

EMT-2371: PARAMEDIC CAPSTONE COURSE

Cuyahoga Community College

Viewing: EMT-2371 : Paramedic Capstone Course

Board of Trustees:

November 2018

Academic Term:

Fall 2020

Subject Code

EMT - Emergency Medical Technology

Course Number:

2371

Title:

Paramedic Capstone Course

Catalog Description:

Paramedic Capstone Course. Final course in sequence necessary for NREMT Paramedic Certification and State of Ohio Paramedic certification. Integration of course knowledge and skills to demonstrate competence in American Heart Association Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS); American College of Surgeons or American College of Emergency Physicians approved trauma life support and National Association of EMT (NAEMT) medical life support standards. Additionally directed practice and field experience environment with demonstration of team leadership and integration with other medical professionals.

Credit Hour(s):

5

Lecture Hour(s):

3

Lab Hour(s):

3

Other Hour(s):

112

Other Hour Details:

Directed Practice and field experience: 112 hours per semester

Requisites

Prerequisite and Corequisite

EMT-2360 Paramedic Theory IV, and departmental approval: State of Ohio Certified EMT-Basic.

Outcomes

Course Outcome(s):

Use patient assessment skills to identify mechanism of injury or nature of illness to determine therapeutic modalities for the medical and trauma patient, and establish the priority of interventions needed to improve the patient's outcome.

Objective(s):

1. Integrate basic cardiac life support skills with advanced cardiac life support interventions for cardiovascular emergencies in the adult patient following American Heart Association standards.
2. Identify and treat eschismic chest pain and acute coronary symptoms.
3. Recognize other life-threatening clinical situations (such as stroke) and provide initial care.
4. Employ the important concepts of a systematic approach to pediatric assessment, basic life support, Pediatric Advanced Life Support (PALS) treatment algorithms, effective resuscitation and team dynamics following AHA and American Academy of Pediatrics (AAP) standards.
5. Demonstrate 1 and 2 rescuer CPR and AED use for the infant and child.
6. Describe and demonstrate the assessment and treatment of respiratory emergencies.

7. Describe and perform systematic approach to pediatric assessment.
8. Recognize cardiac rhythm disturbances and provide therapies, including electrical therapies.
9. Select and perform vascular access techniques.
10. Describe the resuscitation team concept and assign and participate in the various roles.
11. Participate in and discuss simulations for cardiac, respiratory, and shock cases.
12. Explain normal cardiovascular anatomy and physiology.
13. Integrate basic trauma life support skills with paramedic level trauma life support skills for adult and pediatric patients according to American College of Surgeons and/or American College of Emergency Physicians standards.
14. Describe the trauma care system and its importance.
15. Explain the importance of injury prevention.
16. Describe the kinematics of trauma and how it relates to assessment and management of the trauma patient.
17. Demonstrate the scene size-up.
18. Demonstrate the assessment and management of the patient with airway and/or circulatory compromise.
19. Demonstrate the assessment and management of specific injuries.
20. Utilize Advanced Medical Life Support (AMLS) assessment and management techniques according to National Association of EMT standards (NAEMT).
21. Describe and demonstrate the AMLS Assessment pathway.
22. Demonstrate the assessment and management of the following problems: altered mental status and neurological changes; respiratory dysfunction; hypoperfusion; chest discomfort; endocrine, metabolic, and environmental disorders; abdominal discomfort; infectious diseases; and toxicological emergencies.
23. Perform basic and advanced airway management techniques.
24. Interpret 12 lead ECGs.
25. Evaluate normal lab values.
26. Practice Rapid Sequence Intubation (RSI).
27. Define pharmacological agents designed and utilized for cardiopulmonary arrest and peri-arrest situations.
28. Demonstrate the technical aspects and skills necessary to perform CPR.
29. Establish circulatory access and properly administer appropriate medication.
30. Demonstrate application of a heart monitor for general electrocardiogram (ECG) interpretation.
31. Recognize and initiate early management of peri-arrest conditions.
32. Manage cardiac arrest.

Course Outcome(s):

Use tactical management, critical thinking and ethical decision making skills to lead and operate an Emergency Medical Services (EMS) unit.

Objective(s):

1. Perform resuscitation skills as an individual, part of a team, and as a team leader.
2. Discuss the importance of effective team interaction and communication during resuscitation.
3. Discuss effective resuscitation team dynamics.
4. Demonstrate essential resuscitation skills individually, as part of a team, and as team leader.

Course Outcome(s):

Demonstrate skill proficiency in pre-hospital assessments and treatments using advanced medical techniques and equipment available within the provider's scope of practice.

Objective(s):

1. Demonstrate basic life support skills including cardiopulmonary resuscitation, splinting and patient immobilization and transport, basic airway management and ventilation.
2. Apply ECG monitor to evaluate heart; recognizing lethal ECG dysrhythmias and interpreting 12 lead ECG for ischemia, injury and infarct.
3. Utilize advanced airway management techniques in properly prioritized manner.
4. Demonstrate vascular access techniques, including intravenous and intraosseous access.
5. Administer appropriate medications based on medical standards.
6. Initiate electrical therapies, including defibrillation, synchronized cardioversion, and transcutaneous pacing.

Methods of Evaluation:

Standards based written assessments for Advanced Cardiac Life Support, Pediatric Advanced Life Support, Advanced Medical Life Support, and trauma life support.

Observation in case based skill stations utilizing standards based scoring guides.

Assessment in directed practice and field experience settings of performance as team leader and performance of patient assessment and management skills.

Course Content Outline:

1. Concepts
 - a. Recognition of peri-arrest conditions
 - b. Early management of peri-arrest conditions
 - c. Management of cardiac arrest
 - d. Identification of ischemic chest pain & acute coronary syndromes (ACS)
 - e. Treatment of ischemic chest pain & acute coronary syndromes (ACS). Specific treatments are based on the differential diagnosis
 - f. Recognition of other life-threatening situations, including stroke, hypoperfusion, trauma, and environmental emergencies.
 - g. Treatment of other life threatening situations stroke, hypoperfusion, trauma, and environmental emergencies.
 - h. Kinematics of trauma
 - i. Scene assessment and safety
2. Skills
 - a. Patient assessment using and organized, standards based methodology.
 - b. ECG interpretation, including three lead and 12 lead ECGs
 - c. Administering electrical therapies, including defibrillation, synchronized cardioversion, and transcutaneous pacing.
 - d. Administration of medications by various routes including:
 - i. Inhalation
 - ii. Sublingual
 - iii. Oral
 - iv. Subcutaneous, Intramuscular and Intravenous Injection
 - v. Intravenous and Intraosseous Infusion
 - vi. Transdermal
 - vii. Alternative routes
 - e. Basic and advanced airway management and ventilation
 - f. Splinting and packaging patients
3. Issues
 - a. Manage medical and trauma emergencies using evidence-based practices.
 - b. Differences in assessment and management of pediatric patients.
 - c. Transport of patients to appropriate medical facilities for their problem based on local systems and state rules.
 - d. Importance of critical thinking skills in interpreting patient assessment findings and implement appropriate therapies based on recognized standards.

Resources

Walraven, Gail. *Basic Arrhythmias*. 8th. Upper Saddle River, NJ: Pearson, 2017.

NAEMT. *Advanced Medical Life Support: An Assessment-based Approach*. 2nd. St. Louis: Elsevier, 2015.

American Heart Association. *Advanced Cardiac Life Support: Provider Manual*. 2015. American Heart Association, 2015.

American Heart Association. *Pediatric Advanced Life Support Provider Manual*. American Heart Association, 2016.

NAEMT. *Pre-Hospital Trauma Life Support*. 7th ed. St. Louis: Elsevier, 2015.

Bledsoe, Bryan E; Porter, Robert S; Cherry, Richard A. *Paramedic Care: Principles Practice*. 5th. Upper Saddle River, NJ: Pearson, 2017.

Instructional Services**CTAN Number:**

Career Technical Assurance Guide CTEMS004 (6 of 6 courses, all must be taken)

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