

PARAMEDIC TECHNOLOGY

The Paramedic Certificate Program (PAC) at Mount Wachusett Community College is a comprehensive entry level program which at its completion will allow the student to sit for the National Registry of Emergency Medical Technicians Paramedic written exam. Upon successful completion of that exam, the student may apply for certification in Massachusetts or any other state that accepts the National Registry Paramedic Certification as long as they meet the individual states entrance requirements. Once the paramedic student graduates from our certificate program and obtains their paramedic certification, they have the option to attend the MWCC Paramedic Program Associate Degree in Paramedicine Program if the student chooses to advance their training and earn an Associate Degree in Paramedicine (PAD).

PARAMEDICINE (PAD)

Paramedics are responsible for providing the highest level of Prehospital Emergency Care. Mount Wachusett Community College is now offering an associate degree in Paramedicine option for students that wish to continue their education after completing the MWCC Paramedic Certificate Program and obtaining their paramedic certification. This program is being offered in addition to our traditional certificate program for students who wish to continue their paramedic education. The Paramedicine Associate of Science degree will build on our traditional paramedic certificate program with two additional EMS courses in EMS Leadership and critical care to further apply the knowledge of paramedicine in the scope of the overall healthcare system and understand the paramedic’s role in the community as a provider, educator, and leader. Additionally, the student will learn the role paramedics can play in the EMS leadership and advanced paramedic care across all EMS Systems.

**This AS Degree in Paramedicine is an option for students to continue their education after successful completion of the traditional Paramedic Technology certificate program (HCC 201 through HCC 221).

Prerequisite Semester

Summer

ENG 101	College Writing I	3
BIO 152	Essentials of Anatomy and Physiology	4
MAT 142 or 143	Mathematics for Healthcare (or Statistics)	3

Year 1

Fall

HCC 201	Paramedicine I	3
HCC 202	Paramedicine II	4
HCC 203	Paramedicine III	3
Social Science Elective ¹		3

Spring

HCC 211	Paramedic Pharmacology	3
HCC 212	Cardiology	4
HCC 213	Medical Emergencies	3
HCC 215	Special Populations/EMS Operations	1
HCC 217	Trauma	3

Summer

HCC 218	Paramedic Clinical Internship	8
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Year 2

Fall

HCC 220	Summative Paramedicine Review	4
HCC 221	Capstone Paramedic Field Internship ²	5
ENG 102	College Writing II	3

Spring

Humanities Elective ³		3
Liberal Arts and Sciences Elective		3
HCC 222	EMS Leadership	3
HCC 223	Concepts in Advanced Paramedicine	5

Total Credits: 71

¹ Social Science Electives: See Elective Courses by Abbreviation (<http://catalog.mwcc.edu/electivecoursesbyabbreviation/>).

² Student eligible for NREMT paramedic certification after successful completion of HCC 221.

³ Humanities Electives: See Elective Courses by Abbreviation (<http://catalog.mwcc.edu/electivecoursesbyabbreviation/>).

⁴ PAD students must complete all HCC courses with a grade of B- or higher.

Career options/Earning potential

For career options, please click here. (<https://mwcc.emsicc.com/careers/paramedic/?region=25%20Mile%20Radius%20Around%20Gardner,%20MA&radius=>)

PARAMEDIC TECHNOLOGY (PAC) (SELECTIVE)

The Paramedic Certificate Program at Mount Wachusett Community College is a comprehensive entry level program which at its completion will allow the student to sit for the National Registry of Emergency Medical Technicians Paramedic written certification exam. Upon successful completion of that exam, the student may apply for certification as a paramedic in Massachusetts or any state that accepts the National Registry Paramedic Certification as long as they meet those states entrance requirements, please check with your individual state before applying.

The 21st Century Paramedic is an allied health professional whose primary focus is to provide advanced emergency medical care for critical and emergent patients who access the prehospital emergency medical system. The Paramedic possesses the complex knowledge and skills necessary to provide patient care and transportation. Paramedics function as part of a comprehensive EMS response, under medical oversight and perform interventions with the basic and advanced equipment found on an ambulance.

Students will learn life-saving techniques that including bringing hospital care to the side of the critically sick or injured patient. Paramedics provide the highest level of pre-hospital care and treatment in some of the most exciting and challenging environments. These include treatment of serious cardiac conditions, defibrillation, medication administration, pharmacology, advanced assessment and airway techniques including surgical airways, intravenous and interosseous therapy and the MWCC Paramedic Program utilizes the latest technology to offer training in prehospital EFAST Ultrasound and ventilator use using high tech simulation, just to name a few. The MWCC Paramedic Certificate Program will ensure the paramedic student develops essential critical thinking, problem solving abilities and all the psychomotor skills necessary to take and pass the National Registry of Emergency Medical Technicians Paramedic Certification Exam and to be a successful and competent paramedic in the field.

The Mount Wachusett Community College Paramedic Program is a fully accredited by the Massachusetts Office of Emergency Medical Services as an Authorized Training Center in Massachusetts and nationally by The Commission on Accreditation of Allied Health Programs (CAAHEP). In addition, MWCC is also an authorized training center for the National Association of EMT's training programs, which we include in your paramedic training.

Please review our certificate program requirements below, if you have specific questions about the paramedic program content, please contact the program director at plaitinen@mwcc.mass.edu. Please direct all questions specific to admissions the MWCC admissions office.

Year 1		Credits
Fall		
BIO 152	Essentials of Anatomy and Physiology ¹	4
HCC 201	Paramedicine I	3
HCC 202	Paramedicine II	4
HCC 203	Paramedicine III	3
ENG 101	College Writing I	3
Spring		
HCC 211	Paramedic Pharmacology	3
HCC 215	Special Populations/EMS Operations	1
HCC 212	Cardiology	4
HCC 213	Medical Emergencies	3
HCC 217	Trauma	3
Summer		
HCC 218	Paramedic Clinical Internship	8
Year 2		
Fall		
HCC 220	Summative Paramedicine Review	4
HCC 221	Capstone Paramedic Field Internship ²	5
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/paramedicechnology/>) for specific details or refer to the Paramedic Technology Certificate application (https://mwcc.edu/wp-content/uploads/2020/07/AP007-09_Paramedic-Certificate-2020.pdf) 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/paramedicechnology/>)).

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: BIO 152 and all 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

For career options, please click here. (<https://mwcc.emsicc.com/careers/paramedic/?region=25%20Mile%20Radius%20Around%20Gardner,%20MA&radius=>)

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.
8. Determine by touch: hotness/coldness, wetness/dryness, hardness/softness.
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 their 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; current State or National EMT or Advanced EMT Certification from another Accredited EMT Training Program; Paramedicine program corequisites: HCC 202, HCC 203; Paramedic Technology certificate corequisites: BIO 152, HCC 202, HCC 203. 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 and FYE 101 or placement; Paramedicine program corequisites: HCC 201, HCC 203; Paramedic Technology certificate corequisites: BIO 152, HCC 201, HCC 203. 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; current State or National EMT or Advanced EMT Certification from another Accredited EMT Training Program; Paramedicine program corequisites: HCC 201, HCC 202; Paramedic Technology certificate corequisites: BIO 152, HCC 201, HCC 202. 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 (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 (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 (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. Spring.

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 201, HCC 202, HCC 203 with a B- or higher; successful completion of PHTLS (corequisite). Spring.

HCC 218. Paramedic Clinical Internship. 8 Credits.

Students will complete a minimum of 338 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 student's 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 at the end of this course. Students must both receive a passing grade in their clinical rotations meeting both minimum hours and all required skills plus all of the in-class work to successfully complete the 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. Prerequisite: HCC 201, HCC 202, HCC 203, HCC 211, HCC 212, HCC 213, HCC 215 and HCC 217 with a B- or higher. 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 218 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 200 hours of field internship. Students will complete 50 patient contacts on an ALS ambulance. The first 30 patient contacts will be formative, where the student is developing their skills as an ALS field provider. The remaining 20 patient contacts are competencies. These 20 competencies are the Field Capstone. For the field capstone contacts, the student is expected to manage all parts of the patient contact with minimal assistance. ALL classroom, lab, and hospital clinical elements must be completed prior to starting this class. 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 complete the program and receive authorization to test the National registry Paramedic Exam. Prerequisites: HCC 218 with a B- or higher; HCC 220 (corequisite). Fall.

HCC 222. EMS Leadership. 3 Credits.

This course concepts which will be taught to the National EMS Education Standards for paramedics will include though lecture, discussion, case studies and evidenced based research will explore the concepts related to the transition of the EMS practitioner to a leadership role within the EMS agency. Specific topics will include development of leadership within the field of Emergency Medical Services (EMS), civic engagement, personal wellness, resource management, ethical considerations in leadership along with research. Also included will be current evidenced based concepts of adaptive EMS leadership; change management; active followership; effective communication, ethics; authority; power and decision-making. The capstone of this course will be to successfully complete the NAEMT's Principles of Ethics and Personal Leadership (PEPL) Course which is a 16-hour course which will examine the ability of the student evaluate their personal and professional values and beliefs, understand the concept of "service beyond self", personal and professional responsibility for ethical decision making, strategies for conflict resolution and serving as an ambassador for the EMS profession, agency, and community. 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 AS degree program. Prerequisite: HCC 220 and HCC 221 with a B- or better. Spring.

HCC 223. Concepts in Advanced Paramedicine. 5 Credits.

This course is an introduction to the principles of advanced paramedic care. The student will learn to care for a wide variety of critically ill patients, ranging in age from neonates to adults. This course is primarily based on emergency and critical care physiology, pathophysiology, pharmacology, and treatment modalities. Specific skills, including advanced airway management; use of mechanical ventilators; invasive and noninvasive hemodynamic and pressure monitoring; cardiac assist devices; administration of blood and blood products; interpretation of laboratory and diagnostic studies; initiation and titration of multiple intravenous infusions; and management of invasive procedures, such as chest tube and central line insertion. In addition, the students will learn an introduction to the fundamental skills they need to succeed in a community paramedicine program. Program topics include high-risk patient populations, available community resources, chronic disease management, pathophysiology of disease, and basic lab techniques. 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 AS degree program. Prerequisite: HCC 221.