



El Camino College
COURSE OUTLINE OF RECORD – Official

Course Acronym:	RC
Course Number:	291
Descriptive Title:	Advanced Specialty Ventilators and Specialized Oxygen Delivery Devices
Division:	Health Sciences and Athletics
Department:	Respiratory Care
Course Disciplines:	Respiratory Technologies
Catalog Description:	This course provides instruction in specialty ventilators and oxygen delivery devices. Topics include high frequency oscillatory ventilation; high frequency jet ventilation; Vapotherm; SiPAP; and T-Piece Resuscitation. The indications, contraindications, and appropriate delivery will be discussed and reviewed for multiple patient populations.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	Students must be admitted to the El Camino College Respiratory Care Program or be graduated from an accredited respiratory care program.
Hours Lecture (per week):	2
Hours Laboratory (per week):	3
Outside Study Hours:	4
Total Course Hours:	90
Course Units:	3
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	7-19-2010
Transfer UC:	Yes
Effective Date:	
General Education:	ECC
Term:	
Other:	
CSU GE:	
Term:	
Other:	
IGETC:	
Term:	
Other:	

<p>Student Learning Outcomes:</p>	<p>SLO #1 Competent Specialty Gas Administration</p> <p>Students will be able to answer written questions, oral questions and perform procedures that demonstrate knowledge and ability to manage advanced ventilators and specialized oxygen administration devices to patients for various pulmonary disorders.</p> <p>SLO #2 Explain or Demo Waveform Interpretation</p> <p>During classes & labs, students will demonstrate and explain appropriate respiratory care ventilatory management techniques and competencies including the ability to interpret ventilatory waveforms and correctly monitor the patient receiving PAV.</p> <p>SLO #3 Demonstrate Cognitive Knowledge of RC Specialty Ventilators & Gases</p> <p>Students who stay in the course till the end of semester will take a comprehensive final multiple choice examination on use and monitoring of prolonged artificial ventilation oxygen delivery devices and 80% will obtain a grade of 70% or better.</p>
<p>Course Objectives:</p>	<ol style="list-style-type: none"> 1. Assess or describe the characteristics of each specialty ventilator and oxygen delivery device. 2. Differentiate between high frequency oscillatory ventilation and high frequency jet ventilation. 3. Assess when it is appropriate to utilize Vapotherm. 4. Classify Single Inspiration Positive Airway Pressure (SiPAP) and a T-Piece Resuscitator to other ventilators and oxygen delivery devices. 5. Identify when it is appropriate to place a patient on high frequency oscillatory ventilation versus high frequency jet ventilation. 6. Demonstrate how to switch a patient from one high frequency device to another.
<p>Major Topics:</p>	<p>I. Introduction to the High Frequency Ventilators and How They Differ (1 hour, lecture)</p> <p>II. High Frequency Oscillatory Ventilation (8 hours, lecture)</p> <ol style="list-style-type: none"> A. Infants, pediatrics, and adults B. Indications C. Contraindications <p>III. High Frequency Jet Ventilation (8 hours, lecture)</p> <ol style="list-style-type: none"> A. Infants, pediatrics, and adults B. Indications C. Contraindications <p>IV. Differences Between Oscillatory and Jet Ventilation (4 hours, lecture)</p> <ol style="list-style-type: none"> A. Strategies B. Characteristics <p>V. Clinical Assessment (4 hours, lecture)</p> <ol style="list-style-type: none"> A. Auscultation of breath sounds B. Patient care issues <p>VI. Removal and/or Transition Between Devices (3 hours, lecture)</p> <ol style="list-style-type: none"> A. Decrease oxygen saturation B. Setting Mean Airway Pressure (MAP) from conventional ventilation C. Need for additional mechanical ventilation <p>VII. Neonatal Options and Strategies (2 hours, lecture)</p> <ol style="list-style-type: none"> A. Early intervention B. Pro-Active approach C. Rescue treatment <p>VIII. Vapotherm (2 hours, lecture)</p> <ol style="list-style-type: none"> A. Indications B. Contraindications C. Characteristics

	<p>D. Set up and delivery</p> <p>E. Weaning</p> <p>IX. Single Inspiration Positive Airway Pressure (SiPAP) (2 hours, lecture)</p> <p>A. Indications</p> <p>B. Contraindications</p> <p>C. Characteristics</p> <p>D. Set up and delivery</p> <p>E. Weaning</p> <p>X. T-Piece Regulator (2 hours, lecture)</p> <p>A. Indications</p> <p>B. Contraindications</p> <p>C. Characteristics</p> <p>D. Set up and delivery</p> <p>E. Weaning</p> <p>XI. CLINICAL LAB TO BE ARRANGED HOURS (54 hours, lab)</p> <p>Monitoring, charting, resuscitation, suctioning, artificial ventilation and other respiratory techniques, therapy and equipment 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>
Total Lecture Hours:	36
Total Laboratory Hours:	54
Total Hours:	90
Primary Method of Evaluation:	2) Problem solving demonstrations (computational or non-computational)
Typical Assignment Using Primary Method of Evaluation:	Write a three- to five-page report on a 32-week gestational, two-day-old patient with severe respiratory distress syndrome that is being unsuccessfully ventilated on conventional mechanical ventilation. Your paper should encompass the clinical findings for this patient, as well as the next appropriate ventilatory plan. The content of the report will include the type of ventilatory support you would provide, the initial settings, and the clinical outcomes that you would expect to see.
Critical Thinking Assignment 1:	Using the information from the lecture, class discussion and your text, identify the disease state of the patient presented. Explain to the instructor what ventilator or oxygen delivery device would be appropriate for this patient and provide rationale for your choice.
Critical Thinking Assignment 2:	In a one-page paper, explain the clinical benefits of using a T-Piece resuscitation versus manual positive pressure ventilation.
Other Evaluation Methods:	Class Performance, Completion, Homework Problems, Matching Items, Multiple Choice, Other Exams, Performance Exams, Quizzes, Term or Other Papers, True/False, Written Homework
Instructional Methods:	Demonstration, Discussion, Group Activities, Lab, Lecture, Multimedia presentations
If other:	
Work Outside of Class:	Answer questions, Problem solving activity, Required reading, Skill practice, Study
If Other:	
Up-To-Date Representative Texts:	James Stoller. <u>Fundamentals of Respiratory Care</u> . 13th ed. Elsevier, 2024.
Alternative Texts:	
Required Supplementary Readings:	

Other Required Materials:	
Requisite:	
Category:	
Requisite course(s): List both prerequisites and corequisites in this box.	
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	
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Enrollment Limitations and Category:	Students must be admitted to the El Camino College Respiratory Care Program or be graduated from an accredited respiratory care program.
Enrollment Limitations Impact:	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
Date:	08/02/2015
Original Board Approval Date:	07/19/2010
Last Reviewed and/or Revised by:	Roy Mekar
Date:	03/22/2024
Last Board Approval Date:	06/17/2024

Effective Term:

FA 2025