

Skyline College
Official Course Outline

1. **COURSE ID:** RPTH B10 **TITLE:** Advanced Cardiopulmonary Respiratory Care
Units: 3.0 units **Hours/Semester:** 48.0-54.0 Lecture hours; and 96.0-108.0 Homework hours
Method of Grading: Letter Grade Only
Prerequisite: Admission to the Bachelor of Science in Respiratory Care Program; and RPTH 450 or equivalent.

2. **COURSE DESIGNATION:**
Degree Credit
Transfer credit: none

3. **COURSE DESCRIPTIONS:**
Catalog Description:
Provides an analytical framework through which students will expand their knowledge of respiratory diseases, diagnostic procedures, and symptom management. Includes detailed assessment of cardiopulmonary and neurorespiratory diseases, performance of diagnostic testing, medical interventions, and analysis of treatment benefits.

4. **STUDENT LEARNING OUTCOME(S) (SLO'S):**
Upon successful completion of this course, a student will meet the following outcomes:
 - A. Identify, apply, and evaluate advanced cardiopulmonary diagnostic procedures and medical interventions performed by respiratory care practitioners.
 - B. Analyze disease-specific treatment options in cardiopulmonary and neurorespiratory care and recommend modifications based on evidence based practice.

5. **SPECIFIC INSTRUCTIONAL OBJECTIVES:**
Upon successful completion of this course, a student will be able to:
 - A. Explain advanced diagnostic and therapeutic procedures performed by respiratory care practitioners.
 - B. Explain short term and long term goals of therapy.
 - C. Design treatment plans based on clinical and laboratory data.
 - D. Analyze patient response to therapy.
 - E. Modify treatment recommendations based on patient-reported and objective signs and symptoms.
 - F. Recommend continuation or change in treatment based on patient response to therapy.

6. **COURSE CONTENT:**
Lecture Content:
 1. Diagnostic and Therapeutic Procedures

- A. Bronchoscopy
- B. Interventional Pulmonology
- C. Spirometry
- D. Hemodynamics
 - a. Central venous catheters
 - b. Pulmonary artery catheters
 - c. Intra-aortic balloon pump (IABP)
 - d. Blood chemistry and hematology studies
 - e. Diaphragm function interpretation (Sniff test with fluoroscopy, phrenic nerve conduction studies)
- 2. Respiratory Care Practice Act and Evidence-based Medicine
- 3. Telemedicine (hospital, clinic, home care applications)
- 4. Advanced Practices
 - A. Extracorporeal membrane oxygenation (ECMO)
 - B. Rapid response teams
 - C. Disaster management
 - D. Patient transport
 - E. Respiratory care in third world countries
- 5. Advanced Pharmacology
 - A. Inhaled nitric oxide
 - B. Anesthesia medications
 - C. Antimicrobial therapy
- 6. Advanced Pathophysiology
 - A. Cardiac anatomy and physiology
 - B. Renal disease /failure's impact on cardiopulmonary system.
 - C. Neurorespiratory Anatomy and Physiology.
- 7. Advanced Pathophysiology
 - A. Respiratory care practice act and evidence base medicine
 - B. Burns
 - C. Trauma (head, spine)
 - D. Sepsis
 - E. Compartment syndrome
 - F. Airway Injuries
 - G. Advanced neurological disorders – ALS, upper, and lower neuron disease
 - H. Post-anesthetic complications and ICU care (Cholinesterase deficiency)
 - I. Sleep disorders and sleep studies

Lab Content:

None

TBA Hours Content:

None

7. REPRESENTATIVE METHODS OF INSTRUCTION:

Typical methods of instruction may include:

- A. Lecture

- B. Activity
- C. Critique
- D. Discussion
- E. Individualized Instruction

8. REPRESENTATIVE ASSIGNMENTS

Representative assignments in this course may include, but are not limited to the following:

Writing Assignments:

Writing assignments will consist of synthesis and evaluation of outcomes and findings in case study analysis, and reflection/evaluation in relation to skills, abilities, and critical thinking in advanced respiratory care.

- Case studies focusing on an assigned topic given weekly by instructor.
- Summary reflection/evaluation essays (2-3 per week) focusing on weekly reading assignments.
- Two comprehensive case study writing assignments will be required over the duration of the course.

Reading Assignments:

Reading assignments will consist of reading and synthesizing at minimum 10 peer reviewed articles, textbooks, and publications. Readings will be focused on experience in health care as applicable to respiratory care. Number of pages will vary but at minimum will require 750 - 900 pages of reading and analysis.

9. REPRESENTATIVE METHODS OF EVALUATION

Representative methods of evaluation may include:

- A. Class Participation
- B. Exams/Tests
- C. Oral Presentation
- D. Written examination

10. REPRESENTATIVE TEXT(S):

Possible textbooks include:

- A. Dean R. Hess. *Respiratory Care: Principles and Practice*, 3rd ed. Burlington, MA 01803: Jones & Bartlett Learning, 2016

Possible periodicals include:

- A. . *Respiratory Care*, Volume 2016

Origination Date: November 2016

Curriculum Committee Approval Date: November 2016

Effective Term: Fall 2017

Course Originator: Ijaz Ahmed