

# RESP-300: ADVANCED PULMONARY DIAGNOSTIC AND PROCEDURES

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## Effective Term

Fall 2026

## CC Approval

12/06/2024

## AS Approval

02/13/2025

## BOT Approval

02/20/2025

## COCI Approval

06/02/2025

## SECTION A - Course Data Elements

### CB04 Credit Status

Credit - Degree Applicable

### Discipline

Respiratory Technician

Minimum Qualifications	And/Or
Respiratory Technician (Any Degree and Professional Experience)	

### Subject Code

RESP - Respiratory Care

### Course Number

300

### Department

Respiratory Therapy

### Division

Health Occupations (HEOC)

### Full Course Title

Advanced Pulmonary Diagnostic and Procedures

### Short Title

Adv Pulmonary Diagnos & Proced

### CB03 TOP Code

1210.00 - \*Respiratory Care/Therapy

### CB08 Basic Skills Status

NBS - Not Basic Skills

### CB09 SAM Code

B - Advanced Occupational

### Rationale

New upper division course for the new baccalaureate degree in Respiratory Care.

## SECTION B - Course Description

### Catalog Course Description

This course provides an analytical framework through which students will expand their knowledge of respiratory diseases, diagnostic procedures, and symptom management. It also includes detailed assessment of cardiopulmonary and neurorespiratory diseases, performance of diagnostic testing, medical interventions, and analysis of treatment benefits.

## SECTION C - Conditions on Enrollment

### Open Entry/Open Exit

No

### Repeatability

Not Repeatable

### Grading Options

Letter Grade Only

### Allow Audit

No

## Requisites

### Limitation on Enrollment

Enrollment is limited to students accepted into the Respiratory Care Baccalaureate Degree program.

## SECTION D - Course Standards

### Is this course variable unit?

No

### Units

3.00000

### Activity Hours

108

### Outside of Class Hours

54

### Total Contact Hours

108

### Total Student Hours

162

## Distance Education Approval

### Is this course offered through Distance Education?

Yes

### Online Delivery Methods

DE Modalities	Permanent or Emergency Only?
Entirely Online	Permanent

## SECTION E - Course Content

### Student Learning Outcomes

Upon satisfactory completion of the course, students will be able to:	
1.	Identify, apply, and evaluate advanced cardiopulmonary diagnostic procedures and medical interventions performed by respiratory care practitioners.

2. Analyze disease-specific treatment options in cardiopulmonary and neurorespiratory care and recommend modifications based on evidence-based practice.

### Course Objectives

#### Upon satisfactory completion of the course, students will be able to:

1. Explain advanced diagnostic and therapeutic procedures performed by respiratory care practitioners.
2. Explain short term and long-term goals of therapy.
3. Design treatment plans based on clinical and laboratory data.
4. Analyze patient response to therapy.
5. Modify treatment recommendations based on patient-reported and objective signs and symptoms.
6. Recommend continuation or change in treatment based on patient response to therapy.

### Course Content

1. Diagnostic and Therapeutic Procedures
  - a. Bronchoscopy
  - b. Interventional Pulmonology
  - c. Spirometry
  - d. Hemodynamics
    - i. Central venous catheters
    - ii. Pulmonary artery catheters
    - iii. Intra-aortic balloon pump (IABP)
    - iv. Blood chemistry and hematology studies
    - v. 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

### Methods of Instruction

#### Methods of Instruction

Types	Examples of learning activities
Lecture	Present case studies focusing on an assigned topic from the course content.

**Online Adaptation**

Types	Examples of learning activities
Lecture	Students will watch a recorded lecture.

**Instructor-Initiated Online Contact Types**

Announcements/Bulletin Boards  
 Chat Rooms  
 Discussion Boards  
 E-mail Communication  
 Telephone Conversations  
 Video or Teleconferencing

**Student-Initiated Online Contact Types**

Discussions  
 Group Work

**Course design is accessible**

Yes

**Methods of Evaluation****Methods of Evaluation**

Types	Examples of classroom assessments
Essays/Papers	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.
Exams/Tests	Exams from class content.
Homework	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.

**Assignments****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.

**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.

**SECTION F - Textbooks and Instructional Materials****Material Type**

Textbook

**Author**

Dean R. Hess

**Title**

Respiratory Care: Principles and Practice

**Edition/Version**

4th Edition

**Publisher**

Jones and Bartlett

**Year**

2020

**ISBN #**

9781284155228

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**SECTION G - Diversity, Equity and Inclusivity**

**How does your course and/or course outline of record reflect strategies for accommodating and engaging diverse student populations, advancing equitable outcomes, and fostering inclusion for all students?**

N/A

**Course Codes (Admin Only)****CB00 State ID**

CCC000652961

**CB10 Cooperative Work Experience Status**

N - Is Not Part of a Cooperative Work Experience Education Program

**CB11 Course Classification Status**

Y - Credit Course

**CB13 Special Class Status**

N - The Course is Not an Approved Special Class

**CB23 Funding Agency Category**

Y - Not Applicable (Funding Not Used)

**CB24 Program Course Status**

Program Applicable

**Allow Pass/No Pass**

Yes

**Only Pass/No Pass**

No