

# Respiratory Care (RC)

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## Courses

### RC 120 Respiratory Structure and Function\* (2 Hours)

**Prerequisites :** Admission to the Respiratory Care Program and BIOL 144 with a "C" or higher and CHEM 122 with a "C" or higher and ENGL 121 with a "C" or higher.

**Corequisites:** RC 124 and RC 131.

**Prerequisites or corequisites:** BIOL 230 with a "C" or higher.

This is a comprehensive study of the physiology and pathophysiology of the pulmonary, cardiovascular and renal systems as they relate to respiratory care.

### RC 124 Fundamentals of Respiratory Care\* (6 Hours)

**Prerequisites :** Admission to the Respiratory Care Program and BIOL 144 with a grade of "C" or higher and CHEM 122 with a grade of "C" or higher and ENGL 121 with a grade of "C" or higher.

**Corequisites:** RC 120 and RC 131.

**Prerequisites or corequisites:** BIOL 230 with a grade of "C" or higher.

This course covers therapeutic modalities and equipment used in respiratory care. Medical gas production and storage is also addressed. Emphasis is on patient assessment, clinical application of therapies, therapy evaluation and communication techniques. The course also examines the roles of respiratory care in the healthcare system and basic respiratory care services scope. The role the respiratory care practitioner assumes in an organization and the operation of a respiratory care department are also introduced.

### RC 131 Cardiopulmonary Diagnostics\* (3 Hours)

**Prerequisites :** Admission to the Respiratory Care Program and BIOL 144 with a "C" or higher and CHEM 122 with a "C" or higher and ENGL 121 with a "C" or higher.

**Corequisites:** RC 120 and RC 124.

**Prerequisites or corequisites:** BIOL 230 with a "C" or higher.

This course is a detailed review of the procedures, equipment, interpretation and analysis used in the diagnosis of cardiopulmonary disease. Diagnostic procedures will include: non-invasive oxygen and carbon dioxide measurements, arterial blood gas analysis, pulmonary function testing, thoracic imaging studies, clinical laboratory data, the electrocardiogram, bronchoscopy, thoracentesis, cardiopulmonary exercise studies and sleep studies.

### RC 136 Cardiopulmonary Diseases\* (3 Hours)

**Prerequisites :** Admission to the Respiratory Care Program and RC 120 with a grade of "C" or higher and RC 124 with a grade of "C" or higher and RC 131 with a grade of "C" or higher.

**Corequisites:** RC 140 and RC 145 and RC 146.

This course provides a detailed review of pulmonary disorders with disease pathology and management. The information provided allows students to integrate assessment and treatment of cardiopulmonary disease states as well as the physiological response to cardiopulmonary diseases. The role of a respiratory care practitioner in disease management is defined.

### RC 140 Respiratory Care Pharmacology\* (2 Hours)

**Prerequisites :** Admission to the Respiratory Care Program and RC 120 with a grade of "C" or higher and RC 124 with a grade of "C" or higher and RC 131 with a grade of "C" or higher.

**Corequisites:** RC 136 and RC 145 and RC 146.

This course acquaints the student with general principles of pharmacology. It provides a comprehensive review of all drugs and drug groups that are administered by respiratory care practitioners or play an integral part in the management of patients they encounter. Emphasis is on the respiratory care clinical application of pharmacological agents, their therapeutic effects, mechanism of action and adverse effects rather than the biochemistry involved.

### RC 145 Cardiopulmonary Critical Care I\* (5 Hours)

**Prerequisites :** Admission to the Respiratory Care Program and RC 120 with a grade of "C" or higher and RC 124 with a grade of "C" or higher and RC 131 with a grade of "C" or higher.

**Corequisites:** RC 136 and RC 140 and RC 146.

The student will develop knowledge and skills in the area of hospital critical care. Topics will include respiratory failure, airway management, arterial blood gas procurement, hemodynamic monitoring, mechanical ventilation, and chest trauma. Subtopics in mechanical ventilation consist of basic terms and concepts, mechanical ventilation function, breath delivery, indications for mechanical ventilation, mode selection, and initial settings.

### RC 146 Pediatric/Neonatal Respiratory Care\* (2 Hours)

**Prerequisites :** Admission to the Respiratory Care Program and RC 120 with a grade of "C" or higher and RC 124 with a grade of "C" or higher and RC 131 with a grade of "C" or higher.

**Corequisites:** RC 136 and RC 140 and RC 145.

The focus will be on the respiratory care of neonatal and pediatric patients, with emphasis on the management of cardiopulmonary disease states unique to children. Information will be based on developmental anatomy and physiology, pathology, diagnostic and laboratory assessments, and associated patient management in the acute, critical, emergency care, transport, and home care settings.

**RC 255 Cardiopulmonary Critical Care II\* (5 Hours)**

**Prerequisites :** Admission to the Respiratory Care Program and RC 136 with a grade of "C" or higher and RC 140 with a grade of "C" or higher and RC 145 with a grade of "C" or higher and RC 146 with a grade of "C" or higher.

**Corequisites:** RC 271.

The student will refine knowledge and skills in the critical care setting. Emphasis will be on management of the ventilator-patient system. Topics will include: physical examination of the mechanically ventilated patient, ventilator graphics, troubleshooting the ventilator-patient system, ventilator adjustments to achieve optimal oxygenation and ventilation, disease specific ventilator management, non-conventional modes of mechanical ventilation, and pediatric mechanical ventilation.

**RC 265 Respiratory Care Program Capstone\* (3 Hours)**

**Prerequisites :** Admission to the Respiratory Care Program and RC 255 with a grade of "C" or higher and RC 271 with a grade of "C" or higher.

**Corequisites:** RC 272.

This course is designed as a cumulative experience to prepare students for employment and the National Board of Respiratory Care (NBRC) examinations for the Registered Respiratory Therapist credential. In preparing for credential examination students will demonstrate knowledge and skill competency attainment expected of a skilled Respiratory Therapist. Exploration of subspecialty career options include home care, pulmonary rehabilitation and management. Students will be required to pass a comprehensive exam based on the current NBRC matrix for current board testing. Completed projects will document experiences and the knowledge base needed to assume the role of a Registered Respiratory Therapist (RRT).

**RC 271 Respiratory Care Clinical Experience I\* (6 Hours)**

**Prerequisites :** Admission to the Respiratory Care Program and RC 136 with a grade of "C" or higher and RC 140 with a grade of "C" or higher and RC 145 with a grade of "C" or higher and RC 146 with a grade of "C" or higher.

**Corequisites:** RC 255.

This course is the clinical application of respiratory care therapeutic and diagnostic procedures. Students will have the opportunity to work with patients under close supervision to further develop their skill and understanding of basic respiratory care procedures for adults and children. The course objectives advance throughout the semester to involve the students in all aspects of basic respiratory care for the acute care patient. As their comfort level and exposures progress, students are allowed to work with more critically ill patients.

**RC 272 Respiratory Care Clinical Experience II\* (6 Hours)**

**Prerequisites :** Admission to the Respiratory Care Program and RC 255 with a grade of "C" or higher and RC 271 with a grade of "C" or higher.

**Corequisites:** RC 265.

This course is the clinical application of respiratory care therapeutic and diagnostic procedures. Students will have the opportunity to work under close supervision to further develop their skill and understanding of critical care respiratory procedures for adults, pediatric and neonatal patients. Students will also be involved in specialty activities to include physician rounds, pulmonary rehabilitation and pulmonary function testing.