COURSE DESCRIPTION:

Prerequisites: RCP 112
Corequisites: RCP 210, RCP 223, and RCP 235

This course provides in-depth coverage of the concepts of neonatal and pediatric respiratory care. Emphasis is placed on neonatal and pediatric pathophysiology and on the special therapeutic needs of neonates and children. Upon completion, students should be able to demonstrate competence in these concepts through written and laboratory evaluations. Students will also develop their critical thinking skills by working through clinical case studies. Course Hours Per Week: Class, 1. Lab, 3. Semester Hours Credit: 2.

LEARNING OUTCOMES:

At the completion of the course requirements, the student should be able to:

I. Assess fetal growth and development
II. Examine and evaluate labor, delivery, and physiological changes after birth
III. Employ techniques of neonatal resuscitation and stabilization
IV. Assess the neonatal and pediatric patient
V. Discuss pharmacology used in neonatal and pediatric respiratory therapy
VI. Identify neonatal and pediatric diseases and other problems of prematurity
VII. Apply theories and concepts of neonatal and pediatric ventilatory support
VIII. Operate and manage commonly used neonatal and pediatric ventilators
IX. Understand special procedures and non-conventional ventilator techniques
X. Model supportive care of the family

OUTLINE OF INSTRUCTION:

I. Assess fetal growth and development
   a. Modalities to assess fetal status
   b. Estimating the delivery date
   c. Biophysical tests of fetal well-being

II. Examine and evaluate labor, delivery, and physiological changes after birth
   a. Normal and abnormal stages of labor and delivery
   b. Adaptation to extrauterine life
      i. The first breath
      ii. The change from fetal to adult circulation
III. Employ techniques of neonatal resuscitation and stabilization
   a. Overview of Neonatal Resuscitation Program
      i. When to resuscitate
      ii. Steps in a resuscitation
   b. Stabilization and management of patient during and after resuscitation

IV. Assess the neonatal and pediatric patient
   a. Physical assessment of the neonatal and pediatric patient
   b. Anatomic and physiologic considerations

V. Discuss pharmacology used in neonatal and pediatric respiratory therapy
   a. Indications, contraindications, hazards, and use
      i. Antibiotics
      ii. Cardiovascular medications
      iii. Diuretics
      iv. Respiratory drugs
      v. Anticonvulsants
      vi. Sedation and control of ventilation
   b. Effects of maternal drug abuse on the fetus

VI. Identify neonatal and pediatric diseases and other problems of prematurity
   a. Consequences of premature birth
   b. Processes of intrauterine origin
   c. Interpretation of chest x-rays
   d. Commonly encountered neonatal and pediatric diseases
      i. Congenital
      ii. Infections
      iii. Iatrogenic
      iv. Idiopathic

VII. Apply theories and concepts of neonatal and pediatric ventilatory support
   a. Goals and indications of ventilation and oxygenation
   b. Clinical applications of mechanical ventilation and oxygenation

VIII. Operate and manage commonly used neonatal and pediatric ventilators
   a. Review ventilators used by UNC, Duke, WakeMed, and Rex
   b. Modes of ventilation and clinical applications

IX. Understand special procedures and non-conventional ventilator techniques
   a. Surfactant
   b. High-frequency ventilation
   c. Specialty medical gases
   d. Extracorporeal life support
   e. Negative pressure ventilation
X. Model supportive care of the family
   a. Bonding
   b. Causes of parental stress
   c. Understanding stages of grief

REQUIRED TEXTBOOKS AND MATERIALS:

Textbook to be selected by instructor.

STATEMENT FOR STUDENTS WITH DISABILITIES:

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 919-536-7207, ext. 1413 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1209.