCC 213, HCC 214, HCC 215, HCC 216, HCC 217 with a B- or higher; HCC 221 (corequisite). Fall.

HCC 221. Capstone Paramedic Field Internship. 5 Credits.
Students will apply theory and acquired clinical skills while performing pre-hospital treatment under the supervision of experienced, certified paramedics during 250 hours of field internship. Students will complete 30 ALS patient contacts. The first 5 patient contacts will be considered orientation shifts and will not count as team leads. The remaining 25 of these patient contacts must be as a successful team leader. ALL classroom, lab, and clinical elements have been completed. Students will demonstrate satisfactory performance of all program requirements and be successfully signed off by the program medical director at the end of this course. Adherence to the attendance policy and completion of this course with a final grade of B- or better must be achieved in order to advance in the PAC program. Prerequisites: HCC 216 and HCC 217 with a B- or higher; HCC 220 (corequisite). Fall.