EMERGENCY MEDICAL SERVICES (EMS) 1 - 5531

Course Description: Emergency Medical Services (EMS 1) is the first in a sequence of courses. Emergency Medical Services 1 is designed to teach students how to recognize and respond to various emergencies. Students will review basic anatomy and physiology as it relates to injury management and treatment. Students will review basic information needed for all phases of a healthcare professional. Information that students are exposed to will include legal and ethical implications, communications, safety, infection control and professionalism. In this course, students will learn what skills are necessary to recognize and care for emergencies in adults, children, and infants until professional medical help arrives. Students will obtain FA/CPR/AED certification. Students will be required to perform light physical activity.

General Requirements: This course is recommended for students in grades 10-12.

Prerequisite(s): N/A

Credit: CP - 1 unit = (120 hours) or 2 units = (240 hours)

Concentrator: Completes EMS 1 and EMS 2.

EMS Completers:

Three Course: EMS 1, EMS 2, EMS 3 (Or the approved substitute course– see Student Reporting Guide and Health Science page on SCDE Website)

Four or more courses: EMS 1, EMS 2, Plus any other two units in the Health Science Cluster

Industry Aligned Credentials: 1. BLS Healthcare Providers CPR/AED
3. OSHA Healthcare or any others applicable listed in the Student Reporting Guide.

Stackable Credentials: 1. Heart saver CPR/AED 2. First-Aid 3. Community Emergency Response Team (CERT) or any others applicable as listed in the Student Reporting Guide.

Foundation Standard 1: Academic Foundation

Healthcare professionals will know the academic subject matter required for proficiency within their area. They will use this knowledge as needed in their role. The following accountability criteria are considered essential for students in a health science program of study.

1. **Identify** and **understand** the basic structural and functional organization of the

human body (tissue, organ, and system).

2. **Recognize** body planes, directional terms, quadrants, and cavities.
3. **Describe** common diseases and disorders of each body system (prevention, pathology, diagnosis, and treatment).
4. **Discuss** common mechanisms of injury/nature of illness.
5. **Recognize and understand the procedures required to perform an appropriate patient assessment.**
6. **Recognize** the signs and symptoms of shock and describe how to minimize its effects.
7. **Recognize and understand** acute medical emergencies and how to appropriately treat them.
   a. altered mental status
   b. seizures
   c. diabetic
   d. cardiac
   e. respiratory
   f. eyes, ears, nose, throat
   g. abdominal or GI disorders
   h. allergic reactions
   i. neurological
   j. toxicology
   k. gynecology/obstetrics
   l. genitourinary/renal
   m. infectious diseases

8. **Understand** the dynamics of various types of trauma and how to recognize and treat resultant injuries.
   a. bleeding
   b. chest trauma
   c. abdominal trauma
   d. orthopedic trauma
   e. soft tissue
   f. head, face, neck, and spine
   g. environmental emergencies
   h. multi-system trauma
   i. special considerations
9. **Analyze** diagrams, charts, graphs, and tables to interpret healthcare results.
10. **Apply** mathematical computations related to healthcare procedures (metric and household, conversions and measurements).
11. **Record** time using the 24-hour clock.

Foundation Standard 2: Communications

Healthcare professionals will know the various methods of giving and obtaining information. They will communicate effectively, both orally and in writing.

1. **Construct** and define basic medical terminology suffixes, prefixes, roots, and abbreviations.
2. **Communicate** in an understandable and accurate manner.

3. **Interpret** verbal and nonverbal communication.
4. **Recognize** barriers to communication.
5. **Report** subjective and objective information.
6. **Recognize** the elements of communication using a sender-receiver model.
7. **Apply** speaking and active listening skills.
8. **Utilize** roots, prefixes, and suffixes, and medical abbreviations to communicate information.
9. **Recognize** elements of written and electronic communication (spelling, grammar, and formatting).
10. **Apply** procedures for accurate documentation and record keeping.
11. **Modify** communication to meet the needs of the patient/client and to be appropriate to the situation.

Foundation Standard 3: Systems

Healthcare professionals will understand how their role fits into their department, their organization, and the overall healthcare environment. They will identify how key systems affect services they perform and quality of care.

1. **Define** emergency medical services (EMS) systems.
2. **Differentiate** the roles and responsibilities of EMS professionals from other healthcare professionals.
3. **Define** quality improvement and discuss the EMS professional's role in the process.
4. **Define** medical direction and discuss the EMS professional's role in the process.
5. **Describe** methods used to access the EMS system from various locations (e.g., school, home, work or from a cellular device).

Foundation Standard 4: Employability Skills

Healthcare professionals will understand how employability skills enhance their employment opportunities and job satisfaction. They will demonstrate key employability skills and will maintain and upgrade skills, as needed.

1. Classify the personal traits and attitudes desirable in a member of the healthcare team.
2. Summarize professional standards as they apply to hygiene, dress, language, confidentiality and behavior.
    - Apply employability skills in healthcare
    - Attendance policy
    - Chain of command
    - Communication skills
    - Decision making
    - Flexible
    - Organization
    - Problem solving
    - Time management
    - Work ethic
3. Discuss the importance in participating in student organizations such as HOSA.
4. Discuss careers within the EMS pathway and how they articulate with other health

care careers.
5. Discuss levels of education, credentialing requirements, and employment trends in health care.

Foundation Standard 5: Legal Responsibilities

Healthcare professionals will understand the legal responsibilities, limitations, and implications of their actions within the healthcare delivery setting. They will perform their duties according to regulations, policies, laws and legislated rights of clients.

1. **Define** terms and standards related to legal responsibilities.
2. **Define** the EMS professional's scope of practice.
3. **Discuss** advance directives and local or state provisions regarding EMS application.
4. **Define** types of consent.
5. **Discuss** the methods of obtaining consent.
6. **Discuss** the issues of abandonment, negligence, battery, harassment, and their implications for the EMS professionals.
7. **Explain** the importance, necessity, and legality of patient confidentiality (e.g., Health Insurance Portability and Accountability Act [HIPAA], Family Education Rights and Privacy Act [FERPA], and Patient's Bill of Rights).
8. **Differentiate** the actions and responsibilities of EMS professionals when interacting with law enforcement.
9. **Identify** forms of unsafe or hostile work environments.

Foundation Standard 6: Ethics

Healthcare professionals will understand accepted ethical practices with respect to cultural, social, and ethnic differences within the healthcare environment. They will perform quality healthcare delivery.

1. **Identify** the EMT code of ethics.
2. **Differentiate** between ethics and morals.

Foundation Standard 7: Safety Practices

Healthcare professionals will understand the existing and potential hazards to clients, co- workers, and self. They will prevent injury or illness through safe work practices and follow health and safety policies and procedures.

1. **Discuss** the principles of infection control, personal protective equipment (PPE), and body substance isolation (BSI).
2. **Apply** principles of body mechanics.
3. **Apply** safety techniques in the work environment.
4. **Recognize** basic safety labels and placards such as Material Safety Data Sheets (MSDS) (biohazards, poisons, etc.).

5. **Understand** implications of hazardous materials.
6. **Describe** fire safety in a healthcare setting.
7. **Discuss** principles of basic emergency response in natural disasters and other emergencies.
8. **Determine** scene safety based on the type of patient call, personnel, bystanders, environmental surroundings, etc.
9. **Describe** when and how to move a victim in an emergency situation.

Foundation Standard 8: Teamwork

Healthcare professionals will understand the roles and responsibilities of individual members as part of the healthcare team, including their ability to promote the delivery of quality healthcare. They will interact effectively and sensitively with all members of the healthcare team.

1. **Understand** roles and responsibilities of team members.
2. **Recognize** characteristics of effective teams.
3. **Recognize** methods for building positive team relationships.
4. **Analyze** attributes and attitudes of an effective leader.
5. **Apply** effective techniques for managing team conflict.

Foundation Standard 9: Health Maintenance Practices

Healthcare professionals will understand the fundamentals of wellness and the prevention of disease processes. They will practice preventive health behaviors among the clients.

1. **Discuss** possible emotional reactions that EMS professionals, patient, and family may experience when faced with trauma, illness, death, and dying.
2. **Recognize** the signs and symptoms of critical incident stress.
3. **Explain** how to recognize the causes and signals of personal stress.
4. **Discuss** positive steps that the EMS professional takes to help reduce/alleviate stress and promote health and wellness.
5. **Identify** positive and negative behaviors/factors affecting the EMS professional's health and well-being.
6. **Discuss** the relationship between health, lifestyles, and personal risk factors including health screenings, immunizations, and examinations.

*Foundation Standard 10: Technical Skills

Healthcare professionals will apply technical skills required for all career specialties. They will demonstrate skills and knowledge as appropriate.

1. **Apply** procedures for measuring and recording vital signs including the normal ranges.
2. **Apply** skills to obtain training or certification in cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid.

3. **Apply** skills to demonstrate understanding of *Patient Assessment*.
4. **Demonstrate** use and application of various emergency services equipment.

*Additional technical skills may be included. (See Topics for Review for detailed ideas on teaching strategies.) Refer to SCEMS Portal for more information https://www.scemsportal.org

Foundation Standard 11: Information Technology Applications

Healthcare professionals will use information technology applications required within all career specialties. They will demonstrate use as appropriate to healthcare applications.

1. **Identify** methods and types of data collected in healthcare.
2. **Communicate** using technology to access and distribute data and other information.
3. **Recognize** written and electronic technology applications available/used in EMS.
4. **Apply** basic computer concepts and terminology in order to use computers and other mobile devices.

Resources:

www.mysctextbooks.com, for state-adopted materials, go to Browse Catalog or What's New.

American Academy of Orthopaedic Surgeons (AAOS), http://aaos.org/.

American Heart Association (AHA.org) materials obtained through:
Laerdal Medical Corporation, www.laerdal.com

WorldPoint, https://www.worldpoint.com/

American Red Cross (ARC) www.redcross.org. Check with your local chapter for updated manuals/DVD.

Boundtree University for Continuing Education Courses

Brookside Associates Medical Education Division, Standard First Aid Course - NAVEDTRA 13119 –
http://www.constructionknowledge.net/public_domain_documents/Div_1_General/First_Aid/chapter2.html

Discovery Education, www.discoveryeducation.com

FEMA Independent Study Program (ISP) Courses,
https://training.fema.gov/is/crslist.aspx

Firehouse Training Academy, http://www.firehouse.com/training-drills

Gerdin, Judith. Health Careers Today, Latest edition. Mosby Publishing.

Goold, Grant B. First Aid in the Workplace: What to Do in the First Five Minutes. Latest edition. Prentice-Hall, Inc.

Journal of Emergency Medical Services
https://www.jems.com/journal.html

Jones & Bartlett Learning, www.jblearning.com. First Aid, CPR, and AED. Latest edition.

Mass Casualty Event Preparedness and Response
https://www.cdc.gov/cpr/readiness/healthcare/tools-resources.htm

National Association of EMS Educators - The mission of the National Association of EMS Educators is to promote EMS education, develop and deliver educational resources, and advocate research and lifelong learning. www.naemse.org/

National Center for Injury Prevention and Control (NCIPC), site lists grants
https://www.cdc.gov/grants/

National Healthcare Skill Standards, www.healthscienceconsortium.org

National Highway Traffic Safety Administration (NHTSA),
www.nhtsa.gov

National Registry of Emergency Medical Technicians, www.nremt.org

EMT- Basic/EMT Psychomotor Exam,
www.nremt.org/nremt/about/psychomotor_exam_emt.asp;

National Safety Council, www.nsc.org

Natural Disasters and Severe Weather, https://www.cdc.gov/disasters/

CareerSafe

Stop the Bleed

Responder Safety, www.respondersafety.com

South Carolina Department of Health and Environmental Control (DHEC), EMS Training, Requirements, Protocols,
www.dhec.sc.gov/Health/FHPF/EMS_TrainingProtocolsRequirements/;

SC EMS Portal https://www.scemsportal.org/

South Carolina EMS Educator's Association - www.scemsea.com (membership required to access)

Surviving Field Stress for First Responders; scroll down for Webcast, www.atsdr.cdc.gov/emes/health_professionals/surviving_field_stress.html

US Fire Administration (USFA), www.usfa.fema.gov

EMS 1 – Topics For Review

Patient Assessment

1. Describe common hazards for a medical patient at the scene of a trauma.
2. Determine whether or not the trauma scene is safe to enter.
3. Discuss common mechanisms of injury/nature of illness.
4. Discuss the reason for identifying the total number of patients at the scene.
5. Explain the reason for identifying the need for additional help or assistance.
6. Summarize the reasons for forming a general impression of the patient.
7. Discuss methods of assessing mental status.
8. Differentiate between assessing mental status in the adult, child, and infant patient.
9. Describe methods used for assessing whether or not a patient is breathing.
10. Differentiate between a patient with adequate breathing and a patient with inadequate breathing.
11. Differentiate between obtaining a pulse in an adult, child, and infant patient.
12. Discuss the need for assessing the patient for external bleeding.
13. Explain the reason for prioritizing a patient for care and transport.
14. Discuss the components of the physical exam.
15. State the areas of the body that are evaluated during the physical exam.
16. Explain what additional questioning may be asked during the physical exam.
17. Discuss the components of the ongoing assessment.
18. Describe the information included in the first responder hand-off report.
19. Explain the rationale for crew members to evaluate scene safety prior to entering.
20. Serve as a model for others by explaining how patient situations affect your evaluation of the mechanism of injury or illness.
21. Explain the importance of forming a general impression of the patient.
22. Demonstrate the techniques for assessing mental status.
23. Demonstrate the techniques for assessing the airway.
24. Demonstrate the techniques for assessing whether or not the patient is breathing.
25. Demonstrate the techniques for assessing whether or not the patient has a pulse.
26. Demonstrate the techniques for assessing the patient for external bleeding.
27. Demonstrate the techniques for assessing the patient's skin color, temperature, condition, and capillary refill (infants and children only).
28. Demonstrate questioning a patient to obtain a SAMPLE history.
29. Demonstrate the skills involved in performing the physical exam.
30. Demonstrate the ongoing assessment.

Airway Care and Rescue Breathing

1. List the signs of inadequate breathing.
2. Describe how to clear a foreign body airway obstruction in a responsive adult, child, and infant.

3. Describe how to clear a foreign body airway obstruction in an unresponsive adult, child, and infant.
4. Explain why basic life support ventilation and airway protective skills take priority over most other basic life support skills.
5. Place the interests of the patient with airway problems as the foremost consideration when making any and all patient care decisions.
6. Demonstrate the steps in the head-tilt chin-lift.
7. Demonstrate the steps in the jaw thrust.
8. Demonstrate the techniques of suctioning.
9. Demonstrate the steps in mouth-to-mouth ventilation with body substance isolation (barrier shields).
10. Demonstrate how to use a resuscitation mask to ventilate a patient.
11. Demonstrate how to ventilate a patient with a stoma.
12. Demonstrate how to measure and insert an oropharyngeal (oral) airway.
13. Demonstrate how to measure and insert a nasopharyngeal (nasal) airway.
14. Demonstrate how to ventilate infant and child patients.
15. Demonstrate how to clear a foreign body airway obstruction in a responsive adult, child, and infant.
16. Demonstrate how to clear a foreign body airway obstruction in an unresponsive adult, child, and infant.

Circulation

1. List the reasons for the heart to stop beating.
2. Define the components of cardiopulmonary resuscitation.
3. Describe each link in the chain of survival and how it relates to the EMS system.
4. Explain when the first responder is able to stop CPR.
5. Demonstrate the proper technique of chest compressions on an adult.
6. Demonstrate the proper technique of chest compressions on a child.
7. Demonstrate the steps of adult one rescuer CPR.
8. Demonstrate the steps of adult two rescuer CPR.
9. Demonstrate child CPR.
10. Identify the patient who presents with a general medical complaint.
11. Explain the steps in providing emergency medical care to a patient with a general medical complaint.
12. Identify the patient who presents with a specific medical complaint of altered mental status.
13. Explain the steps in providing emergency medical care to a patient with an altered mental status.
14. Demonstrate the steps in providing emergency medical care to a patient with a general medical complaint.

15. Demonstrate the steps in providing emergency medical care to a patient with an altered mental status.
16. Demonstrate the steps in providing emergency medical care to a patient with seizures.
17. Demonstrate the steps in providing emergency medical care to a patient with an exposure to cold.
18. Demonstrate the steps in providing emergency medical care to a patient with an exposure to heat.
19. Demonstrate the steps in providing emergency medical care to a patient with a psychological crisis.

Patient Moves and Equipment

1. Demonstrate various emergency moves.
2. Demonstrate how to use and apply various emergency services equipment.