

**COURSE OUTLINE**  
**CARD-101**  
**Cardiovascular Assessments**  
3 Semester Hours

**HOWARD COMMUNITY COLLEGE**

**Description**

Includes fundamental physical assessments and cardiovascular procedures including electrocardiogram, cardiac stress test, and ambulatory monitoring. The use and maintenance of equipment and identification of arrhythmias is emphasized. Students will develop a knowledge base and skills to perform basic cardiac assessments under supervision in a clinical laboratory. Prerequisite: Admission into the Cardiovascular Technology Program: See specific Program requirements. (2 hours lecture, 3 hours lab)

**Overall Course Objectives**

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

1. Describe the basic anatomy of the heart, in detail, the anatomy of the cardiac chambers, valves supporting structures and conduction system.
2. Describe in detail the function of the cardiac chambers, valve supporting structures and conduction system.
3. Define the characteristics of myocardial muscle tissue.
4. Understand the action potential of myocardial cells.
5. Describe in detail the theory of rationale for, and perform electrocardiography, exercise stress testing, holter monitoring, telemetry monitoring and pace maker usage.
6. Perform technically satisfactory twelve lead electrocardiograms.
7. Perform all aspects of exercise stress testing.
8. Obtain high quality holter monitoring tracings and practice scanning holter tapes.
9. Perform all standard calculations used in electrocardiography.
10. Recognize the normal patterns obtained by the above mentioned examinations.
11. Interpret and understand the major abnormal patterns obtained by the above mentioned examinations.
12. Interpret and understand the major cardiac rhythm disturbances as seen by electrocardiography.

13. Recognize and describe the following types of rhythms:
 

Sinus	Heart Blocks
Atrial	Ventricular
Junctional	
14. Compare ambulatory ECG monitoring with the standard ECG including electrode configurations, recording and scanning devices.
15. Perform a head to toe assessment.
16. Perform a thorough cardiovascular assessment.
17. Identify the categories and indications for Cardiac Medications.

### **Major Topics**

1. Cardiovascular Anatomy & Physiology Review
  - a. Conduction
  - b. Physiology
  - c. Performance
2. ECG Techniques and Recognition
3. Cardiovascular Electrophysiology
4. Electrical Axis
5. Atrial Enlargement
6. Ventricular Enlargement
7. Ventricular Conduction Disturbances
8. Myocardial Infarction
9. Arrhythmias
10. Cardiac Arrest
11. Pacemaker
12. Ambulatory ECG Monitoring – Holter Monitoring
13. Cardiac Stress Tests
14. Cardiac Medications
15. Physical Assessment

### **Course Requirements**

#### Grading/Exams:

Grading procedures will be determined by the individual faculty member but will be calculated on the basis of exams, quizzes and lab practicals. Homework and summarized case reports may be required.

### **Other Course Information**

This is a Cardiovascular Core course.