

## RCS Respiratory Care Science

### RCS 101 Fundamentals of Respiratory Care (3-0) 3 crs.

Provides students with a study of theories and modalities utilized in delivering, monitoring, and evaluating basic respiratory therapeutics to patients with compromised respiratory function in various healthcare settings. Covers aspects of artificial ventilation, arterial blood gas analysis, lung volume diagnostics, and hyperinflation intervention in patient scenarios.

**Prerequisite:** Admission into the RCS degree program.

### RCS 102 Respiratory Care Instrumentation I (2-3) 3 crs.

Imparts the fundamental knowledge regarding the design, function, and operation of respiratory care equipment. Covers patient communication, medical gas principles, medical gas supply equipment, medical gas therapy equipment, humidity and aerosol therapy equipment, hyperinflation therapy equipment, airway secretion clearance equipment, hyperinflation therapy equipment, emergency resuscitation equipment, physiological measurement and monitoring equipment, and principles of equipment sterilization and processing.

**Prerequisite:** Admission into the RCS degree program.

### RCS 103 Pharmacology for Respiratory Care (2-0) 2 crs.

Provides a comprehensive study of pharmacology principles. Covers receptor theory, clinical applications of medications, and historical analysis of first-generation medications. Examines current medication trends and recommendations.

**Prerequisite:** Admission into the RCS degree program.

### RCS 104 Cardiopulmonary Anatomy and Physiology (2-0) 2 crs.

Delivers an in-depth study of human anatomy and physiology regarding the cardiac, respiratory, and renal systems. Presents clinical application of the cardiac, respiratory, and renal system anatomy and physiology.

**Prerequisite:** Admission into the RCS degree program.

### RCS 105 Respiratory Care Clinical Practice I (0-6) 3 crs.

Prepares the student for direct patient care to be performed in the hospital setting and in addition to more advanced courses. Introduces clinical skills including vital signs, chest assessment, infection control, aerosolized medication delivery, oxygen therapy, hyperinflation therapy, airway clearance, arterial blood gas sampling, care of artificial airways, and tracheal suctioning. All procedures are performed under direct/close supervision.

**Prerequisite:** Admission into the RCS degree program.

### RCS 106 Cardiopulmonary Disease (3-0) 3 crs.

Offers lecture and case presentations related to pathophysiology, etiology, symptoms, diagnosis and treatment of selected pulmonary disease entities, cardiac diseases, sleep disorders, neurologic disease processes and occupationally acquired disease entities as they relate to respiratory function. Clinical Simulation software utilized for clinical patient assessment, diagnostic data gathering, and treatment.

**Prerequisite:** RCS 101, 102, 103, 104 and 105 with grades of C or better.

### RCS 107 Critical Care Concepts (3-0) 3 crs.

Provides the student with an in-depth study of selected respiratory care techniques with an emphasis on the care of critically ill patients. Explores critical skills and knowledge of mechanical ventilation, bedside diagnostic techniques, patient monitoring, and rehabilitation in the critical care setting.

**Prerequisite:** RCS 101, 102, 103, 104 and 105 with grades of C or better.

### RCS 108 Respiratory Care Instrumentation II (2-3) 3 crs.

Offers a comprehensive study of advanced equipment and technology utilized in the critical care and blood gas lab settings. Details hardware for hemodynamic monitoring, supplemental oxygen administration, noninvasive monitoring, blood gas measurement, quality control and assurance and mechanical ventilator concepts.

**Prerequisite:** RCS 101, 102, 103, 104 and 105 with grades of C or better.

### RCS 109 Respiratory Care Clinical Practice II (0-16) 3 crs.

Provides patient care opportunity to perform clinical procedures and interact with patients and professional personnel in a healthcare institution under the supervision of a respiratory therapist. Students gain direct patient care experience as presented in medical/surgical and pediatric clinical situations. Preparatory instruction is provided for mechanical ventilation and other critical care procedures.

**Prerequisite:** RCS 101, 102, 103, 104 and 105 with grades of C or better.

### RCS 210 Respiratory Care Clinical Practice III (0-16) 3 crs.

Affords a supervised clinical education experience in which the student organizes and administers advanced respiratory therapeutics on assigned patients in adult critical care. Procedures include arterial blood gas procurement and measurement, bedside physiologic monitoring, airway care, as well as setup, monitoring and maintenance of mechanical ventilators.

**Prerequisite:** RCS 106, 107, 108 and 109 with grades of C or better.

### RCS 211 Neonatal/Pediatric Respiratory Care (1-2) 2 crs.

Provides the respiratory care student with introductory knowledge concerning fetal, newborn, and pediatric development, assessment, and management. Lecture discussions include the anatomy and physiology of the respiratory and cardiac systems, basic respiratory therapy procedures and equipment, and mechanical ventilation strategies. In-class and online lectures as well as laboratory activities will be used to convey material.

**Prerequisite:** RCS 106, 107, 108 and 109 with grades of C or better.

### RCS 212 Mechanical Ventilation (2-4) 3 crs.

Offers an in-depth study of specific ventilators used in adult ventilation to include traditional and proposed ventilator classification, method of operation, parameter interrelationships and ventilator-patient monitoring. Focuses on analysis of several contemporary volume, time, pressure, and flow-cycled ventilators.

**Prerequisite:** RCS 210 and 211 with grades of C or better.

### RCS 213 Respiratory Care Clinical Practice IV (0-16) 3 crs.

Presents advanced clinical education in the intensive care setting in which the student monitors and administers critical care therapeutics on assigned patients in the adult, pediatric, and neonatal intensive care units.

**Prerequisite:** RCS 210 and 211 with grades of C or better.

### RCS 214 Respiratory Care Rehabilitation/Diagnostics (2-0) 2 crs.

Offers an introduction to the medical and ethical issues of outpatient pulmonary rehabilitation services and diagnostics procedures. Explores the impact of legislation, regulations, and Medicare law. Discusses the respiratory therapist's role in patient assessment, treatment plan, home care, and development of outcome measures for the chronic respiratory disease patient. Addresses reimbursement of outpatient pulmonary rehabilitation services.

**Prerequisite:** RCS 210 and 211 with grades of C or better.

**RCS 215 Respiratory Care Research (2-0) 2 crs.**

Provides an introduction to applied experimental design, research ethics, and data analysis focusing on the respiratory care profession. Each step of the research process will be explored from development of a personal research hypothesis and research design to the steps taken in order to submit a research study for approval.

**Prerequisite:** RCS 212, 213 and 214 with grades of C or better.

**RCS 216 Respiratory Care Icu Internship (0-16) 3 crs.**

Offers the student internships in the intensive care setting by providing direct patient care and administering critical care therapeutics. Emphasizes analysis and clinical application of advanced ventilator care of patients along with patient care diagnostics and management in the adult ICU.

**Prerequisite:** RCS 212, 213 and 214 with grades of C or better.