

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY RTH 236 – CRITICAL CARE MONITORING (3 CR.)

Course Description

Focuses on techniques and theory necessary for the evaluation and treatment of the critical care patient, especially arterial blood gas and hemodynamic data. Explores physiologic effects of advanced mechanical ventilation. Lecture 2 hours per week. Laboratory 3 hours per week. Total 5 hours per week.

General Course Purpose

The primary focus of the course is to prepare the student to use advanced monitoring and mechanical ventilation techniques and to evaluate and integrate the data into the patient care plan.

Course Prerequisites/Corequisites

Prerequisite: RTH coursework in the first 3 semesters of the program or permission of the assistant dean.

Course Objectives

Upon completing the course, the student will be able to:

- A. Adjust mechanical ventilators to achieve physiologic goals for oxygenation and ventilation
- B. Recognize and correct problems with adult positive pressure mechanical ventilators and artificial airways
- C. Assess the critical care patient for liberation from mechanical ventilation
- D. Develop and implement a respiratory care plan to facilitate liberation from mechanical ventilation
- E. Correctly perform endotracheal extubation
- F. Interpret common flow, volume, and pressure waveforms seen during mechanical ventilation
- G. Apply the assessment of oxygen, ventilation and pulmonary mechanics and the application of the values obtained in bedside decision-making
- H. Explain the principles of and demonstrate the proper use of the equipment employed for non-invasive positive pressure ventilation (NIPPV)
- I. Implement advanced techniques of mechanical ventilation
- J. Apply and interpret Capnography values and graphics

Major Topics to be Included

- A. Clinical application of ventilation graphics
- B. Basic and advanced pulmonary mechanics during mechanical ventilation
- C. Advanced ventilatory techniques including volume-assured pressure support, proportional assist ventilation, airway pressure release ventilation, tracheal gas insufflation, independent lung ventilation and NIPPV
- D. Capnography application and graphics