

RESPIRATORY CARE (RESP)

RESP-1300 Respiratory Care Equipment **4 Credits**

Overview of application of physical principles pertaining to physiologic function and diagnostic and therapeutic modalities employed in field of Respiratory Care. Function and operation of respiratory care equipment: primary gas systems, gas regulating devices, oxygen controllers, humidifiers, nebulizers, oxygen administering devices, oxygen analyzers, airways, manual resuscitators, monitoring and measuring equipment, and sterilization methods.

Lecture: 3 hours. Laboratory: 3 hours

Prerequisite(s): Concurrent enrollment in RESP-1310 Cardiopulmonary Physiology, and departmental approval: admission to program.

RESP-1310 Cardiopulmonary Physiology **3 Credits**

Physiology of cardiovascular and pulmonary systems with emphasis on electrophysiology of the heart, electrocardiography interpretation, blood flow characteristics and hemodynamics. Pulmonary system emphasis on lung volumes, dynamics of ventilation, pulmonary function tests, diffusion, ventilation to perfusion characteristics, gas transport, oxygenation studies and control of ventilation.

Lecture: 3 hours

Prerequisite(s): Departmental approval.

RESP-1320 Acid-Base and Hemodynamics **2 Credits**

Overview of acid-base regulation, integrating physiologic functions of renal and respiratory systems. Emphasis on body buffer systems, oxygen and carbon dioxide transport systems, basic chemistry and circulating blood forces through the body. Patient analysis and principles of equipment used in analysis of acid base, oxygenation status, cardiac output and cardiac blood pressures addressed.

Lecture: 2 hours

Prerequisite(s): RESP-1300 Respiratory Care Equipment, and RESP-1310 Cardiopulmonary Physiology.

RESP-1330 Cardiopulmonary Assessment and Pulmonary Diseases **5 Credits**

Theory and application of cardiopulmonary assessment, medical records, and charting. Includes physical assessment, assessment of lab values, radiologic evaluation, vital signs, EKG and pulmonary function testing and interpretation. Discussion of diseases including emphysema, chronic bronchitis, asthma, bronchiectasis, cystic fibrosis, pneumoconiosis, adult respiratory distress syndrome, pneumonia, pulmonary edema, cancer, acquired immune deficiency syndrome, tuberculosis, myasthenia gravis, Guillain-Barre and amyotrophic lateral sclerosis. Emphasis on identifying signs and symptoms of pulmonary diseases, and basic respiratory management of patient.

Lecture: 4 hours. Laboratory: 3 hours

Prerequisite(s): RESP-1300 Respiratory Care Equipment, and RESP-1310 Cardiopulmonary Physiology.

RESP-1340 Pharmacology for Respiratory Care **2 Credits**

General principles of pharmacology and calculations of drug dosages. Discussion of pharmacologic principles and agents used in treatment of cardiopulmonary disorders.

Lecture: 2 hours

Prerequisite(s): RESP-1300 Respiratory Care Equipment and RESP-1310 Cardiopulmonary Physiology.

RESP-1700 Asthma Management **1 Credit**

Introduction to asthma pathology and treatment. Emphasizes web-based education to asthma symptoms, risk factors, severity, pharmacologic treatment, and care plans. Cultural concepts of health and disease.

Lecture: 1 hours

Prerequisite(s): None.

RESP-2210 Introduction to Mechanical Ventilation **1 Credit**

Introduction to mechanical ventilation with special emphasis on ventilator terminology. Covers information necessary to understand basic functions of a life support ventilator.

Lecture: 1 hours

Prerequisite(s): Concurrent enrollment in RESP-2940 Respiratory Care Field Experience I.

RESP-2300 Basic Therapeutic Procedures **3 Credits**

Theory, clinical application and analysis of basic respiratory care procedures. Emphasis on oxygen therapy, medical gas therapy, tracheal suctioning, humidity and aerosol therapy, chest physical therapy, incentive spirometry, intermittent positive pressure breathing, airway management, bronchoscopy, and thoracotomy tubes.

Lecture: 2 hours. Laboratory: 3 hours

Prerequisite(s): RESP-1330 Cardiopulmonary Assessment and Pulmonary Diseases.

RESP-2310 Mechanical Ventilation **4 Credits**

Theory and application of mechanical ventilation techniques with emphasis on mechanical ventilator characteristics, physiologic effects, patient set-up and evaluation, maintenance of oxygenation, weaning techniques, ventilation safety and nutritional concerns. Discussion on ventilator management and the medicolegal issues involving life support systems.

Lecture: 3 hours. Laboratory: 3 hours

Prerequisite(s): RESP-2210 Introduction to Mechanical Ventilation, and concurrent enrollment in RESP-2950 Respiratory Care Field Experience II.

RESP-2320 Pediatric/Neonatal Respiratory Care **2 Credits**

Presentation of theory and its practical application to pediatric and neonatal respiratory disease states. Includes pathophysiology, etiology, patient assessment and treatment using equipment unique to this specialty area.

Lecture: 2 hours

Prerequisite(s): RESP-2300 Basic Therapeutic Procedures, and concurrent enrollment in RESP-2310 Mechanical Ventilation.

RESP-2330 Respiratory Home Care/Rehabilitation

1 Credit

Identification of therapists role in home care and pulmonary rehabilitation. Presentation of oxygen therapy and delivery systems in private home. Procedure for institution and maintenance of home mechanical ventilation. Outline of new trends in homecare and pulmonary rehabilitation. Guidelines on setting up hospital-based pulmonary rehabilitation programs along with patient management and follow-up strategies.

Lecture: 1 hours

Prerequisite(s): RESP-2950 Respiratory Care Field Experience II

RESP-2342 Patient Management Problems

2 Credits

Reinforces the clinical education components of information gathering and decision-making specific to assessment and treatment of cardiopulmonary impairment. Specific emphasis placed on the methodologies involved in obtaining and prioritizing diagnostic information. Comprehensive self-assessment at the advanced practitioner level of respiratory care.

Lecture: 2 hours

Prerequisite(s): RESP-2950 Respiratory Care Field Experience II.

RESP-2940 Respiratory Care Field Experience I

1 Credit

Field experience in the clinical setting on respiratory care equipment, policies, and procedures. Emphasis on patient assessment, bedside pulmonary function testing, aerosol therapy, arterial blood gas punctures and oxygen therapy.

Other Required Hours: 24 hours field experience per week for 10 weeks (240 hours total).

Prerequisite(s): RESP-1320 Acid-Base and Hemodynamics, and RESP-1330 Cardiopulmonary Assessment and Pulmonary Diseases, and RESP-1340 Pharmacology for Respiratory Care.

RESP-2950 Respiratory Care Field Experience II

2 Credits

Field experience in the clinical setting on respiratory therapy equipment, policies, and procedures. Emphasis on intubation, pulmonary function testing, airway clearance techniques, hyperinflation techniques, manual ventilation and suctioning, and mechanical ventilation. Clinical activities also include proficiencies completed in patient assessment, aerosol therapy, bedside pulmonary function testing, arterial blood gas sampling and analysis, and oxygen therapy. Other required hours: 24 hours field experience per week for 15 weeks (360 total hours).

Prerequisite(s): RESP-2210 Introduction to Mechanical Ventilation, RESP-2310 Mechanical Ventilation or concurrent enrollment, and RESP-2940 Respiratory Care Field Experience I.

RESP-2960 Respiratory Care Field Experience III

2 Credits

Capstone course in Respiratory Care. Field experience in clinical setting on respiratory therapy equipment, policies, and procedures. Emphasis on adult invasive and non-invasive mechanical ventilation, weaning from mechanical ventilation, pediatric patient care, and respiratory care in the long-term acute care facility environment.

Other Required Hours: 24 hours field experience per week for 15 weeks (360 hours total).

Prerequisite(s): RESP-2950 Respiratory Care Field Experience II.