GROSSMONT COLLEGE

COURSE OUTLINE OF RECORD

Curriculum Committee Approval: 03/22/2022

GCCCD Governing Board Approval: 04/19/2022

CARDIOVASCULAR TECHNOLOGY 101 – CARDIOVASCULAR PHYSIOLOGY I

1. Course Number Course Title Semester Units

CVTE 101 Cardiovascular Physiology I 4

Semester Hours: 4 hours lecture 64-72 hours 128-144 outside-of-class hours 192-216 total hours

2. Course Prerequisites

Admission to the Cardiovascular Technology Program

Corequisite

CVTE 100 and 102 and 103.

Recommended Preparation

None

3. Catalog Description

A study of the anatomy, physiology, andstructural relationships of the human heart and vascular system. Designed for students enrolled in the Cardiovascular Technology program, the course will concentrate on specialized terminology, cardiac and vascularanatomy, electrocardiography, and cardiac function of the normal cardiovascular system.

4. Course Objectives

The student will:

a. Identify and usespecified medical and anatomicalterminology common to the field of Cardiovascular Technology.

b. Identify the anatomical components and interrelationships of the chambers, valves, walls, septa, tissues,and arterial/venous connections of the human heart.

c. Recognize, analyze and differentiate oxygen saturations and dynamic pressure values from the various chambers of the heart and great vessels given data obtained from the Cardiac Catheterization Laboratory and bedside hemodynamic monitoring.

d. Recognize, analyze and differentiateintracardiac pressure gradients in patients with valvular heart disease from hemodynamic data recorded in the Cardiac Catheterization Laboratory.

e. Recognize the vascular circulation and differentiate venous and arterial anatomy and physiology.

f.Summarize and subdivide the components of the cardiac cycle.

5. Instructional Facilities

Standard classroom.

6. Special Materials Required of Student

None

7. Course Content

1. Medical and anatomical terminology
2. Basic blood flow
3. Cardiac cycle
4. Wiggers diagram
5. Cardiac conduction system
6. Cardiac anatomy and physiology
7. Vascular anatomy and physiology
8. Blood oxygen saturation
9. Cardiac output
10. Heart sounds and murmurs
11. Introduction to valve disease
12. Hemodynamic waveforms and values
13. Left heart pressures
14. Right heart pressures
15. Dual hemodynamic waveforms
16. Advanced cardiac anatomy
17. Cardiac muscle cell anatomy and physiology
18. Coronary and collateral circulation
19. The history and physical with emphasis on cardiac patients
20. Common diagnostic cardiac tests/exams

8. Method of Instruction

a. Lecture.

b. Class discussion.

c. Multimedia presentations.

d. Problem-solving exercises.

e. Individual and group class activities.

9. Methods of Evaluating Student Performance

a. Quizzes non-graded and graded designed to apply lecture content such as heart sounds.

b. Homework assignments such as medical terminology reading and quiz.

c. Examinations on Canvas.

d. Comprehensive final examination.

10. Outside Class Assignments

a. Assigned reading focused on medical terminology.

b. Problem-solving exercises.

c. Assigned videos supporting lecture content such as a physician taking a history from a patient.

11. Representative Texts

a. Representative Text(s):

Runge, M., Stouffer, G. and C. Patterson. *Netter’s Cardiology*. 3rd Ed., Philadelphia: Saunders

Elsevier Publisher, 2019.

b. Supplementary texts and workbooks:

Study materials supplied by instructor.

Addendum: Student Learning Outcomes

Upon completion of this course, our students will be able to do the following:

* 1. Explain and useprescribed medical and anatomicalterminology as related to the clinical practice of Cardiovascular Technology.
  2. Identify and describe anatomical features of the heart and vascular system.
  3. Identify and analyze the clinical significance of hemodynamic pressure recordings.
  4. Interpret and summarize the cardiac cycle.