

## COURSE INFORMATION

**COURSE PREFIX/NO:** EMS 116  
**COURSE TITLE:** ADVANCED CARDIAC LIFE SUPPORT  
**LECTURE HOURS/WEEK:** 1  
**LAB HOURS/WEEK:** 0  
**CREDIT HOURS:** 1

[Distance Learning Attendance/VA Statement](#)  
[Textbook Information](#)

## COURSE DESCRIPTION

This course is designed to educate the experienced healthcare provider in dealing with critical cardiac patients in an acute emergency setting. An understanding of cardiac equipment, basic pharmacology, and cardiovascular function is necessary. Current American Heart Association guidelines will be followed.

## COURSE COMPETENCIES

Upon successful completion of EMS 116, the student will be able to:

### **Module 1: Introduction to Advanced Cardiac Life Support**

#### **Section 1: Assessment in Emergency Cardiac Care (ECG)**

Outline the importance of accurate primary and secondary assessment of the adult cardiac patient in the prehospital environment.

#### **Section 2: Basic Cardiac Life Support (BCLS) Review**

Associate the principles and application of BCLS as the foundation for appropriate ACLS in the adult patient.

#### **Section 3: Automated External Defibrillation (AED) Review**

Associate the principles and integration of the AED with BCLS as the foundation for appropriate ACLS in the adult cardiopulmonary arrest patient.

#### **Section 4: Airway Management and Ventilation**

Integrate the principles of ventilation and gas exchange with the pathophysiology of the adult cardiac patients to identify patients with inadequate ventilation, oxygenation, and perfusion.

#### **Section 5: Pharmacology and Fluids Review**

Explain the pharmacodynamics of ACLS resuscitation medications and fluids as they apply to the adult cardiac patient.

#### **Section 6: Acute Myocardial Infarction (AMI) and ST Elevation MI (STEMI)**

Integrate the principles of pathophysiology with physical examination findings to identify and provide treatment for the adult AMI/STEMI patient.

Associate the reduction in “door to balloon” time in the adult AMI/STEMI with the utilization of the prehospital 12 Lead ECG.

#### **Section 7: Acute Stroke**

Surmise the pathophysiologic effects of ischemic and hemorrhagic stroke and the need for timely intervention.

Integrate the Miami Emergency Neurological Deficit (MEND) exam into the care plan of the stroke patient.

#### **Section 8: Respiratory Arrest**

Compare and contrast the causes, pathophysiology, management, and potential consequences of failure to recognize and appropriately treat the adult respiratory arrest patient.

## **Module 2: Prehospital Advanced Cardiac Life Support Applications**

### **Section 9: Witnessed Ventricular Fibrillation (V-Fib)**

Integrate principles of early recognition, initiating early BCLS, and early defibrillation into appropriate treatments for the adult witnessed V-Fib patient.

### **Section 10: Mega Ventricular Fibrillation (V-Fib)**

Integrate the principles of the V-Fib/Pulseless Ventricular Tachycardia (V-Tach) AHA algorithm into the management of the adult V-Fib/Pulseless V-Tach patient.

### **Section 11: Stable/Unstable Tachycardia**

Integrate the principles of the Stable/Unstable Tachycardia AHA algorithms into the management of the adult Stable/Unstable Tachycardia patient.

### **Section 12: Bradycardia**

Integrate the principles of the Bradycardia AHA algorithm into the management of the adult Bradycardia patient.

### **Section 13: Asystole and Pulseless Electrical Activity (PEA)**

Integrate the principles of the Asystole and PEA AHA algorithms into the management of the adult Pulseless Arrest patient.

### **Section 14: Resuscitation Team Concept and Putting it all Together**

Integrate the principles of the AHA ACLS guidelines into the management of the adult cardiac patient by the prehospital provider team.

## **COURSE REQUIREMENTS**

1. Students are expected to adhere to the policies regarding student conduct as stated in the current York Technical College Catalog and Handbook.
2. Students are responsible for attending all scheduled classes in EMS 116. Regular attendance and class participation are essential to student success in EMS 116. Students who are absent from scheduled classes/clinical for any portion of the scheduled hours will be withdrawn.
3. Students are responsible for all material covered and for completing all assignments.
4. Students must satisfactorily complete all required skill competencies.
5. Students must complete the pretest and posttest with a minimum score of 84%. **Students must have a MINIMUM SCORE OF 84% TO SUCCESSFULLY COMPLETE THIS COURSE!**

## **ATTENDANCE**

This course is taught from the current AHA ACLS 2005 guidelines. Students are responsible for attending all scheduled classes in EMS 116. Students must attend 100% of all scheduled activities. Students who are absent from scheduled classes/clinical for any portion of the scheduled hours will be withdrawn

## **ACADEMIC INTEGRITY**

Any student found guilty of cheating, dishonesty, or plagiarism will be given a grade of “0” on an exam or written work and will be subject to further disciplinary action. Plagiarism refers to “The act of appropriating the literary composition of another, on parts or passage of his writings, on the ideas or language of the same, and passing them off as the product of one’s own mind.”

## **METHODS OF INSTRUCTION**

Lecture, assigned readings, audiovisuals, handouts, written assignments, discussion, demonstration, and lab experience.

## **MINIMAL STANDARDS**

Attendance/Participation: Given a course outline, the student will attend and actively participate in 100% of scheduled class sessions. All current SC DHEC EMS Division Policies and Procedures and current AHA ACLS 2005 guidelines will apply to the EMT-P Training Program.

Performance: Upon completion of assigned readings, classroom presentations/demonstrations/practice, out-of-class activities, and other assigned course activities, the student will demonstrate all competencies as required by current AHA ACLS 2005 guidelines.

## EVALUATION STRATEGIES/GRADING

### A. Lab/Clinical Component

#### Satisfactory completion of the following skill competencies:

Primary Assessment – Adult	Airway Interventions – Basic
Secondary Assessment – Adult	LMA Insertion
Basic Cardiac Life Support - Adult	Orotracheal Intubation
Automated External Defibrillation	Blind Insertion Airway Devices (BIADs)
Transcutaneous Pacing	Dual Lumen Airway Insertion
Synchronized Cardioversion	12 Lead ECG Interpretations
Manual Defibrillation	Cardiac Rhythm Recognition and Treatment

### B. Theory Component

The final grade in EMS116 will be determined by averaging the scores on the following:

AHA ACLS 2005 Pretest	50%
AHA ACLS 2005 Posttest	50%
<b>*Combination of above</b>	<b>100%</b>

**\*Must have a *MINIMUM SCORE OF 84% TO SUCCESSFULLY COMPLETE THIS COURSE!***

### Grading Scale for EMS 116 (American Heart Association grading scale requirement)

A	91-100%
B	86-90%
C	84-85%
D	70- 83%
F	Below 69%

## ENTRY-LEVEL SKILLS

Students must be an Intermediate EMT prior to course and must be affiliated with an Emergency Medical Services (EMS) or Rescue Squad/Fire Department SC DHEC EMS Provider through course completion.

Students must maintain current SC DHEC EMS Division Intermediate EMT status through course completion.

Students must maintain current BCLS credential as per SC DHEC EMS Division through course completion.

Students must successfully complete ASSET or HOBET *prior to* entrance into course.

Students must meet all above criteria and must meet all requirements for function as an Emergency Medical Technician as outlined in the current Americans with Disabilities Act.

**PREREQUISITES:** Admission to York Technical College  
Completion of Anatomy and Physiology as per SC DHEC EMS Policy  
SC DHEC EMS Intermediate EMT

**CO-REQUISITES:** EMS 111, EMS 115, EMS 120, and EMS 220

**Disabilities Statement:** Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Offices (SR) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.

*Effective: Spring 2009*