Course Outcome Summary

Required Program Core Course
RTH 212 – Advanced Cardiopulmonary Anatomy & Physiology

Course Information
Division: Health Sciences
Contact Hours: 4
Theory: 60
Total Credits: 4

Prerequisites
RTH 120 – Respiratory Care Techniques III
RTH 121 – Respiratory Care Clinical Practice II

Co-requisites
RTH 211 – Respiratory Care Clinical Practice III
RTH 214 – Adult Critical Care Management
RTH 216 – Neonatal / Pediatric Management

Course Description
This course advances the student's knowledge of cardiopulmonary anatomy and physiology. The cardiac sections cover gross and histologic cardiovascular anatomy, neural/endocrine control of cardiac function, hemodynamics, microcirculatory disorders, and a review of common cardiac arrhythmias. The pulmonary section covers bronchopulmonary anatomy, gas diffusion, blood flow, ventilation/perfusion relationships, gas transport, mechanics and neural control of ventilation, and lung responses to changing environments and conditions.

This course is a required core course for students pursuing an Associate of Applied Science - Respiratory Therapy

Program Outcomes Addressed by this Course:
Upon successful completion of this course, students should be able to meet the program outcomes listed below:

A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.

Course Outcomes
In order to evidence success in this course, the students will be able to:

1. Identify anatomic structures of the cardiopulmonary and other organ systems, and state their influence on respiratory function.
   Applies To Program Outcome
   A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.

2. State normal clinical hemodynamic values, and differentiate common cardiovascular disorders, signs, and symptoms when given abnormalities in these values.
   Applies To Program Outcome
   A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.

3. Describe cardiopulmonary circulation, and differentiate pulmonary versus bronchial perfusion.
   Applies To Program Outcome
   A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.
4. Define ventilation in terms of dynamic and static properties, normal distribution of ventilation, airway resistance, and identify the components of gas exchange between intra-alveolar and intracellular environments.

   Applies To Program Outcome
   A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.

5. Evaluate arterial blood gas results for acid-base and oxygenation disorders, including advanced interpretation.

   Applies To Program Outcome
   A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.

6. Calculate and apply various mathematical formulae relating to hemodynamic values, pulmonary physiology, acid-base status, and mechanical ventilation.

   Applies To Program Outcome
   A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.

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