El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA **Respiratory Care Technology**

COURSE RUBRIC AND NUMBER **RSPT 1431**

COURSE TITLE **Respiratory Care Fundamentals II**

COURSE HOURS **3 2 : 6**
Credits Lec Lab

I. Catalog Description

Continues the development of knowledge and skills for respiratory care. A grade of "C" or better is required in this course to take the next course. **Prerequisite: RSPT 1429. Corequisites: RSPT 2358 and RSPT 2460. (2:6). Lab fee.**

II. Course Objectives

A. Unit I. Airway Management.
1. Compare oropharyngeal and nasopharyngeal airways.
2. Demonstrate the techniques for inserting oropharyngeal and nasopharyngeal airways.
3. Describe the construction of an endotracheal tube.
4. Describe the technique for orotracheal and nasotracheal intubation.
5. Use physical assessment to evaluate patient's response to airway placement.
6. Demonstrate the technique used to secure an endotracheal tube as well as how to determine and evaluate proper endotracheal tube placement by x-ray, inspection and auscultation.
7. Demonstrate the technique used to measure cuff pressure.
8. Compare conventional and percutaneous dilational tracheostomy.
9. Compare various designs of tracheostomy tubes and airway devices.
10. Demonstrate the proper use of manual resuscitators.
11. Demonstrate the proper maintenance and care of an artificial airway.
12. Compare conventional and closed suction catheters.
13. Describe techniques used to prevent complications from suctioning.
14. Discuss the important points of extubation and decannulation.

B. Unit II. Analysis and Monitoring of Gas Exchange
1. Compare methods to measure PO_2, PCO_2, pH, and oxygen saturation.
2. Describe the specific techniques and sites used to obtain and interpret arterial/venous blood samples by arterial puncture, indwelling catheters and capillary sticks.
3. Describe preanalytical errors in blood gas analysis.
4. Discuss issues related to temperature correction of blood gases.
5. Describe methods of quality control and proficiency testing of blood gases.
6. Discuss the physiology of gas exchange and acid-base balance.
7. List causes of hypoxemia, hypoxia, and hypercapnia.
8. List causes of acid-base disorders.
9. Explain how blood gas monitors measure blood gases and pH.
10. Discuss the operating principles, clinical usefulness, and limitations of transcutaneous monitoring, pulse oximetry, and capnography.
11. Describe methods used to monitor trancutaneous CO_2 and PO_2.
12. Describe the operating principles of sensors and transducers used for monitoring.
13. Describe methods of signal transmission in monitors.
14. Describe techniques used for signal processing in monitors.

C. Unit III. Electrocardiogram and Laboratory Assessment.
1. Describe why the electrocardiogram is valuable and how it is limited.
2. Describe the electrophysiology of cardiac cells.
3. Describe how the cardiac impulse is conducted through the different structures of the heart.
4. Recognize normal and abnormal ECG recordings.
5. Discuss the pharmacologic treatment of the most common cardiac arrhythmias.
6. Identify the indications for defibrillation.
7. Discuss the effects of renal function on serum chemistry.
8. Discuss the role of serum enzymes in assessing liver and cardiac function.
9. Describe laboratory tests used to assess coagulation.

D. Unit IV. Pulmonary Function Testing
1. Describe the parameters, general purposes and evaluate results of pulmonary function studies, including stress testing and metabolic studies.
2. Define lung volumes and capacities.
3. Describe methods used to measure functional residual capacity (FRC).
4. State the American Thoracic Society (ATS) standards for the spirometry testing.
5. Identify the features of normal and abnormal spirometry tracings.
6. Recognize the common errors seen in spirometry testing.
7. Specify the spirometry values seen in tests of patients with normal lungs, obstructive disease, restrictive disease, air trapping, and hyperinflation.
8. Explain the importance of spirometry testing before and after bronchodilator use.
9. Explain the rationale and limitations of portable spirometry.
10. Describe the importance of diffusion testing.
11. State the goals of the following specialized pulmonary function tests: bronchial challenge testing, airway resistance, respiratory muscle strength, ventilation distribution, and respiratory muscle coordination.

III. THECB Learning Outcomes (WECM)

1. Prepare equipment for function, operation, and cleanliness.
2. Perform lung expansion therapy, bronchial hygiene therapy, artificial airway insertion, manual resuscitation suctioning, and pulse oximetry.
3. Identify equipment malfunctions.
4. Maintain patient records.

IV. Evaluation

4 Unit Tests	50%	90 to 100%	A
1 Final	20%	80 to 89%	B
Homework, Quizzes	10%	75 to 79%	C
Lab Exercises	20%	74 or below	I or F
Total	100%		

A minimum grade of “C" or 75% is necessary for successful completion of this course.
**NOTE: 74.5=74, 74.6=75

V. Disability Statement (American with/Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.