



HESC 1500

Division: Natural Science and Mathematics

Department: Biology

Course: HESC 1500

Title: EMT - Emergency Medical Technician

Catalog Description:

This is an intensive course in pre-hospital emergency care that is in compliance with the National EMS Education Standards and Utah State Bureau of Emergency Medical Services for EMT. Students successfully completing this course may be eligible for state certification as an EMT. EMT certification is a pre-requisite to becoming an AEMT (Advanced EMT) or a Paramedic, as well as BS and MS degrees in the Emergency Medical Services fields. There are 130-150 hours of class, 10 hours of clinical in a hospital and ambulance association, and approximately 15 hours of patient assessments (100) required of each student.

Since the purpose of this course is to prepare to become certified as a Utah EMT, the state application, background check, and testing fees (approximately \$160.00 - \$195.00) will be collected by the college and transmitted to the state. Additional Snow College lab fee of \$100.

Technical, academic, and physical standards for this course are outlined in the Declaration of Understanding of Technical and Academic and Physical Standards for the EMT, from the Utah Department of Health, Bureau of Emergency Medical Services. This document is available from the instructor. If students have questions about their ability to complete the course work necessary to certify as an EMT, they should obtain the document and determine their eligibility before registering for the course.

General Education Requirements: N/A

Semesters Offered: Fall, Spring

Credit/Time Requirement: Credit: 9; Lecture: 7; Lab: 2

Clock/Hour Requirements: 0

Offered for Non-Credit: Yes

Justification:

This course is offered statewide at most Universities and Colleges. The content is controlled by the Bureau of Emergency Medical Service for the State of Utah, according to the EMT National Education Standards. It is part of majors at University of Utah and Utah Valley University for their BS degree in Emergency Services and a requirement at Dixie, SUU, and Weber for the Paramedic program. It is also a course for pre-physical therapy, pre-med, pre-nursing, pre-pharmacy, etc. as required by their major departments. It is also a stand alone program for those wishing to obtain EMT Certification to serve their communities.

Student Learning Outcomes:

At the conclusion of this course a student should be able to identify signs and symptoms of medical and trauma events in a pre-hospital environment that will indicate the problems experienced by a patient. They will then employ critical thinking and determine which skills need to be performed to assist the patient. They will have learned skills in bandaging, splinting, airway management, ventilation, cardiac care (including CPR and AED), stroke determination and management, diabetic determination and treatment, treatment of anaphylactic shock, treatment of burn victims, treatment of environmental problems such as frostbite and heat stroke, treatment for poisons, and even how to deliver a baby. They will enhance their feeling of helping others and serving people that are in need. They will learn to communicate with others and be part of a team and feel good about serving others.

Content:

The course is made up of seven sections as outlined below:

Section 1 - Foundations

- * Introduction to Emergency Medical Care

How it began, what are the components, roles and responsibilities, research, quality improvement methods, etc

- * Well Being of an EMT

Importance of personal protection, scene safety, diseases of concern, emotions and stress and how to combat, etc

- * Lifting and Moving patients

Body mechanics to protect yourself and patient, what and how do you execute Emergency, Urgent, and non-urgent moves

- * Medical, Legal, and Ethical Issues

Scope of practice, patient consent and refusal, negligence, confidentiality, crime scenes, special reporting requirements for abuse, etc

- * Medical Terminology, Anatomy, and Physiology

Anatomical terms, body systems such as musculoskeletal, respiratory, cardiovascular, nervous, and digestive systems, etc.

- * Principles of pathophysiology

The cell, cardiopulmonary system, shock, other systems

- * Life span development

Section 2 - Airway Management, Respiration, and Artificial Ventilation

- * Airway management

Airway physiology, airway pathophysiology, opening airway, airway adjuncts, suctioning, etc.

- * Respiration and artificial ventilation

Mechanics of breathing, physiology of respiration, pathophysiology of cardiopulmonary system, techniques of artificial ventilation, oxygen therapy, airway devices, etc.

Section 3 - Patient Assessment

- * Scene size up

Scene safety, nature of the call, number of patients and adequacy of resources

- * Primary assessment

Form general impression, assess mental status, assess ABCs, determine priority, etc.

- * Vital signs and monitoring devices

- * Assessment of trauma patient
- * Assessment of medical patient
- * Critical thinking and decision making
- * Communication and Documentation

Section 4 - Medical Emergencies

- * General pharmacology

Medications EMTs can administer, drug names, medication safety, authorization, clinical judgement, five rights, routes of administration, age and weight related considerations, reassessment and documentation, and assisting in IV therapy

- * Respiratory emergencies
- * Cardiac emergencies
- * Diabetic emergencies and altered mental status
- * Allergic reactions
- * Abdominal emergencies
- * Behavioral and psychiatric emergencies and suicides
- * Hematologic and renal emergencies

Section 5 - Trauma Emergencies

- * Bleeding and shock
- * Soft tissue trauma

Abrasions, puncture, impaled objects, avulsions, amputations, genital, burns, electrical injuries

- * Chest and abdominal trauma
- * Musculoskeletal trauma
- * Trauma to the head, neck and spine
- * Multi-system trauma
- * Environmental emergencies

Hypothermia, heat stroke, drowning, diving, water and ice rescue, bites and stings

Section 6 - Special Populations

- * Obstetric and gynecologic emergencies

Anatomy and physiology, pregnancy, labor and delivery, normal child birth, neonate, care after delivery, childbirth complications, gynecological emergencies

- * Pediatric emergencies

Developmental characteristic of infants and children, assessing pediatric patients, special concerns in pediatric care, pediatric medical and trauma emergencies, child abuse and neglect, pediatrics with special challenges

- * Geriatric emergencies
- * Emergencies for patients with special challenges

Disability, terminal illness, obesity, homelessness and poverty, autism

Section 7 - Operations

- * EMS operations (ambulances operations)
- * Hazardous materials, multiple - casualty incidents, and incident management
- * Highway safety and vehicle extrication
- * EMS response to terrorism

Key Performance Indicators:

Students are assessed weekly through in class quizzes. Homework is assigned and due weekly. At the start of the 5th week, the students are to perform 10 patient assessments per week, for 10 weeks, utilizing the skills learned in class and passed off. At the conclusion of each module, a module test is given which must be retaken if score is less than 80%.

They also must serve for a minimum of 10 clinical hours at a hospital or with an ambulance service. Regardless of the hours spent with an ambulance, they must complete at least 2 hours of clinical time at a hospital.

At the conclusion of the course, a final written test must be passed at the 80% level as well as medical and trauma practical scenarios at the 80% level.

If students complete all necessary work they may be recommended to the EMS Bureau. Students must then pass written and practical tests administered by State of Utah Bureau of EMS and pass the background check whereupon they can be certified as an EMT.

Representative Text and/or Supplies:

Brady: Limmer/O'Keefe, Emergency Care, 12th edition. Pearson Education, Inc Publishing: Upper Saddle River, NJ.

Brady: Mistovich/Karren, Prehospital Emergency Care, 9th edition, Pearson Education, Inc Publishing: Upper Saddle River, NJ.

AAOS: Pollak, Emergency Care and Transportation of the Sick and Injured, 10th edition, Jones and Bartlett Publishing: Sudbury, Mass

Optimum Class Size: 18

Maximum Class Size: 36

Signatures:

I hereby submit this course syllabus:

Ernie Williams, , Assistant Professor

I hereby find this course consistent with the goals and resources of the Biology Department:

Allan Stevens, , Professor, Chair

I hereby find this course consistent with the goals and resources of the Natural Science and Mathematics Division:

Dan Black, EdD, Associate Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)