

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: EMS 153

CREDITS: 2

COURSE TITLE: BASIC ECG RECOGNITION

Course Description: Focuses on the interpretation of basic electrocardiograms (ECG) and their significance. Includes an overview of anatomy and physiology of the cardiovascular system including structure, function and electrical conduction in the heart. Covers advanced concepts that build on the knowledge and skills of basic dysrhythmia determination and introduction to 12 lead ECG. Lecture 2 hours per week

Prerequisites: EMS 111 and EMS 120. **Co-requisites:** EMS 151, 157 and 170.

Course Objectives:

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

- a. Explain the epidemiology of the cardiac patient
- b. Explain the cardiovascular system's anatomy and physiology
- c. Explain the electrophysiology of the heart
- d. Properly assess and implement a treatment plan for a variety of cardiac emergencies, to include angina, acute myocardial infarction, cardiogenic shock, congestive heart failure, pulmonary edema, aortic aneurysm, pulmonary embolism, hypertensive crisis, palpitations, and syncope
- e. Properly apply and interpret three, four and 12 lead ECGs
- f. Recognize a variety of rhythms, to include ventricular fibrillation, pulseless electrical activity, asystole, bradycardia, and tachycardia
- g. Manage all rhythms utilizing standard American Heart Association Advanced Cardiac Life Support algorithms
- h. Administer appropriate cardiovascular medications through the appropriate routes and at the right dose

Major Topics to be Included:

- Epidemiology
- Cardiovascular A&P
- Electrophysiology
- Cardiac Emergencies Assessment
- ECG Monitoring
- Rhythm Recognition
- Pathophysiology and Management of Cardiac Emergencies
- Cardiovascular Medications

Effective Date of Course Content Summary: April 6, 2009