

**EMC 114 Course Outline as of Fall 2019****CATALOG INFORMATION**

Dept and Nbr: EMC 114 Title: BASIC ARRHYTHMIA

Full Title: Basic Arrhythmia Recognition Course

Last Reviewed: 12/10/2018

Units	Course Hours per Week		Nbr of Weeks		Course Hours Total	
Maximum	2.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	2.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	2.00		Contact Total	35.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 105.00

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 21 - Legally Mandated Repetition

Also Listed As:

Formerly: EMC 275.1

**Catalog Description:**

Application of basic principles of cardiac anatomy and physiology to recognize basic heart arrhythmias. Designed for health and allied care personnel who assume responsibility for cardiac monitoring in the pre-hospital and hospital setting.

**Prerequisites/Corequisites:****Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Application of basic principles of cardiac anatomy and physiology to recognize basic heart arrhythmias. Designed for health and allied care personnel who assume responsibility for cardiac monitoring in the pre-hospital and hospital setting. (Grade Only)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Transfer Credit:

Repeatability: Legally Mandated Repetition

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Effective:	Inactive:
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<b>UC Transfer:</b>	Effective:	Inactive:
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**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

**Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Identify a normal electrocardiogram
2. Identify common abnormal cardiac rhythms

**Objectives:**

At the conclusion of this course, the student should be able to:

1. Identify and define 9 structures of the heart and their basic function.
2. Define the following terms related to cardiac electrophysiology:
  - A. Depolarization
  - B. Repolarization
  - C. Action potential
  - D. Refractory states
3. Describe the sequence of cardiac activation and recovery, and relate this information to the electrocardiogram (EKG) configuration.
4. Demonstrate a systematic method of EKG interpretation.
5. Identify normal waveforms for monitoring leads II, modified cardiac lead (MCL) 1 and 6.
6. Classify arrhythmias according to site, mechanism and severity.
7. Identify 15 arrhythmias.
8. Recognize and describe 4 conduction defects.
9. Identify 3 premature and escape beats and state the mechanism for each.
10. Discuss possible nursing and medical interventions for 15 major arrhythmias.
11. Identify pacemaker rhythms.

**Topics and Scope:**

- I. Overview
  - A. Cardiac anatomy and physiology
  - B. Myocardial blood supply
  - C. Cardiac conduction system
- II. EKG Interpretation
  - A. Vectors, lead placements
  - B. Waves and measurements
  - C. Analysis of EKG rhythm strips
  - D. Modified cardiac leads
- III. Conduction System
  - A. Anatomy
  - B. EKG analysis
  - C. Sinus rhythms
- IV. Cardiac Rhythms
  - A. Atrial
  - B. Junctional
  - C. Ventricular
- V. Heart Blocks - Conduction Defects

**Assignment:**

1. Read approximately 10 pages per week
2. Identify approximately 20 rhythm strips per week
3. Exam identifying 15 strips rhythm strips

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Identify 20 rhythm strips	Writing 5 - 10%
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**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

None	Problem solving 0 - 0%
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**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Class performances, Performance exams	Skill Demonstrations 20 - 45%
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**Exams:** All forms of formal testing, other than skill performance exams.

Completion, Identify EKG rhythm strips	Exams 45 - 70%
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**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

**Representative Textbooks and Materials:**

ECG Workout: Exercises in Arrhythmia Interpretation. 7th ed. Huff, Jane. Lippincott. 2016  
Instructor prepared materials.