Course Acronym:	RC
Course Number:	176
Descriptive Title:	Introduction to the Respiratory Care of the Non-Critically III Patient
Division:	Health Sciences and Athletics
Department:	Respiratory Care
Course Disciplines:	Respiratory Technologies
Catalog Description:	This course deals primarily with the non-critically ill adult patient. It will provide the student with cognitive and psychomotor practice performing basic respiratory care in health service organizations in the South Bay area. Students receive most of their classroom/cognitive instruction at El Camino College and are rotated during the day, evening and/or night shifts to clinical affiliates.
Prerequisite:	Respiratory Care 172 and Respiratory Care 174 with a minimum grade of C
Co-requisite:	
Recommended Preparation:	Computer Information Systems 13 AND Psychology 101
Enrollment Limitation:	Admission to the Respiratory Care Program requiring a completed application and physical exam forms indicating readiness for clinical practice as a Respiratory Care Practitioner. Note: It is also required that all non-respiratory care courses for the Respiratory Care Associate in Science degree be completed prior to enrollment in this course.
Hours Lecture (per week):	3
Hours Laboratory (per week):	9
Outside Study Hours:	6
Total Course Hours:	216
Course Units:	6
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	Pending
Transfer UC:	No
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 Demonstrate RC procedures in Non-Critical Patients** 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 RC Procedures for Non-critical 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. Given existing clinical data, collect or recommend obtaining additional pertinent data relevant to a respiratory care plan. 2. Given existing clinical data, suggest or identify appropriate actions to modify or develop a respiratory care plan. 3. Explain planned therapy goals to the patient; maintain records and communicate relevant information to members of the health care team concerning a respiratory care plan. 4. Conduct ventilation and oxygenation procedures on non-critically ill patients to achieve adequate arterial and tissue oxygenation. 5. Perform respiratory care procedures to maintain a patient's airway, remove bronchopulmonary secretions and provide adequate spontaneous and artificial ventilation. 6. Evaluate and monitor a patient's response to respiratory care and identify or verbalize appropriate action for a Respiratory Care Practitioner. 7. Protect patients from nosocomial infections by adherence to infection control policies and procedures.
Major Topics:	**I. Orientation (3 hours, lecture)** A. Review course content to start researching, expectations of students and resources available to all course participants. B. Review the past content that will apply to new course content and clinical skill requirements. C. Prepare students for the patient care culture and ethical rules of providing respiratory patient care. **II. Review of oxygen, pulmonary and cardiac physiology with a focus on oxygen transportation and tissue oxygenation (9 hours, lecture)** A. Fick equation and its application to clinical respiratory care B. Minute volume, alveolar air and other useful equations to determine level of oxygen and ventilation **III. Review of all respiratory care oxygen therapy equipment and its interaction with the patient's physiology (6 hours, lecture)** A. The relationship between the physiology and physics in respiratory care. B. Which gas laws describe normal breathing and its hemodynamic effects.

	C. Contrast between normal and positive pressure breathing with respect to ventilation, oxygenation and hemodynamics. **IV. Oxygen therapy to prevent tissue hypoxia (6 hours, lecture)** A. The four types of hypoxia B. Identifying and treating the four types of hypoxia C. How do we prioritize our treatment of pulmonary, anemic, circulatory, and histotoxic hypoxia **V. Humidity and aerosol therapy for the purpose of maintaining and/or improving bronchial hygiene (15 hours, lecture)** A. Normal humidity and water vapor content in the ambient air, tracheal air and alveolar air B. The difference between humidity and aerosol therapy C. Determining the appropriate body humidity and matching equipment D. Assess the patient's aerosol therapy needs and specify drugs, equipment and procedure **VI. Sustained maximum inspiration therapy and its relationship to spontaneous breathing and pulmonary dysfunction (15 hours, lecture)** A. Deep breathing vs normal spontaneous breathing and the pulmonary function values. B. Hemodynamic consequences of various forms of SMI techniques. C. Assessing patient need for various SMI techniques and modifying therapy as appropriate based on patient response. **VII. TO BE ARRANGED HOURS (162 hours, lab)** Application of oxygen therapy procedures, bronchial hygiene procedures and deep breathing techniques to non-critical care patients in hospitals, clinics, rehabilitation units and other appropriate disease control and prevention environments. DATAARC Competencies on your disk or online, by course: RC 176 (Adult Floor Therapies) 1. Basic life support 2. Hand washing 3. Vital signs 4. Nasal Cannula 5. Simple mask 6. Partial Rebreathing mask 7. Air entrainment mask 8. Pulse oximetry 9. Transport with oxygen 10. Face tent (aerosol) 11. Face mask (aerosol) 12. Trach Collar (aerosol) 13. T-piece (aerosol) 14. MDI- Metered Dose Inhaler 15. DPI-Dry Powder Inhaler 16. SVN- Small Volume Nebulizer 17. I.S.- Incentive Spirometer 18. IPPB- Intermittent Positive Pressure Ventilation 19. CPT- Chest Physical Therapy 20. Coughing 21. Mucous clearing adjuncts 22. Generic There are specific competency procedures, skills and knowledge outlined in competency evaluation forms online thru DataArc, each student & instructor have access, if audited we can provide access to auditors or committee members.
Total Lecture Hours:	54

Total Laboratory Hours:	162
Total Hours:	216
Primary Method of Evaluation:	2) Problem solving demonstrations (computational or non-computational)
Typical Assignment Using Primary Method of Evaluation:	Given a non-critically ill patient receiving oxygen therapy, and access to appropriate information, determine if any modification in the respiratory care plan is required and be prepared to identify and/or verbalize what you would do or recommend and why.
Critical Thinking Assignment 1:	Three patients are admitted to the emergency department in respiratory distress and the following arterial blood gases are obtained: Patients 1 2 3 Ph 7.50 7.25 7.3 PaCO2 30 75 60 PaO2 40 40 40 Due to patients' PaO2, MD orders all patients to receive 100% oxygen by mask. In a one-page paper identify in which of these three patients this would be therapeutic, contraindicated, or hazardous and describe why.
Critical Thinking Assignment 2:	Three patients are in the intensive care unit with the following arterial blood gases: Patients 1 2 3 Ph 7.50 7.25 7.3 PaCO2 30 75 60 PaO2 40 40 40 Hb 15 5 25 All three patients PaO2's begin to drop. In a one-page paper identify which patient will become cyanotic first and the order in which patients will all begin to suffer tissue hypoxia.
Other Evaluation Methods:	Class Performance, Completion, Fieldwork, Homework Problems, Laboratory Reports, Matching Items, Multiple Choice, Other Exams, 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:	Internet Presentation/Resources Alternate classroom sites in hospitals, clinic, health fairs, and schools as appropriate.
Work Outside of Class:	Answer questions, Journal (done on a continuing basis throughout the semester), 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:	Case study workup on patients and reporting in writing and orally the information gathering and decision making in managing the patient's care.
Up-To-Date Representative Texts:	James Stoller. Egan's Fundamentals of Respiratory Care. 13th ed. Elsevier Health Sciences, 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-172 AND Respiratory Care-174
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	**Identify the basic function of the cardiopulmonary system as it relates to respiratory care.** RC 172 - Identify the basic function of the cardiopulmonary system as it relates to respiratory care. **Identify dysfunction in the cardiopulmonary system when providing various respiratory care therapies and drugs.** RC 172 - Identify dysfunction in the cardiopulmonary system when providing various respiratory care therapies and drugs. **Calculate percentages, ratios and dosages of drugs prescribed for the cardiopulmonary system in respiratory care.** RC 172 - Calculate percentages, ratios and dosages of drugs prescribed for the cardiopulmonary system in respiratory care. **Assemble respiratory care equipment for use in patient care.** RC 174 - Assemble respiratory care equipment for use in patient care. **Check respiratory care equipment for proper function and correct malfunctions within specified amount of time.** RC 174 - Check respiratory care equipment for proper function and correct malfunctions within specified amount of time. **Identify inappropriate equipment selection where presented with patient care plan and patient data.** RC 174 - Identify inappropriate equipment selection where presented with patient care plan and patient data. **Take vital signs and other respiratory care measurements accurately and report results verbally and in writing as appropriate.** RC 174 - Take vital signs and other respiratory care measurements accurately and report results verbally and in writing as appropriate. **Identify appropriate statements or actions as they relate to basic patient care procedures used in respiratory care.** RC 174 - Identify appropriate statements or actions as they relate to basic patient care procedures used in respiratory care.
Requisite Skill:	

Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	
Requisite course:	Computer Information Systems-13 AND Psychology-101
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	**Identify and analyze existing and emerging technologies and their impact on the business of medical organizations delivering patient care including computer usage, communication, and information systems.** CIS 13 - Identify and analyze existing and emerging technologies and their impact on organizations and society including computer, communication and information systems, privacy, security, crime, ethics, global relationships, and career opportunities. **Basic foundations of understanding psychology of behavior as it relates to patients and supporting family.** PSYC 101 - Identify and evaluate the major theories of emotion with an emphasis on behavioral, physiological, and cognitive components. PSYC 101 - Discuss the influence of stress, personality, and other psychological phenomena on physical health.
Requisite Skill:	
Requisite Skill and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s). If applicable	
Enrollment Limitations and Category:	Admission to the Respiratory Care Program requiring a completed application and physical exam forms indicating readiness for clinical practice as a Respiratory Care Practitioner. Note: It is also required that all non-respiratory care courses for the Respiratory Care Associate in Science degree be completed prior to enrollment in this course.
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:	Louis M. Sinopoli
Date:	03/04/2013
Original Board Approval Date:	12/01/1990
Last Reviewed and/or Revised by:	Roy Mekaru
Date:	03/22/2024
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