



El Camino College  
COURSE OUTLINE OF RECORD – Official

<b>Course Acronym:</b>	RC
<b>Course Number:</b>	294
<b>Descriptive Title:</b>	Pulmonary Function Testing in Advanced Respiratory Care
<b>Division:</b>	Health Sciences and Athletics
<b>Department:</b>	Respiratory Care
<b>Course Disciplines:</b>	Respiratory Technologies
<b>Catalog Description:</b>	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.
<b>Prerequisite:</b>	
<b>Co-requisite:</b>	
<b>Recommended Preparation:</b>	
<b>Enrollment Limitation:</b>	Students must be admitted to the El Camino College Respiratory Care Program or be graduated from an accredited respiratory care program.
<b>Hours Lecture (per week):</b>	3
<b>Hours Laboratory (per week):</b>	3
<b>Outside Study Hours:</b>	6
<b>Total Course Hours:</b>	108
<b>Course Units:</b>	4
<b>Grading Method:</b>	Letter Grade only
<b>Credit Status:</b>	Credit, degree applicable
<b>Transfer CSU:</b>	Yes
<b>Effective Date:</b>	7-19-2010
<b>Transfer UC:</b>	Yes
<b>Effective Date:</b>	
<b>General Education:</b>	ECC
<b>Term:</b>	
<b>Other:</b>	
<b>CSU GE:</b>	
<b>Term:</b>	
<b>Other:</b>	
<b>IGETC:</b>	
<b>Term:</b>	
<b>Other:</b>	

<p><b>Student Learning Outcomes:</b></p>	<p><b>SLO #1 Demonstrate or Explain How to Perform Advanced PFTs</b></p> <p>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.</p> <p><b>SLO #2 Demo Use of PFT Devices &amp; Problems</b></p> <p>During classes &amp; 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</p> <p><b>SLO #3 Demonstrate Cognitive Knowledge of Advanced PFT in RC</b></p> <p>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.</p>
<p><b>Course Objectives:</b></p>	<p>Analyze pertinent clinical data collected when performing pulmonary function testing. Propose procedures to obtain patient data using various types of pulmonary function testing equipment.</p> <p>Verify and note any erroneous data or computations when using various forms of pulmonary function testing equipment.</p> <p>Propose alterations in pulmonary treatment based on information gathered during pulmonary function testing.</p>
<p><b>Major Topics:</b></p>	<p><b>I. Bronchoscopy (6 hours, lecture)</b> Equipment Interpretation Common issues</p> <p><b>II. Sleep Studies (12 hours, lecture)</b> Equipment Interpretation Common issues</p> <p><b>III. Pediatric Pulmonary Function Testing (12 hours, lecture)</b> Equipment Interpretation Common issues</p> <p><b>IV. Cardiopulmonary Exercise Testing (12 hours, lecture)</b> Equipment Interpretation Common issues</p> <p><b>V. Metabolic Measurement Using Indirect Calorimetry (12 hours, lecture)</b> Equipment Interpretation Common issues</p> <p><b>VI. CLINICAL LAB TO BE ARRANGED HOURS (54 hours, lab)</b> 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.</p>
<p><b>Total Lecture Hours:</b></p>	<p>54</p>
<p><b>Total Laboratory Hours:</b></p>	<p>54</p>

<b>Total Hours:</b>	108
<b>Primary Method of Evaluation:</b>	2) Problem solving demonstrations (computational or non-computational)
<b>Typical Assignment Using Primary Method of Evaluation:</b>	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?
<b>Critical Thinking Assignment 1:</b>	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.
<b>Critical Thinking Assignment 2:</b>	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.
<b>Other Evaluation Methods:</b>	Class Performance, Homework Problems, Laboratory Reports, Matching Items, Multiple Choice, Other Exams, Performance Exams, Quizzes, True/False, Written Homework
<b>Instructional Methods:</b>	Demonstration, Discussion, Group Activities, Lab, Lecture, Multimedia presentations
<b>If other:</b>	
<b>Work Outside of Class:</b>	Answer questions, Problem solving activity, Required reading, Skill practice, Study
<b>If Other:</b>	
<b>Up-To-Date Representative Texts:</b>	Mottram, C. <u>Ruppel's Manual of Pulmonary Function Testing</u> . 12th ed. Mosby, 2022.
<b>Alternative Texts:</b>	
<b>Required Supplementary Readings:</b>	
<b>Other Required Materials:</b>	
<b>Requisite:</b>	
<b>Category:</b>	
<b>Requisite course(s): List both prerequisites and corequisites in this box.</b>	
<b>Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).</b>	
<b>Requisite Skill:</b>	
<b>Requisite Skill and Matching Skill(s):</b>	

<b>Bold the requisite skill(s). If applicable</b>	
<b>Requisite course:</b>	
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<b>Enrollment Limitations and Category:</b>	Students must be admitted to the El Camino College Respiratory Care Program or be graduated from an accredited respiratory care program.
<b>Enrollment Limitations Impact:</b>	Students begin the clinical phase (A.S. degree requirements) of the Respiratory Care program after being accepted into the program.
<b>Course Created by:</b>	Roy Mekar
<b>Date:</b>	08/12/2015
<b>Original Board Approval Date:</b>	07/19/2010
<b>Last Reviewed and/or Revised by:</b>	Roy Mekar
<b>Date:</b>	03/22/2024
<b>Last Board Approval Date:</b>	06/17/2024
<b>Effective Term:</b>	FA 2025