El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Respiratory Care Technology**
COURSE RUBRIC AND NUMBER	**RSPT 2355**
COURSE TITLE	**Critical Care Monitoring**
COURSE CREDIT HOURS	**3 3 : 0** **Credits Lec Lab**

I. Catalog Description

Introduces advanced monitoring techniques used to assess a patient in the critical care setting. A grade of "C" or better is required in this course to take the next course. **Prerequisite: RSPT 2358. Corequisite: RSPT 2361 (3:0).**

II. Course Objectives

Upon satisfactory completion of the course, the student will be able to:

A. Unit I Bedside Monitoring of Acutely Ill Patients
1. Critique the components of breathing frequency.
2. Identify various clinical applications for capnography.
3. Examine the assessment of dead space and dead space to tidal volume ratio.
4. Explain the pulmonary system with the support needed to maintain an adequate level of alveolar ventilation.
5. Identify steps are involved in the patient management process.
6. Gather and evaluate general patient information from the medical record and evaluate it.
7. Interpret the vital signs of critically ill patients.
8. Assess tissue oxygenation in the critically ill.
9. Monitor ventilatory mechanics and the patient's work of breathing.
10. Assess the effect of mechanical ventilation on intracranial pressure.
11. Assess ventilation in the ICU patient.
12. Recognize how the following parameters can be used to evaluate tissue oxygen delivery and utilization:
    a. oxygen delivery availability
    b. oxygen consumption
    c. mixed venous oxygen tension
    d. venous saturation
    e. arterial to mixed venous oxygen content difference.
    f. oxygen extraction ratio

B. Unit II Methods of Assessing Hemodynamics

1. Identify the following regarding arterial cannulation:
    a. indications
    b. cannulation sites
    c. possible complications
    d. normal pressures and their significance

e. pressure waveforms
f. significance of respiratory variation in the pressure waveform.

2. Identify the following regarding central venous pressure (CVP) monitoring.
   a. significance
   b. factors affecting measurement
   c. insertion sites
   d. types of catheters
   e. correct technique for pressure measurement
3. Define the following:
   a. cardiac output
   b. stroke volume contractility
   c. preload
   e. contractility
   f. afterload
4. Discuss the hemodynamic parameters that reflect preload, contractility, and afterload.
5. Discuss assessment parameters that reflect preload, contractility, and afterload.
6. Discuss the relationship between mean arterial pressure, cardiac output, and systemic vascular resistance.
7. Identify hemodynamic implications of rising and falling diastolic blood pressures.
8. Interpret common hemodynamic parameters from displayed waveforms.

C. Unit III Techniques in Assessing Mechanical Ventilation
1. Evaluate and troubleshoot the patient-ventilator system.
2. Interpret ventilator graphic waveform.
3. Detect and measure auto-PEEP.
4. Monitor and initiate corrective action on patients who are assisted by mechanical ventilation and develop sudden respiratory distress.
5. Recognize the methods and significance of measuring the FiO_2 and exhaled carbon dioxide in the intensive care unit.
6. Identify the methods, normal values, and significance of measuring the following lung volumes and flows in the intensive care unit:
   a. tidal volume
   b. vital capacity
   c. functional residual capacity
7. Set up and calibrate a SvO_2 monitor to assess CO, CI, and SVO_2.

D. Unit IV Medications
1. Compare the various types and actions of bronchodilators.
2. Protect patients and caregivers from exposure to aerosolized drugs.
3. Apply aerosol therapy in special circumstances.
4. Assess patient response to bronchodilator therapy at the point of care.
5. Initiate and modify continuous aerosol drug therapy.
6. Select the best aerosol drug delivery system.
7. Identify the hazards are associated with aerosol drug therapy.
8. Identify the characteristics of an aerosol suspension.

E. Unit V Indications for Ventilatory Support
1. Demonstrate proper set up of a mechanical ventilator, invasive or non-invasive.
3. Identify the causes and differentiate among
   a. acute oxygenation failure
   b. acute ventilatory failure
   c. chronic respiratory failure
   d. acute-on-chronic respiratory
4. Identify the complications of respiratory failure.

5. Identify the specific for initiation of mechanical ventilation
5. Discuss the general principles to be followed for managing hypoxia and hypercapnea.
6. Calibrate and monitor end-tidal CO_2
7. Identify the indications for ventilatory support.
8. Identify the criteria for noninvasive ventilation.

III. THECB Learning Outcomes (WECM)

1. Describe the principles/techniques involved in critical care monitoring.
2. Interpret patient data.
3. Apply data to evaluate cardiopulmonary disorders.

IV. Evaluation

A. Upon successful completion of the course, a comprehensive final written exam for the course will be administered.

B. If a situation arises which faculty feel is detrimental to the development of a student i.e. destructive criticism, rudeness, or persistent negativism, a written counseling form will be completed. The first incident may result in a deduction of a letter grade from the final semester grade.

C. Unit Assignments

1. Unit assignments are designed to familiarize the student with monitoring techniques used clinically to assess a patient in the critical care setting. Activities will be graded on the basis of student's participation. Students are expected to share experiences, agree or disagree with theories and concepts presented, and generally contribute to the quality of the educational experience.
2. Assignments are due at the beginning of class unless otherwise instructed. It is the student's responsibility to complete assignments as outlined in this syllabus.

D. Unit Written Tests

1. There will be five (5) written tests.

Test 1	Units I
Test 2	Units II
Test 3	Units III
Test 4	Unit IV
Test 5	Unit V

Points deducted per question will depend on the number of items.These tests will measure student competency of unit objectives. Students should attend all classes and avoid coming in late or leaving early. If a student misses an exam day for a valid reason (predetermined by the instructor) than a unit exam will **be penalized deducting (5) points / day for each day after the exam date.**

E. Final Evaluation

1. Grading scale

90 to 100	A
80 to 89	B
75 to 79	C
74 or below	I or F

*NOTE A grade of "I" (incomplete) will be assigned at the discretion of the instructor. An "I" may be given only to those students who area waiting administrative decision. An "I' will not be given to students ho simply do not meet the deadlines.

2. Grade Percentage of final grade

Unit Exams	60%
Home Work & Quizzes	20%
Final Exam	20%
Total	100%

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.