

EMERGENCY MEDICAL SERVICES

COURSE DESCRIPTION

Emergency Medical Service (EMS) is designed for students interested in a career in pre-hospital or emergency patient care. Career options may include emergency room physician, emergency medical technician, paramedic, or emergency room nurse.

It is strongly recommended that administration and guidance follow the scope and sequence and course recommendations as listed.

Recommended Credits: 1

Recommended Grade Level(s): 11-12th

Number of Competencies in Course: 45

Notes: This course may be taught with a state recognized First Responder Instructor to students who will be 17 years of age at the end of the course to qualify for the National First Responder test. The state recognized First Responder Instructor must teach at least 60 hours of the course for your students to qualify for the certification test.

INTEGRATION/LINKAGES

Math, Biology, Chemistry, Industry Standards, HOSA Standards, National Health Science Skills Standards, United States Department of Transportation National Highway Traffic Safety Administration First Responder: National Standard Curriculum.

EMERGENCY MEDICAL SERVICES

- 1.0** The student will apply concepts of knowledge of the emergency medical services (EMS) system.
- 2.0** The student will explain all aspects of the emergency medical personnel's well-being.
- 3.0** The student will define and explain legal and ethical issues in EMS, including scope of care, advanced directives, consent, documentation, confidentiality, and abuse.
- 4.0** The student will demonstrate knowledge of all major body systems and functions as related to emergency medical services situations.
- 5.0** The student will display proper techniques of lifting and moving patients involved in emergency situations.
- 6.0** The students will demonstrate proper assessment and stabilization of the airway.
- 7.0** The student will identify medical/trauma patients by utilizing assessment skills then outline and provide appropriate treatment plans.
- 8.0** The students will identify patterns in emergency obstetric care and formulate plans of care.
- 9.0** The students will demonstrate knowledge of special EMS operations such as rescue, air medical, HAZ-MAT and MCI.
- 10.0** The students will demonstrate proper communication and documentation principles, using verbal, written, and electronic mediums.

EMERGENCY MEDICAL SERVICES

STANDARD 1:

The student will apply concepts of knowledge of the emergency medical services (EMS) system.

LEARNING EXPECTATIONS:

- 1.1 Formulate an organization chart of the components of the EMS system with inclusion of how an EMS call is activated.
- 1.2 Differentiate the levels of training recognized by national and state standards.
- 1.3 Investigate and develop a time line related to the history of emergency medicine and the EMS system.
- 1.4 Define medical direction and relate the emergency responder's role in the process.
- 1.5 Investigate and classify the essential traits of the emergency medical services personnel with attention to the emergency responder.

PERFORMANCE INDICATORS: EVIDENCE STANDARD IS MET

The student will:

- 1.1 Investigate the components of EMS and relate findings to classmates.
- 1.2 Evaluate and interpret the multiple levels of training offered in accordance to national and state standards by various entities.
- 1.3 Develop a research project outlining major events in history that have affected the EMS system. (research, reading, writing and electronic media skills)
- 1.4 Research and draw conclusions related to all aspects of medical directions and EMS
- 1.5 Role-play essential traits of the emergency responder.

SAMPLE PERFORMANCE TASKS:

- Students will practice situations in which the emergency responder portrays professional attributes.
- Students will be given a long-term project to be completed in groups. The project will be to create an EMS service for their area. They will need to purchase units, build stations, hire employees, build budgets, and look at reimbursement options for services. The groups must prepare a PowerPoint for their group and present it to a group of industry professionals for evaluation of their plans. In the project they will be researching state and local laws and guidelines for EMS. Integrate research, math, reading, and media skills.

EMERGENCY MEDICAL SERVICES

STANDARD 2:

The student will explain all aspects of the emergency medical personnel's well-being.

LEARNING EXPECTATIONS:

The student will:

- 2.1 Analyze stress management techniques involving emergency medical situations, including burnout, difficult patients, death, unsafe scenes, etc.
- 2.2 Connect the concepts of personal protective equipment with the proper use and application then relate the concepts to OSHA Guidelines and Standard Precautions.
- 2.3 Recognize actual and potential hazards found at emergency scenes and develop an outline for correct scene size-up.
- 2.4 Analyze the signs and symptoms of critical incident stress and share techniques utilized

PERFORMANCE INDICATORS: EVIDENCE STANDARD IS MET

The student will:

- 2.1 Develop scenarios that would be considered stressful for EMS personnel, then, compare and contrast coping mechanisms needed for each situation.
- 2.2 Demonstrate proper usage of all personal protective equipment.
- 2.3 Score 100% on standardized OSHA examination.
- 2.4 Given scene photos, identify actual and potential hazards that exist.
- 2.5 Identify critical incident situations and give management techniques.

SAMPLE PERFORMANCE TASKS:

- Given a scenario with potential infectious exposure, the emergency responder student will use proper personal protective equipment. At the completion of the scenario the emergency responder will properly remove and discard the infected materials.
- Given the above scenario, the emergency responder will complete disinfecting/cleaning and all reporting documentation associated with an exposure.
- Students work as teams to design scenarios that contain both actual and potential hazards in multiple emergency situations.

EMERGENCY MEDICAL SERVICES

STANDARD 3:

The student will define and explain legal and ethical issues in EMS, including scope of care, advanced directives, consent, documentation, confidentiality, and abuse.

LEARNING EXPECTATIONS:

The student will:

- 3.1 Interpret and relate the scope of practice for all levels of emergency medical services personnel.
- 3.2 Summarize and present information related to advanced directives and local or state provisions regarding EMS application.
- 3.3 Differentiate between expressed and implied consent and methods of obtaining consent.
- 3.4 Assess issues of abandonment, negligence, malpractice, duty to act, and assault and their implications to the emergency medical personnel.
- 3.5 Apply knowledge of legal requirements in documentation as it relates to patient confidentiality and privacy.
- 3.6 Recognize the signs and symptoms of elder and child abuse and identify the legal reporting requirements.

PERFORMANCE INDICATORS: EVIDENCE STANDARD IS MET

The student will:

- 3.1 Identify the roles and scope of practice that are within the emergency medical services careers with emphasis on emergency responders.
- 3.2 Explain the current advanced directives in use and the legal implications behind the order in a patient scenario.
- 3.3 Role-play various scenarios that involve expressed and implied consent.
- 3.4 Identify legal terminology from events that are common in EMS settings.
- 3.5 Document assessment findings of a medical patient in an emergency situation following legal requirements of confidentiality and privacy.
- 3.6 Design a brochure that outlines elder abuse and child abuse, including the signs that EMS personnel should recognize.

SAMPLE PERFORMANCE TASKS:

- Students should practice making decisions while role-playing the various legal and ethical situations that occur in the EMS environment.
- Obtain copies of advanced directives from local EMS to share with students and have them develop one for each of them in various situations.
- Obtain documentation guidelines from local EMS and have students practice documentation.
- Share the brochure that was developed with local chamber of commerce and health care facilities.

EMERGENCY MEDICAL SERVICES

STANDARD 4:

The student will demonstrate knowledge of all major body systems and functions as related to emergency medical services situations.

LEARNING EXPECTATIONS:

The student will:

- 4.1 Identify directional terms and body positioning.
- 4.2 Describe the anatomy and function of the circulatory and respiratory system.
- 4.3 Describe the anatomy and function of the musculoskeletal and nervous system.
- 4.4 Describe the anatomy and function of the endocrine system.
- 4.5 Describe the anatomy and function of the integumentary system.

PERFORMANCE INDICATORS: EVIDENCE STANDARD IS MET

The student will:

- 4.1 Identify various structures of the human body.
- 4.2 Identify topographic anatomy

SAMPLE PERFORMANCE TASKS:

- Students will label a diagram of a skeleton, human body, and organ systems.
- Students work in groups to design and construct a 3-D model of an organ with a verbal presentation of the normal function of that organ and some abnormalities that could occur as related to EMS.

EMERGENCY MEDICAL SERVICES

STANDARD 5:

The student will display proper techniques of lifting and moving patients involved in emergency situations.

LEARNING EXPECTATIONS:

The student will:

- 5.1 Demonstrate acceptable principles of body mechanics.
- 5.2 Analyze the indications for emergency versus non-emergency moves; demonstrate those moves.
- 5.3 Demonstrate proper use of instruments and equipment in lifting and moving patients in emergency and non-emergency moves.

PERFORMANCE INDICATORS: EVIDENCE STANDARD IS MET

The student will:

- 5.1 Evaluate the patient and determine which moving technique is appropriate.
- 5.2 Practice emergency and non-emergency moves.
- 5.3 Practice positioning the following patients: Unresponsive, chest pain, difficulty breathing, pregnant and vomiting.

SAMPLE PERFORMANCE TASKS:

- Students will demonstrate lifting and moving techniques using all lifting aids and proper body mechanics.

EMERGENCY MEDICAL SERVICES

STANDARD 6

The students will demonstrate proper assessment and stabilization of the airway.

LEARNING EXPECTATIONS:

The student will:

- 6.1 Analyze the structure and function of the respiratory system as it relates to airway management.
- 6.2 Differentiate between adequate and inadequate breathing.
- 6.3 Describe the steps involved in opening and maintaining the airway using proper adjuncts and oxygen administration per local protocols.
- 6.4 Demonstrate care of conscious and unconscious victim with partial and full airway obstruction.

PERFORMANCE INDICATORS: EVIDENCE STANDARD IS MET

The student will:

- 6.1 Demonstrate proper techniques for airway management with the use of adjuncts either the oral pharyngeal airway or nasopharyngeal airway.
- 6.2 Demonstrate methods for clearing an airway obstruction.
- 6.3 Demonstrate proper suctioning techniques.
- 6.4 Demonstrate proper use of oxygen administration devices.
- 6.5 Perform American Heart Association or American Red Cross Obstructed Airway Management Skills within acceptable standards.

SAMPLE PERFORMANCE TASKS:

- Using an airway mannequin demonstrate proper placement of airway adjuncts as well as ventilation techniques.
- Assemble an oxygen tank with regulator, attach a delivery device and adjust the regulator to the proper flow rate.

EMERGENCY MEDICAL SERVICES

STANDARD 7:

The student will identify medical/trauma patients by utilizing assessment skills then outline and provide appropriate treatment plans.

LEARNING EXPECTATIONS:

The student will:

- 7.1 Identify age appropriate assessment and interview skills with demonstration of those skills.
- 7.2 Demonstrate head-to-toe assessment medical patients.
- 7.3 Demonstrate head-to-toe assessment for trauma patients.
- 7.4 Demonstrate accurate measurement of vital signs including pulse, respirations, blood pressure and skin condition.
- 7.5 Identify signs and symptoms and proper interventions for the following medical conditions: cardiac, diabetic, respiratory, abdominal, anaphylaxis, poisoning, overdose, environmental, behavioral, seizures, and cardiac arrest.
- 7.6 Identify signs and symptoms and proper interventions for the following trauma conditions: musculoskeletal, head, neck, spinal cord injuries, bleeding, soft tissue injuries, and shock.
- 7.7 Student will complete all National Registry Emergency Responder skill check-offs in a clinical or classroom setting.

PERFORMANCE INDICATORS: EVIDENCE STANDARD IS MET

The student will:

- 7.1 Create interview questions that should be asked of patients at all age levels, including overall assessment.
- 7.2 Successfully assess a medical patient in a role play exercise per EMS guidelines.
- 7.3 Successfully assess a trauma patient in a role play exercise per EMS guidelines.
- 7.4 Perform vital sign assessment within two points of instructor's findings.
- 7.5 Demonstrate knowledge and understanding of various diseases and disorders effecting the population and the methods used by emergency responders to care for those patients.

- 7.6 Demonstrate knowledge and understanding of various traumas effecting the population and the methods used by emergency responders to care for those patients.
- 7.7 Demonstrate proper stabilization of musculoskeletal, head, neck and spinal injuries.
- 7.8 Demonstrate proper management of bleeding wounds, shock and soft tissue injuries.
- 7.9 Complete all National Registry Skill Check-offs that apply to the emergency medical responder curriculum.

SAMPLE PERFORMANCE TASKS:

- 7.1 Using role play the student should assess both medical and trauma patients using proper assessment techniques such as DCAP-BTLS, SAMPLE or OPQRST. After the assessment the student should document findings and formulate a plan of care for the patient. HOSA completion guidelines for EMT or First Aid /CPR can be used as an outline for the assessment.
- 7.2 Students will research a specific disease or disorder and prepare a presentation of the class.
- 7.3 Create scenarios of trauma patients that might be seen by EMS personnel.
- 7.4 Using role-play, the student will evaluate a patient with one of the following complaints: general medical, altered mental status, seizures, heat/cold emergencies or a behavioral issue. They will use proper assessment techniques for the situation and formulate a plan of care for the patient.
- 7.5 Using role play the students will demonstrate the ability to splint extremities and use spinal immobilization with both LSB and clam shell devices to stabilize a patient

EMERGENCY MEDICAL SERVICES

STANDARD 8:

The students will identify patterns in emergency obstetric care and formulate plans of care.

LEARNING EXPECTATIONS:

The student will:

- 8.1 Identify the structures of the reproductive system and explain their functions using correct terminology related to the birth process.
- 8.2 Organize, represent, and interpret the indications of an imminent delivery.
- 8.3 Identify the steps and equipment needed to prepare for delivery.
- 8.4 Identify the steps and formulate plans of care in the following processes: pre-delivery, delivery, and post-delivery care of the mother and the infant.

PERFORMANCE INDICATORS: EVIDENCE STANDARD IS MET

The student will:

- 8.1 Distinguish the structure and function of reproductive system related to the birthing process.
- 8.2 Create teaching plan to inform pregnant patients of the signs of delivery.
- 8.3 Practice assisting in a “normal” delivery.
- 8.4 Demonstrate proper care of the fetus during the delivery process.
- 8.5 Demonstrate proper care of both the mother and infant post-delivery.

SAMPLE PERFORMANCE TASKS:

- 8.1 When given scenarios concerning labor delivery, predict steps of care with emphasis on abnormal birthing situations.
- 8.2 Invite the public health educator to bring equipment and materials into the classroom to instruct on the birthing process.
- 8.3 Students will watch a video of a live birth. During the video pause, explain and discuss the birthing process.
- 8.4 Invite local labor and delivery staff to classroom to present on care of mother and infant post-delivery.

EMERGENCY MEDICAL SERVICES

STANDARD 9:

The students will demonstrate knowledge of special EMS operations such as rescue, air medical, HAZ-MAT and MCI.

LEARNING EXPECTATIONS

The student will:

- 9.1 Discuss the roles of rescue, air medical, and HAZ-MAT.
- 9.2 Describe criteria for a multiple casualty situation.

PERFORMANCE INDICATORS: EVIDENCE STANDARD IS MET

The student will:

- 9.1 Demonstrate the ability to identify the need for air medical, special rescue or declaration of a MCI.
- 9.2 Demonstrate the ability to locate and establish a secure landing zone for air medical.
- 9.3 Demonstrate triage principles when applied to an MCI.

SAMPLE PERFORMANCE TASKS:

- 9.1 Using role-play, practice triage with multiple patients. Students should identify the triage levels and mark all injuries appropriately.
- 9.2 The students will locate an appropriate landing zone for air medical. They will mark the landing zone and use radio report to describe the landing zone to the air unit.

EMERGENCY MEDICAL SERVICES

STANDARD 10:

The students will demonstrate proper communication and documentation principles, using verbal, written, and electronic mediums.

LEARNING EXPECTATIONS:

The student will:

- 10.1** Identify and demonstrate the proper procedure for radio transmission in an emergency and non-emergency situation.
- 10.2** Apply components of effective communication to situations that involve other EMS professionals, patients, family members, and other health care professionals.
- 10.3** Synthesize information received from patients and share that information verbally with family and other health care personnel while maintaining privacy and confidentiality.
- 10.4** Explain the importance of effective communication in the verbal report.
- 10.5** Create a medical and a trauma document from arrival on scene until transfer to health care facility utilizing documentation guidelines and appropriate medical terminology.

PERFORMANCE INDICATORS: EVIDENCE STANDARD IS MET

The student will:

- 10.1** Demonstrate proper radio skills, such as speech, tone, and basic operation of radios.
- 10.2** Demonstrate communication skills used with patients, family members, by-standers, and individuals from other agencies while providing patient care.
- 10.3** Demonstrate proper documentation skills; both paper and electronic.

SAMPLE PERFORMANCE TASKS:

- 10.1** Using role-play, the students will communicate with patients, family, and individuals from other agencies. Students will then document a call using both paper and electronic methods.
- 10.2** Using walkie talkies, students will communicate with each other using proper radio procedure and language.