

**Course Outline of Record**

1. Course Code: HS-080
2. a. Long Course Title: Electrocardiogram (ECG) Interpretation  
 b. Short Course Title: ECG INTERPRETATION
3. a. Catalog Course Description:  
 This course is designed for persons interested in working with patients who require cardiac monitoring. It provides an overview of the anatomy and physiology of the heart and the conduction system. Students apply analytical thinking to interpret graphic representations of normal and abnormal electrical activity of the heart. The emphasis of this course is on the interpretation of heart rhythms, lead placement, obtaining a 12 lead electrocardiogram and interpretation of cardiac rhythms that require immediate intervention.  
 b. Class Schedule Course Description:  
 This class teaches students the basics of interpretation of cardiac heart rhythms and performing a 12 lead ECG. It is appropriate for students who are interested in applying for jobs in hospitals or doctors offices as well as for students interested in careers in health care.  
 c. Semester Cycle (if applicable): N/A  
 d. Name of Approved Program(s):
4. Total Units: 3.00      Total Semester Hrs: 54.00  
 Lecture Units: 3      Semester Lecture Hrs: 54.00  
 Lab Units: 0      Semester Lab Hrs: 0  
 Class Size Maximum: 45      Allow Audit: No  
 Repeatability No Repeats Allowed  
 Justification 0
5. Prerequisite or Corequisite Courses or Advisories:  
*Course with requisite(s) and/or advisory is required to complete Content Review Matrix (CCForm1-A)*  
N/A
6. Textbooks, Required Reading or Software: (List in APA or MLA format.)  
 a. Walraven, G. (2017). Basic Arrhythmias (8th/e). Pearson. ISBN: 9780134380995  
 College Level: Yes  
 Flesch-Kincaid reading level: 9.3
7. Entrance Skills: *Before entering the course students must be able:*
8. Course Content and Scope:

**Lecture:**

1. Cardiac A & P including conduction system.
2. Waves, measures, calculating heart rate and lead placement.
3. Steps in rhythm analysis and sinus rhythms.
4. Atrial dysrhythmia.
5. Junctional escape and ectopic rhythms.
6. Ventricular dysrhythmia.
7. Cardioversion and defibrillation.
8. Conduction disturbances and heart block.
9. Pacemaker basics.
10. Antiarrhythmic interventions.
11. Overview of coronary perfusion
12. Infection control, standard precautions and personal protective equipment
13. ECG changes consistent with myocardial infarction
14. Overview of 12 lead ECG

# HS 080-Electrocardiogram (ECG) Interpretation

15. Bedside telemetry and 12 lead electrocardiogram lead placement
16. Health care regulations that relate to cardiac monitoring and 12 lead electrocardiograms
17. Health care worker/patient interactions
18. Electrocardiogram changes consistent with myocardial infarction

Lab: (if the "Lab Hours" is greater than zero this is required)

## 9. Course Student Learning Outcomes:

1.

Competently analyze ECG waveforms and identify ECG rhythms.

2.

Recognize ECG rhythms that indicate a condition change, common interventions, and specifically for rhythms that may be life threatening.

3.

Demonstrate the skills needed to place a patient on telemetry monitoring and to obtain a 12-lead ECG.

## 10. Course Objectives: *Upon completion of this course, students will be able to:*

a. Identify and label the major structures of the heart.

b. Identify and label the cardiac conduction system.

c. Relate the ECG waveforms to the cardiac cycle.

d. Demonstrate an understanding of the normal ECG measurement.

e. Outline the principles of ECG monitoring.

f. Analyze and interpret normal cardiac ECG rhythms.

g. Analyze, interpret and differentiate normal and abnormal ECG rhythms to include sinus, atrial, junctional, ventricular dysrhythmia and heart blocks.

h. Identify interventions commonly used to treat dysrhythmia.

i. Recognize situations when cardioversion or defibrillation would be indicated.

j. Identify basic principles of cardiac pacing (sensing, capture, pacing).

k. Discuss the effects of heart rate, atrial kick, ectopy, and conduction disturbances as they relate to cardiac output.

l. Recognize lethal and notlethal rhythms and state appropriate actions to be taken

m. Describe the changes seen on the ECG that are consistent with a possible heart attack

n. Relate coronary perfusion to 12 lead ECG lead placement

o. Describe the purpose of the 12 lead electrocardiogram and demonstrate correct lead placement for bedside telemetry monitoring and for 12 lead electrocardiogram

p. Define infection control, standard precautions and personal protective equipment and apply the concepts of standard precautions as they relate to different clinical situations

q. Describe professional behaviors expected of health care works to include privacy, patient identification and talking to patient when performing a 12 lead electrocardiogram.

## 11. Methods of Instruction: (*Integration: Elements should validate parallel course outline elements*)

a. Activity

b. Demonstration, Repetition/Practice

c. Lecture

d. Role Playing

Other Methods:

- a. Group work in measuring and reading EKG strips, class discussions about etiology, significance and treatment of selected rhythms.
- b. Simulation, recognition and identification of various cardiac rhythms using

# HS 080-Electrocardiogram (ECG) Interpretation

cardiac simulator and power point presentation.

12. Assignments: *(List samples of specific activities/assignments students are expected to complete both in and outside of class.)*

In Class Hours: 54.00

Outside Class Hours: 108.00

a. In-class Assignments

- a. Interpretation of ECG strips
- b. Lead Placement
- c. Workbook activities

b. Out-of-class Assignments

- a. Read assignments from texts and references.
- b. Practice interpreting ECG strips from text.
- c. Complete take home assignments.

13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*

- Written homework  
Complete home exercises which are discussed, reviewed and critiqued in class.
- Presentations/student demonstration observations  
Demonstrate proper lead placement
- Group activity participation/observation
- Mid-term and final evaluations
- Other  
Complete examinations and a final in which various rhythm strips are to be measured, timed and identified with a grade of 70% or better.

14. Methods of Evaluating: Additional Assessment Information:

15. Need/Purpose/Rationale -- *All courses must meet one or more CCC missions.*

PO - Career and Technical Education

Fulfill the requirements for an entry-level position in their field.

Display the skills and aptitude necessary to pass certification exams in their field.

IO - Personal and Professional Development

Self-evaluate knowledge, skills, and abilities.

Develop realistic goals.

16. Comparable Transfer Course

University System	Campus	Course Number	Course Title	Catalog Year
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17. Special Materials and/or Equipment Required of Students:

18. Materials Fees:  Required Material?

**Material or Item**

**Cost Per Unit**

**Total Cost**

19. Provide Reasons for the Substantial Modifications or New Course:

Increase class max size & modification of SLOs

20. a. Cross-Listed Course *(Enter Course Code):* N/A

b. Replacement Course *(Enter original Course Code):* HS-081

21. Grading Method *(choose one):* Letter Grade Only

# HS 080-Electrocardiogram (ECG) Interpretation

## 22. MIS Course Data Elements

- a. Course Control Number [CB00]: CCC000551436
- b. T.O.P. Code [CB03]: 129900.00 - Other Health Occupations
- c. Credit Status [CB04]: D - Credit - Degree Applicable
- d. Course Transfer Status [CB05]: C = Non-Transferable
- e. Basic Skills Status [CB08]: 2N = Not basic skills course
- f. Vocational Status [CB09]: Clearly Occupational
- g. Course Classification [CB11]: Y - Credit Course
- h. Special Class Status [CB13]: N - Not Special
- i. Course CAN Code [CB14]: N/A
- j. Course Prior to College Level [CB21]: Y = Not Applicable
- k. Course Noncredit Category [CB22]: Y - Not Applicable
- l. Funding Agency Category [CB23]: Y = Not Applicable
- m. Program Status [CB24]: 2 = Stand-alone

Name of Approved Program (if program-applicable): N/A

Attach listings of Degree and/or Certificate Programs showing this course as a required or a restricted elective.)

## 23. Enrollment - Estimate Enrollment

First Year: 0

Third Year: 0

## 24. Resources - Faculty - Discipline and Other Qualifications:

- a. Sufficient Faculty Resources: Yes
- b. If No, list number of FTE needed to offer this course: N/A

## 25. Additional Equipment and/or Supplies Needed and Source of Funding.

Students will need to bring their own Caliper for EKG interpretation.

## 26. Additional Construction or Modification of Existing Classroom Space Needed. (Explain:)

N/A

## 27. FOR NEW OR SUBSTANTIALLY MODIFIED COURSES

Library and/or Learning Resources Present in the Collection are Sufficient to Meet the Need of the Students Enrolled in the Course: Yes

no library resource required

## 28. Originator Sarah Fry Origination Date 09/21/17