Course Acronym:	RC
Course Number:	284
Descriptive Title:	Respiratory Care of the Critically Ill Patient III
Division:	Health Sciences and Athletics
Department:	Respiratory Care
Course Disciplines:	Respiratory Technologies
Catalog Description:	This course continues with the treatment and management of adult patients that are critically ill. The course provides the student with the opportunity to develop more complex reasoning and patient care skills. A disease directed approach is used with emphasis on respiratory failure, chronic obstructive pulmonary disease and related respiratory conditions and deadspace problems. The course reviews the problems of nosocomial infections in Respiratory Care and systematic methods for identifying and correcting patient-therapist equipment contamination. Communication skills are introduced that will help the therapist relay suggestions and information to other members of the health care team.
Prerequisite:	Respiratory Care 280 with a minimum grade of C
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	4
Hours Laboratory (per week):	15
Outside Study Hours:	8
Total Course Hours:	342
Course Units:	9
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	Proposed
Transfer UC:	Yes
Effective Date:	
General Education: ECC	
Term:	
Other:	
CSU GE:	
Term:	
Other:	

IGETC:	
Term:	
Other:	
Student Learning Outcomes:	**SLO #1 Appropriate and Competent FI02 Management** Given an in-class patient care scenario during an oral examination based on assigned reading, demonstrate appropriate and competent FI02 management using guidelines set in clinical competencies section of the Data Arc system for clinical practice. **SLO #2 Explain Diseases & Therapies for RC Patients** During classes & labs, students will demonstrate and explain appropriate respiratory care competencies such as FIO2 monitoring and managing patients receiving prolonged artificial ventilation, pulmonary rehabilitation, life support procedures, bronchial hygiene and oxygen therapy. **SLO #3 Comprehensive Final Exam on Diseases & Therapies for RC Patients** Students who stay in the course till the end of semester will take a comprehensive final multiple choice examination and 80% will obtain a grade of 70% or better.
Course Objectives:	1. Interpret and classify arterial blood gases and deadspace to tidal volume ratios using clinical terms common to the management of patients with acute and chronic respiratory failure. 2. Terminate, recommend changes and/or modify the respiratory care plan based on the patient’s disease and response to bronchial hygiene, artificial airways, deep breathing techniques, artificial ventilation & weaning, emergency resuscitation procedures. 3. Communicate information regarding patient's clinical status to other members of the health care team with reference to the coordination of patient's care and discharge planning using basic transactional analysis techniques. 4. Perform and interpret bedside pulmonary function measures for the purpose of determining if the patient has normal, obstructive and/or restrictive defects. 5. Conduct therapeutic procedures to achieve adequate arterial and tissue oxygenation, maintain a patent airway, remove bronchopulmonary secretions and provide adequate spontaneous and artificial ventilation. 6. Protect patient from nosocomial infections by adherence to infection control policies and procedures in all clinical and non-clinical settings the student is assigned as appropriate.
Major Topics:	**I. The determination of the two types of respiratory failure to include use of (12 hours, lecture)** A. Arterial blood gas results B. Respiratory deadspace ratios C. Patient signs and symptoms such as tidal volume, respiratory rate, heartrate, minute volume, and exhaled gas or application of deadspace formulas. **II. Eric Berne and the application of Transactional analysis as a communication tool in health care with (12 hours, lecture)** A. Physicians B. Respiratory therapists C. Nurses D. Other health care professionals **III. Bedside and health fair pulmonary function testing and screening for the purpose of (8 hours, lecture)** A. Education and anti-smoking counseling

	B. Determine if obstructive or restrictive defects are present C. Counseling patients and the public about their Pulmonary Function Testing (PFT) numbers **IV. Obstructive and restrictive lung disease to include (8 hours, lecture)** A. X-ray results B. PFT values C. Physical exam signs and symptoms D. Respiratory care parameters at rest and during exercise **V. Nosocomial infections and respiratory care (RC) equipment quality assurance to include (12 hours, lecture)** A. Monitoring and analyzing infection control procedures in respiratory care B. Performing disinfection and sterilization procedures on RC equipment C. Determine appropriate technique to obtain samples from RC equipment for lab analysis D. Response to infectious control committee inquires about RC quality control procedures **VI. Management of common respiratory diseases during prolonged artificial ventilation to include but not limited to (20 hours, lecture)** A. Occupational diseases B. Restrictive and obstructive diseases C. Neuromuscular diseases D. Chronic obstructive pulmonary diseases (COPD) **VII. TO BE ARRANGED HOURS (270 hours, lab)** Alternative learning settings to provide patient care under supervision to patients receiving respiratory care who may have the following: A. COPD B. Restrictive lung diseases C. Neuromuscular diseases D. Adult and infant respiratory distress syndrome (RDS) E. Other diseases, trauma and conditions that may present themselves
Total Lecture Hours:	72
Total Laboratory Hours:	270
Total Hours:	342
Primary Method of Evaluation:	2) Problem solving demonstrations (computational or non-computational)
Typical Assignment Using Primary Method of Evaluation:	Patient's expired CO2 is reported by expired CO2 monitor at 25mmHg. Patient's minute alveolar ventilation is measured at 8.2 liters, PaCO2 40. Using the modified Bohr equation discussed in class, calculate the patient's physiological deadspace. (Vd/Vt = PaCO2 - PACO2/ PaCO2)
Critical Thinking Assignment 1:	Given access to respiratory care equipment microbiology data from patients receiving ventilatory and/or oxygen support, verbalize or identify if this equipment or personnel are the possible cause of a nosocomial infection and the appropriate actions to take.
Critical Thinking Assignment 2:	Demonstrate and explain how and why we perform bedside pulmonary function testing and verbalize or identify appropriate actions based on the patient's results.
Other Evaluation Methods:	Class Performance, Completion, Fieldwork, Homework Problems, Laboratory Reports, Matching Items, Multiple Choice, Objective Exam, Performance Exams, Quizzes, Reading Reports, Term or Other Papers, True/False, Written Homework
Instructional Methods:	Demonstration, Discussion, Group Activities, Guest Speakers, Lab, Lecture, Multimedia presentations, Role play/simulation

If other:	Alternate learning environments such as hospitals, clinics, health fairs, schools and other appropriate environments to provide supervised clinical and educational opportunities to students in class.
Work Outside of Class:	Answer questions, Observation of or participation in an activity related to course content (such as theatre event, museum, concert, debate, meeting), Problem solving activity, Required reading, Skill practice, Study, Written work (such as essay/composition/report/analysis/research)
If Other:	Group active learning assignments simulating clinical situations that require information collection and decision making in order to solve patient problem and determine course of therapy.
Up-To-Date Representative Texts:	James Stoller. Egan's Fundamentals of Respiratory Care. 13th ed. Elsevier, 2024.
Alternative Texts:	
Required Supplementary Readings:	
Other Required Materials:	
Requisite:	Prerequisite
Category:	sequential
Requisite course(s): List both prerequisites and corequisites in this box.	Respiratory Care-280
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	**Identify subjective and objective indicators of effectiveness for each therapeutic modality they are providing Respiratory Care for a critically-ill adult patient.** RC 280 - Identify subjective and objective indicators of effective therapeutic modalities while providing respiratory care for critically ill adult patients. **Based on patient's response to oxygen therapy identify and/or verbalize the pulmonary defect causing the response and appropriate therapy.** RC 280 - Based on patient's response to oxygen therapy, identify and/or verbalize the pulmonary defect causing the response and appropriate therapy. **Given access to appropriate patient information and a single or series of x-rays, identify and/or verbalize an interpretation of the patient's condition and appropriate treatment.** RC 280 - Given access to appropriate patient information and a single or series of x-rays, identify and/or verbalize an interpretation of the patient's condition and appropriate treatment. **Provided with inspiratory, identify and/or verbalize peak and plateau pressures, the type of pulmonary resistance to ventilation present and appropriate treatment.** RC 280 - Provided with inspiratory values, identify and/or verbalize peak and plateau pressures, the type of pulmonary resistance to ventilation present and appropriate treatment.
Requisite Skill:	

Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	
Requisite course:	
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:	
Enrollment Limitations Impact:	
Course Created by:	Louis M. Sinopoli
Date:	08/12/2015
Original Board Approval Date:	07/01/1990
Last Reviewed and/or Revised by:	Roy Mekaru
Date:	03/22/2024
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