

**RCP 214**  
**NEONATAL / PEDIATRIC RESPIRATORY CARE**

**COURSE DESCRIPTION:**

Prerequisites: RCP 111, RCP 112

Corequisites: RCP 210, RCP 223, and RCP 234

This course provides comprehensive coverage of the concepts of neonatal and pediatric respiratory care. Emphasis is placed on pathophysiology, patient assessment and special therapeutic needs of neonates and children based on evidence-based medicine protocols and clinical practice guidelines. Upon completion, students should be able to demonstrate competence in the neonatal and pediatric respiratory care concepts through written, laboratory and/or clinical simulation evaluations. 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 919-536-7208 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 10-209.