



I. GENERAL COURSE INFORMATION

Subject and Number: Respiratory Care 294
Descriptive Title: Pulmonary Function Testing in Advanced Respiratory Care
Course Disciplines: Respiratory Technologies
Division: Health Sciences and Athletics

Catalog Description:

This course provides instruction in pulmonary function testing associated with advanced respiratory care. Topics include metabolic measurements using indirect calorimetry; pediatric pulmonary function testing; cardiopulmonary exercise testing; sleep studies; and bronchoscopy. Laboratory experiments and clinical visitation will be used to compliment didactic instruction.

Conditions of Enrollment:

Enrollment Limitation: Students must be admitted to the El Camino College Respiratory Care Program or be graduated from an accredited respiratory care program.

Course Length:	X Full Term	Other (Specify number of weeks):
Hours Lecture:	3.00 hours per week	TBA
Hours Laboratory:	3.00 hours per week	TBA
Course Units:	4.00	

Grading Method: Letter
Credit Status: Associate Degree Credit

Transfer CSU: Yes **Effective Date:** 07/19/2010
Transfer UC: No **Effective Date:**

General Education:

El Camino College:

CSU GE:

IGETC:

II. OUTCOMES AND OBJECTIVES

A. COURSE STUDENT LEARNING OUTCOMES (The course student learning outcomes are listed below, along with a representative assessment method for each. Student learning outcomes are not subject to review, revision or approval by the College Curriculum Committee)

SLO #1 Demonstrate or Explain How to Perform Advanced PFTs

Students will be able to answer written questions, oral questions and perform procedures that demonstrate knowledge and ability to conduct advanced pulmonary function testing on patients with various pulmonary disorders.

SLO #2 Demo Use of PFT Devices & Problems

During classes & labs, students will demonstrate and explain bedside and laboratory Pulmonary Function Testing competencies such as performing a ERV,IRV, IC, FVC, FRC, esophageal pressures and RV

SLO #3 Demonstrate Cognitive Knowledge of Advanced PFT in RC

Students who stay in the course till the end of semester will take a comprehensive final multiple choice examination on conducting, using and interpreting Advanced PFT in RC and 80% will obtain a grade of 70% or better.

B. Course Student Learning Objectives (The major learning objective for students enrolled in this course are listed below)

1. Analyze pertinent clinical data collected when performing pulmonary function testing.
2. Propose procedures to obtain patient data using various types of pulmonary function testing equipment.
3. Verify and note any erroneous data or computations when using various forms of pulmonary function testing equipment.
4. Propose alterations in pulmonary treatment based on information gathered during pulmonary function testing.

III. OUTLINE OF SUBJECT MATTER (Topics are detailed enough to enable a qualified instructor to determine the major areas that should be covered as well as ensure consistency from instructor to instructor and semester to semester.)

Lecture or Lab	Approximate Hours	Topic Number	Major Topic
Lecture	6	I	Bronchoscopy A. Equipment B. Interpretation C. Common issues
Lecture	12	II	Sleep Studies A. Equipment B. Interpretation C. Common issues
Lecture	12	III	Pediatric Pulmonary Function Testing A. Equipment B. Interpretation C. Common issues
Lecture	12	IV	Cardiopulmonary Exercise Testing A. Equipment B. Interpretation C. Common issues

Lecture	12	V	Metabolic Measurement Using Indirect Calorimetry A. Equipment B. Interpretation C. Common issues
Lab	54	VI	Monitoring, charting, performing Metabolic Measurements using Indirect Calorimetry, Pediatric Pulmonary Function Testing, Cardiopulmonary Exercise Testing, Sleep Studies and Bronchoscopy as indicated in the respiratory care of patients under their direct care in hospital intensive care units, emergency rooms and other appropriate locations as assigned.
Total Lecture Hours	54		
Total Laboratory Hours	54		
Total Hours	108		

IV. PRIMARY METHOD OF EVALUATION AND SAMPLE ASSIGNMENTS

A. PRIMARY METHOD OF EVALUATION:

Problem solving demonstrations (computational or non-computational)

B. TYPICAL ASSIGNMENT USING PRIMARY METHOD OF EVALUATION:

You have performed a metabolic measurement of a 15-year-old male using indirect closed system calorimetry. Using the Harris-Benedict equation, was the resting energy expenditure less than predicted? If so, was it a technical error or a hypometabolic stated?

C. COLLEGE-LEVEL CRITICAL THINKING ASSIGNMENTS:

1. You performed a pulmonary function test on an 8-year-old female with a history of shortness of breath. Please interpret her test results. Do her symptoms of shortness of breath and test results correspond with your diagnosis? Verbally explain possible reasons for the discrepancies.
2. You have performed a cardiopulmonary exercise test on a 65-year-old male. Based on his results, what was his MET count? Using his corresponding pulmonary function test results, form a diagnosis and exercise assessment for him.

D. OTHER TYPICAL ASSESSMENT AND EVALUATION METHODS:

Performance exams
Other exams
Quizzes
Written homework
Laboratory reports
Class Performance
Homework Problems
Multiple Choice
Matching Items
True/False

V. INSTRUCTIONAL METHODS

Demonstration
Discussion
Group Activities
Laboratory
Lecture
Multimedia presentations

Note: In compliance with Board Policies 1600 and 3410, Title 5 California Code of Regulations, the Rehabilitation Act of 1973, and Sections 504 and 508 of the Americans with Disabilities Act, instruction delivery shall provide access, full inclusion, and effective communication for students with disabilities.

VI. WORK OUTSIDE OF CLASS

Study
Answer questions
Skill practice
Required reading
Problem solving activities

Estimated Independent Study Hours per Week: 6

VII. TEXTS AND MATERIALS

A. UP-TO-DATE REPRESENTATIVE TEXTBOOKS

Gregg Ruppel. Manual of Pulmonary Function Testing. 9th ed. Mosby, 2009.
Qualifier Text: Last updated in 2009 but is still considered an industry standard today.,

B. ALTERNATIVE TEXTBOOKS

C. REQUIRED SUPPLEMENTARY READINGS

D. OTHER REQUIRED MATERIALS

VIII. CONDITIONS OF ENROLLMENT

A. Requisites (Course and Non-Course Prerequisites and Corequisites)

Requisites	Category and Justification
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B. Requisite Skills

Requisite Skills

C. Recommended Preparations (Course and Non-Course)

Recommended Preparation	Category and Justification
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D. Recommended Skills

Recommended Skills

E. Enrollment Limitations

Enrollment Limitations and Category	Enrollment Limitations Impact
Students must be admitted to the El Camino College Respiratory Care Program or be graduated from an accredited respiratory care program.	Students begin the clinical phase (A.S. degree requirements) of the Respiratory Care program after being accepted into the program.

Course created by Salomay Corbaley on 04/23/2010

BOARD APPROVAL DATE: 07/19/2010

LAST BOARD APPROVAL DATE: 05/018/2020

Last Reviewed and/or Revised by: Roy Mekar

Date: 02/02/2020

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