RESPIRATORY CARE (RESP)

RESP-1100 Introduction to Respiratory Care
1 Credit
Introductory overview of the field of Respiratory Care. Areas of concentration include: respiratory care profession, basic physics, states of matter, bedside Pulmonary Function Tests (PFTs), and related measurements/calculations; medical terminology, and related measurements and calculations; mechanics of patient transfers/turning.
Lecture: 1 hours
Prerequisite(s): None.

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, 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

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.