

EMS COURSE STUDENT LEARNING OUTCOMES

EMS 101 - CPR and First Aid

Students will be able to discuss and demonstrate high-quality CPR and the use of an automated external defibrillator (AED) on adults, children, and infants according to current American Heart Association Basic Life Support guidelines.

Students will be able to discuss and demonstrate effective communication and team coordination during simulated single- and multi-rescuer resuscitation scenarios, incorporating the AHA Chain of Survival and post-resuscitation care principles.

Students will be able to discuss the ability to recognize, assess, and provide appropriate first aid treatment for medical, injury-related, and environmental emergencies according to current American Heart Association guidelines.

EMS 108 - Emergency Medical Technician Training

Students will be able to describe the role and responsibilities of EMTs as professionals in emergency medical services.

Students will be able to demonstrate the steps of conducting patient assessments by effective communication with patients who are sick or injured in different age groups and cultures.

Students will be able to recognize the signs and symptoms, determine a treatment plan, and apply those interventions for COPD, CHF, diabetes, chest pain, aortic aneurysms, cardiac arrest, cardiogenic shock, seizures, stroke, acute abdomen, chronic inflammatory abdominal conditions, gynecological conditions, sickle cell disease, allergic reactions, overdoses, psychiatric emergencies within 15 minutes using critical thinking skills.

Students will be able to describe the principles and practices for organizing and managing an accident scene and when an ambulance is required.

Students will be able to recognize signs and symptoms of head, back, chest, abdominal, genitourinary, environmental, and extremity injuries and manage these injuries effectively within 10 minutes.

Students will be able to identify the differences between geriatric, adult, pediatric, and special population patients, and manage those patients using appropriate assessment techniques.

Students will be able to describe and demonstrate how to manage airway and breathing effectively using basic techniques.

Students will be able to describe all the medications in the EMT scope of practice and demonstrate how to give these medications in scenarios.

Students will be able to demonstrate how to perform a scene size up, an initial impression, a primary assessment, a focused or detailed assessment, and reassessment of all patient populations.

Students will be able to describe the process of birth and demonstrate how to assist a pregnant female in delivering a neonate and be able to assess and treat the neonate when they are healthy or in distress.

Students will be able to describe how to manage a mass casualty incident.

Students will be able to describe the operation of an ambulance, using helicopter EMS, and understanding when to activate specialized resources for HAZMAT, extrication, and rescue scenarios.

Students will be able to describe what acts of terrorism are, recognize signs and symptoms and manage diseases/injuries related to weapons of mass destruction, understand syndromic surveillance and reporting procedures for acts of terrorism.

EMS 113 - Emergency Medical Responder

Students will be able to identify and describe the EMS system and EMS's role in research and public health.

Students will be able to describe the safety and well-being of an EMR and medical/legal issues at the scene of an emergency.

Students will be able to describe basic anatomy, physiology, and pathophysiology of the human body, and identify the anatomical locations.

Students will be able to describe and demonstrate the use of equipment to move patients while using proper lifting and operating techniques.

Students will be able to describe the characteristics of therapeutic communication and the strategies to communicate with all ages and disabilities of patients effectively.

Students will be able to identify the anatomy and physiology to ensure a patent airway, adequate mechanical ventilation, and respiration for patients of all ages.

Students will be able to recognize shock, respiratory failure or arrest, and cardiac arrest based on assessment findings and manages the emergency while waiting for additional emergency response.

Students will be able to use scene information and simple patient assessment findings to identify and manage immediate life threats and injuries.

Students will be able to recognize and manage life threats based on assessment findings of a patient of all ages with a medical emergency while awaiting an additional emergency response.

Students will be able to recognize and manage a patient of all ages with internal and external bleeding, bone injuries, head and spine injuries, and chest and abdominal injuries while awaiting an additional emergency response.

Students will be able to describe the operational roles and responsibilities to ensure safe patient, public, and personnel safety during rescues, HAZMAT response, and MCI incidents.

EMS 115 - Advanced Emergency Medical Technician

Students will be able to describe the role and responsibilities of AEMTs as professionals in emergency medical services.

Students will be able to demonstrate the steps of conducting patient assessments on patients who are sick or injured in all age levels.

Students will be able to recognize the signs and symptoms, determine the treatment plan, and apply those interventions for COPD, CHF, diabetes, chest pain, aortic aneurysms, cardiac arrest, cardiogenic shock, seizures, stroke, acute abdomen, chronic inflammatory abdominal conditions, gynecological conditions, sickle cell disease, allergic reactions, overdoses, psychiatric emergencies within 15 minutes.

Students will be able to describe the principles and practices for organizing and managing an accident scene and when an ambulance is required.

Students will be able to recognize signs and symptoms of the head, back, chest, abdominal, genitourinary, environmental, and extremity injuries and manage these injuries effectively within 10 minutes.

Students will be able to identify the differences between geriatric, adult, pediatric, and special population patients, and manage those patients using appropriate assessment techniques.

Students will be able to describe and demonstrate how to manage airway and breathing effectively using basic and advanced level techniques.

Students will be able to describe all the medications in the AEMT scope of practice and demonstrate how to give these medications in scenarios.

Students will be able to demonstrate how to perform intravenous therapy and evaluate how to effectively manage the perfusion of all patient populations.

Students will be able to demonstrate how to perform a scene size-up, an initial impression, a primary assessment, a focused or detailed assessment, and reassessment of all patient populations.

Students will be able to describe the process of birth and demonstrate how to assist a pregnant female in delivering a neonate and be able to assess and treat the neonate when they are healthy or in distress.

Students will be able to describe how to manage a mass casualty incident.

Students will be able to describe the operation of an ambulance, using helicopter EMS, and understanding when to activate specialized resources for HAZMAT, extrication, and rescue scenarios.

Students will be able to describe what acts of terrorism are, recognize signs and symptoms and manage diseases/injuries related to weapons of mass destruction, understand syndromic surveillance and reporting procedures for acts of terrorism.

EMS 198 - Special Topics in EMS

Students will be able to exhibit knowledge of the specific substantive area of emergency medical services being studied.

Students will be able to synthesize existing knowledge, abilities and skills with new practical skills while gaining theoretical understanding of the substantive area of emergency medical services being taught.

EMS 200 - Fundamentals of Paramedic Medicine

Students will be able to describe the role and responsibilities of paramedics as professionals in emergency medical services.

Students will be able to discuss the critical points, required components, and system elements of EMS.

Students will be able to discuss the role of the National Scope of Practice, National EMS Education Standards, and national agencies in EMS education.

Students will be able to discuss and demonstrate how their well-being is important and how stress management is important in EMS.

Students will be able to discuss the infectious and communicable diseases, the routes of transmission, and how to protect against them.

Students will be able to describe the physiologic, physical, and psychological responses to stress for the patient and themselves and how to effectively work with those who exhibit those signs.

Students will be able to define and discuss the roles of public health in EMS and in the community in prevention.

Students will be able to discuss the legal system in the United States and how ethics and laws related to EMS.

Students will be able to discuss and demonstrate how effective communication is important in providing emergency care across different ages, cultures, and ethnicities.

Students will be able to discuss the physiological and physical characteristics differences across all age groups and how to utilize that in their assessments.

Students will be able to discuss the different components of the communication systems in EMS.

Students will be able to discuss and demonstrate how to document patient care effectively in a patient care report and understand the legal implications of proper documentation.

Students will be able to describe and explain how to effectively practice paramedicine using critical thinking and decision-making skills.

Students will be able to discuss the different career paths that a paramedic can apply for.

EMS 202 - Advanced Cardiology for Paramedics

Students will be able to recognize cardiac abnormalities on a 12-lead ECG including but not limited to: atrial and ventricular hypertrophies, myocardial ischemia and infarctions, bundle branch blocks, and axis deviations.

Students will be able to demonstrate proper and accurate operation of a 12-Lead Electrocardiograph monitor and placement of 12-Lead ECG patches.

Students will be able to formulate and execute treatment plans for patients based on an appropriate assessment and 12-lead ECG.

EMS 203 - Paramedic Skills

Students will be able to demonstrate competence with Paramedic skills as defined by the national scope of practice.

Students will be able to integrate the pathophysiological principles and assessment findings to formulate a field impression and implement a management plan for patients who are experiencing a medical emergency including those with communicable diseases.

EMS 204 - Principles of Anatomy & Physiology for Paramedicine

Students will be able to describe the anatomic position, the planes, and the topography of the body.

Students will be able to identify and discuss the anatomy and physiology of the body systems in a human including the cardiovascular, respiratory, endocrine, neurological, gastrointestinal, genitourinary, reproductive, immunological, lymphatic, and integumentary systems.

Students will be able to describe the atomic, chemical, cellular, and organization of the body.

Students will be able to discuss how the body is to maintain homeostasis using fluid balance and cellular function.

EMS 205 - Principles of Pathophysiology

Students will be able to describe the normal body functions and abnormal pathophysiology in relation to major human systems.

Students will be able to recognize and apply common medical terminology in relation to a disease process.

Students will be able to recall the anatomy and physiology of organ systems related to commonly encountered diseases in EMS.

Students will be able to describe the disordered physiological processes associated with diseases commonly encountered in EMS and those in lesser-known diseases.

Students will be able to recognize the signs and symptoms of each disease process and develop a treatment plan for each of them.

Students will be able to describe the mechanisms that affect the organ systems under pathophysiologic conditions of a disease.

Students will be able to discuss the understanding of the cellular environment, causes of cellular injury, electrolyte imbalance, and acid-base balancing.

Students will be able to discuss the components of the immune and inflammatory functions of the body and the mechanisms of injury based on those responses.

Students will be able to discuss and understand the pathophysiology of shock and multiple organ dysfunction syndromes, the types of shock, and how to manage patients in shock.

EMS 206 - Prin Pharmacology/Medication Admin/Venous Access

Students will be able to describe the principles of pharmacology and the regulatory measures affecting medications and their administration in the prehospital field.

Students will be able to describe how drugs are classified, the components of the drugs, and how to safely use them in the prehospital setting.

Students will be able to formulate an optimal treatment plan utilizing the correct medication based on the signs and symptoms in a clinical condition or situation.

Students will be able to identify various classes of medications used in the following emergencies: neurological, EENT, gastrointestinal, renal, OBGYN, endocrine, immunological, toxicological, and behavioral emergencies.

Students will be able to identify the several classes of medications used in the management of pain, infection, and vomiting.

Students will be able to describe the different uses of intravenous (IV) fluid, how to properly use them, and identify when overuse occurs.

Students will be able to discuss and demonstrate how to properly insert intravenous and intraosseous lines and to recognize complications.

Students will be able to discuss and demonstrate how to properly administer medications through an IV or IO line utilizing proper techniques and understanding indications, contraindications, dosing, and side effects.

Students will be able to discuss and demonstrate how to properly administer medication utilizing various routes while practicing proper techniques and understanding indications, contraindications, dosing, and side effects.

Students will be able to explain the principles of drug dose calculations by applying ratio and proportion problems, including the desired dose, concentration on hand, the volume on hand, volume to administer, and IV medication and fluid drip-rate by converting metric, household, and apothecary units.

EMS 207 - Airway Management and Ventilation for Paramedics

Students will be able to review the anatomy of the respiratory system, including the major structures of the upper and lower airway.

Students will be able to discuss the physiology and pathophysiology of breathing, including ventilation, oxygenation, and respiration.

Students will be able to identify the difference between adequate and inadequate breathing and differentiate between respiratory distress, failure, and arrest.

Students will be able to identify normal and abnormal lungs sounds and relate to disease processes and determine the proper treatment plan to manage them.

Students will be able to demonstrate how to effectively manage and maintain an airway and adequate ventilation utilizing equipment available to the EMS provider at the basic level utilizing airway adjuncts, BVM, NRB, nasal cannula, and BLS techniques.

Students will be able to demonstrate how to effectively manage and maintain an airway and adequate ventilation utilizing equipment available to the EMS provider at the advanced level utilizing different intubation techniques, supraglottic airways, and cricothyrotomy.

Students will be able to identify signs and symptoms of different respiratory emergencies and evaluate how to properly manage those using pharmacological interventions.

Students will be able to discuss and demonstrate how to perform a respiratory assessment of a patient.

Students will be able to discuss the different pharmacological applications of respiratory medications and demonstrate how to effectively use them in respiratory scenarios.

EMS 208 - Paramedic Practicum

Students will be able to apply scene information and patient assessment findings to formulate an impressions list and an appropriate treatment plan and transport decision for an acutely injured or ill patient.

Students will be able to discuss and apply to an assessment and management fundamental knowledge of the medications that may be administered to a patient at the Paramedic level and commonly prescribed patient medications to include dosage and mechanism of action.

Students will be able to effectively communicate assessment findings, management, and patient outcomes to colleagues and other healthcare providers for reporting purposes and to be used for epidemiological research.

Students will be able to recognize and demonstrate professional behavior including but not limited to; integrity, empathy, self-motivation, cultural sensitivity, appearance, and personal hygiene, self-confidence, communications, time-management, teamwork, diplomacy and respect, patient advocacy, and the safe delivery of care while understanding different cultures.

Students will be able to construct protocols based on common prehospital emergencies.

Students will be able to perform skills as an entry-level paramedic according to the national paramedic scope of practice.

EMS 209 - Patient Assessment for Paramedics

Students will be able to identify the components of the patient assessment process and demonstrate how to perform each component.

Students will be able to discuss and demonstrate managing a critical patient versus a stable patient and determine the best transport method.

Students will be able to identify the life threats of patients by inspecting and palpating for open and closed findings during the primary survey.

Students will be able to recognize which aspects of the body systems should be covered during the history-taking process.

Students will be able to apply clinical reasoning, based on the results of the primary survey and patient history to develop a differential diagnosis.

Students will be able to discuss and demonstrate how to assess the neurological, cardiovascular, respiratory, gastrointestinal, genitourinary, integumentary, musculoskeletal, and obstetrical systems.

Students will be able to develop a treatment plan of a patient based on the history obtained by the patient and execute their treatment plan.

Students will be able to develop critical thinking skills to understand how to effectively communicate with patients of diverse populations while maintaining integrity, honesty, and interpersonal awareness.

Students will be able to demonstrate how to effectively communicate with patients, bystanders, other healthcare professionals and document the encounters in narratives.

Students will be able to demonstrate how to apply problem-solving skills to provide medications and determine drip calculations during treatment plans.

EMS 210 - Principles of Cardiology for the Paramedic

Students will be able to describe the main structures and functions of the anatomy, physiology, and electrophysiology of the heart.

Students will be able to identify all of the parts of the conduction system and how they are related to the ECG of the heart.

Students will be able to identify the lead placement of a 4-lead monitor and identify normal and abnormal variations of each limb lead.

Students will be able to explain the ECG characteristics, possible causes, signs, and symptoms, and demonstrate the initial emergency medical care for dysrhythmias origination in the sinoatrial node.

Students will be able to explain the ECG characteristics, possible causes, signs, and symptoms, and demonstrate the initial emergency medical care for dysrhythmias origination in the atria.

Students will be able to explain the ECG characteristics, possible causes, signs, and symptoms, and demonstrate the initial emergency medical care for dysrhythmias origination in the atrioventricular junction.

Students will be able to explain the ECG characteristics, possible causes, signs, and symptoms, and demonstrate the initial emergency medical care for dysrhythmias origination in the ventricles.

Students will be able to describe and demonstrate how to properly assess a patient with a cardiovascular emergency.

Students will be able to describe the etiology, history, findings, demonstrate the management of cardiovascular emergencies such acute coronary syndromes, cardiac tamponade, heart failure, hypertension, cardiogenic shock, vascular disorders, and infectious diseases of the heart.

EMS 211 - Paramedic Care for Medical Emergencies

Students will be able to integrate the pathophysiological principles and assessment findings to formulate a field impression and implement a management plan for patients who are experiencing a medical emergency including those with communicable diseases.

Students will be able to apply teamwork skills to contribute to the success of patient care while working with other first responders.

Students will be able to use proper communication techniques across all age groups, genders, and cultures.

Students will be able to correlate assessments to field impressions using critical-thinking skills.

Students will be able to generate patient care reports using their field impressions, interventions, and assessments, to effectively document their interactions with each patient they encounter.

Students will be able to demonstrate how to apply problem-solving skills to provide medications and determine drip calculations during treatment plans.

EMS 212 - Paramedic Trauma Emergencies

Students will be able to explain the principles of kinematics and assess and treat patients based on the mechanism of injury and integrate the assessment findings to formulate a field impression and treatment plan for the trauma patient.

Students will be able to apply critical thinking skills and both written and verbal communication skills to work with other healthcare providers in a team setting to adequately treat trauma patients in a timely manner.

Students will be able to integrate knowledge and hands-on skills to care for trauma patients to the standards of International or Prehospital Trauma Life Support.

EMS 214 - Special Populations in Paramedicine

Students will be able to explain the changes associated with aging, and age-related assessment and treatment modifications for the major or common pediatric, obstetric, disabilities, and geriatric diseases and/or emergencies.

Students will be able to recognize and report abuse and neglect within special populations.

Students will be able to integrate knowledge on age-related conditions and emergencies to be able to demonstrate assessment and treatment of special populations using communication, team management, and critical thinking skills.

Students will be able to describe the pediatric assessment utilizing Pediatric Advanced Life Support and implementing the techniques to manage pediatric emergencies within a timely manner and gain PALS certification.

EMS 215 - EMS Incident Management and Operations

Students will be able to define and demonstrate the principles of rescue awareness and operations to safely rescue patients from water hazards, hazardous atmospheres, trenches, highways, extrication techniques, and hazardous terrain.

Students will be able to demonstrate ability to implement guidelines that help ensure safe and effective ground and air medical transport.

Students will be able to define operational roles in natural or human-made disasters utilizing incident management systems.

EMS 216 - Hospital Clinical Experience for the Paramedic

Students will be able to demonstrate ability to perform a comprehensive patient assessment on live patients in a hospital setting of various ages, cultures, backgrounds, pathologies, and complaints utilizing critical thinking skills.

Students will be able to demonstrate the ability to assist and perform procedures and interventions in the hospital setting up to the paramedic scope.

Students will be able to demonstrate the ability to perform communication amongst healthcare professionals of all levels and document all patient encounters by creating narratives of the patient's interventions and history.

EMS 217 - Field Internship for the Paramedic

Students will be able to demonstrate competence in assessing live patients, develop treatment plans based on patient illness or injury, perform appropriate interventions and take the lead role in caring for live patients while utilizing critical thinking skills in the pre-hospital setting according to national standards and local protocol and under direct supervision of a licensed paramedic preceptor.

Students will be able to demonstrate competence in pre-hospital emergency care over a minimum period of 360 hours, up to a maximum of 720 hours and a minimum of 40 Advanced Life Support patient contacts.

Students will be able to demonstrate the ability to effectively communicate with patients, bystanders, other first responders, and healthcare providers of all ages, ethnicities, and cultures.

Students will be able to demonstrate the ability to effectively document patient encounters utilizing a PCR system either provided by the program and/or the agency.