# Course Outcome Summary

**Required Program Core Course**

**RTH 212 – Advanced Cardiopulmonary Anatomy & Physiology**

## Course Information

<table>
<thead>
<tr>
<th>Division</th>
<th>Health Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Hours</td>
<td>4</td>
</tr>
<tr>
<td>Theory</td>
<td>60</td>
</tr>
<tr>
<td>Total Credits</td>
<td>4</td>
</tr>
</tbody>
</table>

## Prerequisites

RTH 120 – Respiratory Care Techniques III

## 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. Describe the anatomic structures of the cardiac and renal system and describe the influence of these systems 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. Describe the anatomical structures of the upper and lower airways and parenchyma of the respiratory system.

   **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. State normal values for common clinical hemodynamic parameters.

   **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. Identify common cardiovascular disorders using assessment of hemodynamic data.

   **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.
Course Outcome Summary
Required Program Core Course
RTH 212 – Advanced Cardiopulmonary Anatomy & Physiology

5. Identify the lymphatic and neural components of the pulmonary system.
   **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. Compare and contrast pulmonary to systemic vasculature.
   **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.

7. Describe ventilation in terms of dynamic and static properties, normal distribution of ventilation, and airway resistance.
   **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.

8. Outline the components of gas exchange between the 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.

9. Identify and label blood acid-base and oxygenation disorder.
   **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.

    **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.

11. Use mathematical formulae to derive hemodynamic 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.

12. Apply mathematical formulae describing the inter-relationships between blood pH, PaCO₂, and HCO₃⁻ 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.
13. Apply mathematical formulae relating normal and mechanical ventilation to acid-base conditions.  

**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.

Date Updated: 1/30/2015  
By: BEB, NAP