

Common Course Outline
EMST 201
EMT Critical Care
6 Credits

The Community College of Baltimore County

Description

Principles and practices of out-of-hospital advanced life support. Emphasis is placed on the recognition and management of disorders of the cardiovascular, respiratory and nervous systems. Selected disorders of other human systems will also be discussed. Shock, fluid therapy, parenteral drug administration, advanced airway management, and other advanced skills are covered.

Prerequisites: Admission to the EMT-P Program.

Overall Course Objectives

Upon completion of this course the student will be able to:

1. Define the functions of prefixes, suffixes, and root words as they pertain to medical terminology.
2. Apply and interpret medical terminology based upon the understanding of a given list of prefixes, suffixes, and root words.
3. Appropriately document information using accepted medical abbreviations.
4. Document with the metric system, using the current notation and units for a given measurement.
5. Discuss the importance of human anatomy and physiology as it relates to the paramedic profession.
6. Discuss the functions of the following cellular structures: the cytoplasmic membrane, the cytoplasm (and its organelles), and the nucleus.
7. For each of the eleven major body systems, and for the special senses, of the human body, label a diagram of anatomical structures, list the functions, and explain how the organs and senses of the system interrelate to perform the specific functions of the system.

8. Establish priorities of care based on life-threatening conditions.
9. Explain the purpose of the primary and secondary assessments.
10. Differentiate between the resuscitation procedures for medical and trauma patients.
11. Describe the examination techniques for inspection, palpation, and auscultation.
12. Apply effective patient-interviewing techniques to given scenarios.
13. Describe special considerations in assessing pediatric, geriatric, disabled, and non-English-speaking patients.
14. Describe the function and location of the anatomical structures of the upper and lower airways.
15. Explain the mechanisms of respiration.
16. Describe the pulmonary circulation.
17. Discuss the assessment and management of medical or trauma obstruction of the airway.
18. Describe the use of manual airway maneuvers and mechanical airway adjuncts based on knowledge of their indications, contraindications, potential complications, and techniques.
19. Explain variations in assessment and management of airway problems in pediatric and geriatric patients.
20. Describe the role of the heart, vasculature, and lungs in tissue perfusion.
21. Explain the various mechanisms for moving fluid and electrolytes among the body fluid compartments.
22. Describe the assessment and management of a patient with an imbalance of fluids, electrolytes, or both.
23. Discuss Recognize the stages of progression of shock.
24. Differentiate the etiologies, signs, symptoms, and management of each classification of shock.
25. Outline the physical examination of a patient in shock.
26. Discuss the indications, contraindications, complications, and techniques of intervention for shock.

27. List five sources of drugs.
28. Identify the four different types of drug names.
29. Outline drug standards and legislation pertinent to the paramedic.
30. Distinguish among drug forms.
31. Discuss factors that influence drug absorption, distribution, and elimination.
32. Outline assessment techniques performed and documented to evaluate the effectiveness of drug therapy.
33. Calculate and correctly measure or infuse the correct volume of drug to be administered for a given situation.
34. Describe steps for administering safe administration of drugs.
35. Explain techniques of drug administration by enteral and parenteral routes.
36. Identify special considerations for administering pharmacological agents to pediatric and geriatric patients.
37. List the class, actions, onset, duration, indications, contraindications, adverse reactions, drug interactions, dosage, route of administration, and special considerations for the drugs listed in the Basic and Advanced Life Support Pharmacology sections of the Maryland Medical Protocols for Emergency Medical Services Providers.
38. Describe the pathophysiology, assessment, and management of the following infectious and non-infectious respiratory disorders: adult respiratory distress syndrome (ARDS), obstructive airway disease, chronic obstructive pulmonary disease, asthma, cystic fibrosis, pulmonary embolism, central nervous system dysfunction, pleurisy, influenza, pneumonia, tuberculosis.
39. Describe the normal physiology of the heart and vascular system.
40. Describe basic monitoring techniques that permit clear electrocardiogram interpretation.
41. Interpret electrocardiogram tracings.

42. Given a dysrhythmia, identify the site of origin, discuss the possible causes, recognize its critical features in monitoring lead II, interpret a selected rhythm tracing, describe prehospital management, and describe treatment.
43. Describe patient assessment and management of selected cardiovascular diseases based on knowledge of the pathophysiology of the illness.
44. Identify critical patient care measures for a person in cardiac arrest.
45. Discuss the pathophysiology of diabetes as a basis for key signs and symptoms.
46. Discuss the patient assessment and management for diabetic emergencies of hypo/hyperglycemia, diabetic ketoacidosis, and hyperosmolar hyperglycemic nonketotic coma.
47. Describe the general assessment of a patient who has a nervous system disorder.
48. Discuss the specific neurological patient evaluation.
49. Describe the pathophysiology, assessment, and specific management techniques for each of the following neurological disorders: coma, seizure, and cerebral vascular accident.
50. Discuss the etiology of renal disease
51. List the signs and symptoms, assessment and management of patients with renal disease.
52. Define *anaphylaxis*.
53. Describe signs and symptoms of anaphylaxis.
54. Describe the assessment and management of anaphylaxis.
55. Apply the Maryland Medical Protocols for Emergency Medical Services Providers in relation to the medical and trauma emergencies discussed in this course.

Major Topics

Medical Terminology and the Metric System
Overview of Human Systems
General Patient Assessment
Airway and Ventilation
Shock
Emergency Pharmacology
Trauma
Respiratory Disorders
Cardiovascular Emergencies
Diabetic Emergencies
Nervous System Disorders
Renal Failure
Anaphylaxis
Maryland Medical Protocols for Emergency Medical Services Providers

Course Requirements

Students registered for EMST 201 must maintain advanced life support affiliation with a Maryland volunteer, career, or commercial ambulance company at all times while enrolled in the CCBC Essex EMT Program.

Mastery level for all written examinations is 75%.

Other Course Information

This course is offered during the Spring only.

Successful completion of this course, in combination with EMST 200 and EMST 205 is required for the student to be eligible to sit for the State Cardiac Rescue Technician examination.