

J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: RTH 222

Credits: 3

Course Title: Cardiopulmonary Science II

Course Description: Focuses on assessment, treatment, and evaluation of patients with cardiopulmonary disease. Explores cardiopulmonary, renal, and neuromuscular physiology, and pathophysiology. Prerequisites: Successful completion of all curriculum courses offered during the first two semesters of the AAS degree in Respiratory Therapy. Lecture 3 hours per week.

General Course Purpose: The student will review and refine physical assessment of the adult, pediatric, and neonatal patient. Additional topics include bronchoscopy, thoracentesis, chest tube management, calorimetry, cardioversion, defibrillation, basic ECG, CXR interpretation, pulse oximetry, capnography, and hemodynamics. Multiple case studies will help prepare the student for clinical intensive care rotations in the fall.

Course Prerequisites and Co-requisites:

Prerequisites: Successful completion of all curriculum courses offered during the first two semesters of the AAS degree in Respiratory Therapy

Student Learning Outcomes:

Upon completing the course, the student will be able to

- a. Perform a thorough physical assessment of the intensive care patient;
- b. Know the role of the respiratory therapist in therapeutic bronchoscopy, thoracentesis, and chest tube placement, to include set-up, monitoring, contraindications, adverse reactions, and response actions;
- c. Understand and be able to interpret basic ECG and chest x-rays, with particular recognition of immediate life-threatening arrhythmias;
- d. Treat and respond to the specific cardiac emergencies requiring defibrillation or cardioversion;
- e. Possess a more in-depth understanding of pulse oximetry and capnography, and how to utilize these parameters in managing the critically ill and/or ventilator dependent patient; and
- f. Recognize hemodynamic parameters and their clinical relevance in ventilator management.

Major Topics to Be Included:

- a. Physical assessment of the adult, pediatric, and neonatal patient
- b. Bronchoscopy
- c. Thoracentesis
- d. Chest tube management
- e. Calorimetry
- f. Cardioversion
- g. Defibrillation
- h. Basic ECG
- i. CXR interpretation
- j. Pulse oximetry
- k. Capnography
- l. Hemodynamics.

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