RESPIRATORY THERAPY (RESP)

RESP 410: 2 s.h.
Acute Cardiopulmonary Care
This course is designed to give the student a complete understanding of artificial airways, manual artificial ventilation methods, and cardiopulmonary resuscitation. A basic study of cardiac physiology and electrocardiograph interpretation will be discussed. Integrated lecture/lab. Prereq: BIOL 356, for the B.S. in biology; BIOL 254 and BIOL 255 for the B.S. in allied health technology. Basic Life Support for Healthcare Providers, for both programs.

RESP 411: 2 s.h.
Respiratory Care Techniques 1
A study of the basic techniques of respiratory care, including professional organizations, ethics, legal aspects, aerosol phamacology, lung hyper-inflation therapy and basic diagnostic appliances. Integrated lecture/lab. Prereq: BIOL 356 for the B.S. in biology; BIOL 254 and BIOL 255 for the B.S. in allied health technology.

RESP 412: 3 s.h.
Principles of Aerosol & Gas Therapy
A study of medical gas therapy, bland and pharmacologic aerosol administration, and related theory guides the learner in making sound judgments in their application. Particular attention is given to the operating principles of the devices used in this therapy and their use and maintenance. Integrated lecture/lab. Prereq: BIOL 356, CHEM 112, and PHYS 131 for the B.S. in biology; BIOL 254 and BIOL 255, CHEM 103 and CHEM 104, and PHYS 131 for the B.S. in allied health technology.

RESP 413: 4 s.h.
Respiratory Assessment & Therapeutics
The lungs and chest wall are studied to gain an understanding of breathing mechanics in health and disease. Therapeutic measures are considered as to their value in reducing the work of breathing imposed by disease. Each student learns to examine the pulmonary patient and to integrate and evaluate the findings. Bronchopulmonary hygiene, chest physical therapy techniques and an overview of pulmonary rehabilitation are introduced and discussed. Prereq: RESP 411, RESP 412.

RESP 414: 3 s.h.
Respiratory Care Techniques 2
The chest-imaging component prepares the student to evaluate chest X-ray films and to recognize and track the progression/resolution of ab- normalities. CT scanning and MRI are given emphasis proportional to their utilization in chest medicine. Measurement and calculation of volume, flow rate, and ratios, and their physiologic significance, and testing procedures for performing various pulmonary function studies are included. Prereq: RESP 411.

RESP 415: 3 s.h.
Technical Aspects of Mechanical Ventilation
The mechanics of basic models: Discussion includes the mechanics of ventilator models classification, the control interrelation, the electro-pneumatic/ microprocessor systems and the audiovisual alarm systems; a selection of current ventilator models are presented using workshops to provide hands-on experience in troubleshooting, setup, control function, alarm setting and mode change. Prereq: RESP 421.

RESP 417: 3 s.h.
Respiratory Care Techniques 3 (W)
The course provides an overview of cardiovascular physiology, management of invasive monitoring catheters, calculation of all commonly used mechanics, and interpretation of data in pathologic states. Also, each student researches, prepares a journal-quality paper and presents a 40-50- minute verbal presentation on a selected pulmonary disease condition. Prereq: ENGL 110, RESP 414.

RESP 419: 2 s.h.
Respiratory Care in Alternate Sites
Alternate sites for respiratory care are studied to give the students a better understanding of the career opportunities within their reach. The students will understand their role as respiratory therapists in the home care, subacute care and pulmonary rehabilitation settings. Lecture, guest speakers, a camp experience, a one-day site visit and in-class presentations are included. Prereq: RESP 413.

RESP 420: 3 s.h.
Arterial Blood Gas Analysis
The physiologic role of various gas pressures (alveolar gas pressures, blood gas pressures, inspired gas pressures, tissue gas pressures, etc.) and pulmonary abnormalities causing hypoxemia are discussed. Control of ventilation, oxygen transport (including oxygen content and oxygen dissociation curve) and carbon dioxide transport are presented. The student will interpret acid-base imbalances and blood gas abnormalities. Prereq: CHEM 112 and PHYS 131 for the B.S. in biology; CHEM 103 and CHEM 104 and PHYSICS 131 for the B.S. in allied health technology.

RESP 421: 2 s.h.
Physiology of Mechanical Ventilation
Aspects of continuous positive and negative pressure breathing are discussed. Special emphasis is placed on the complications of mechanical ventilation and analysis of various waveform patterns produced by different ventilator modes. Theory and measurement of airway resistance and lung thorax compliance are presented. The student learns guidelines and calculations for correct ventilator setup. Prereq: RESP 411 and RESP 420.

RESP 422: 2 s.h.
Pharmacology
A concise core of pharmacologic knowledge that will be used by the respiratory therapist to understand how chemical agents affect disease processes. Emphasis is placed on the chemical and molecular structures, toxic aspects, actions and hazards of drugs. Prereq: CHEM 112 for the B.S. in biology; CHEM 104 for the B.S. in allied health technology.

RESP 423: 2 s.h.
Infectious Diseases
Infectious diseases resulting in respiratory infections, host defense mechanisms, the immunology of the respiratory system and temporary or permanent failure of many protective mechanisms of the body to ward off infectious agents. Fluid and electrolyte management is stressed. Prereq: BIOL 461.

RESP 424: 2 s.h.
Non-Infectious Diseases
Diseases of the airway, parenchyma and pleura are covered in an assessment-based format to understand the etiology, diagnosis, treatment and management of patients with noninfectious pulmonary diseases. Prereq: RESP 413.

RESP 425: 2 s.h.
Neonatology for the Respiratory Therapist
Uterine development of the embryo is discussed with emphasis on the fetal pulmonary system. The respiratory and circulatory changeover of the neonate at birth is studied. Temperature regulation, signs of respiratory distress, oxygen administration, arterial blood analysis, congenital abnormalities and disease states are studied with respect to the newborn. Prereq: BIOL 356 or BIOL 254/255.

RESP 460: 1 s.h.
Clinical Practice 1
The student will complete three diagnostic lab units and three clinical skills lab units in general care therapeutics and general care patient management. Upon successful completion of each of the skills labs, the student will be scheduled for a clinical practice rotation in patient care. The students are assigned to a clinical preceptor to observe/practice/develop competency in their newly acquired clinical skills. Prereq: admission to the Program in Respiratory Therapy.

RESP 461: 2 s.h.
Clinical Practicum 1
This course provides a 60-hour supervised clinical experience for each student enrolled. It immediately follows the completion of RESP 460, in which all of the general patient-care skills were presented, practiced in simulation, observed in patient care and practiced on patients. The expectation is that each student will progress to mastery in the assigned general patient-care clinical skills. The former 40 hours will be devoted to supervised practice, and the latter 20 hours will consist of further practice, with a focus on skill assessment through direct observation by a regular faculty member. Prereq: RESP 460.

RESP 462: 1 s.h.
Clinical Practice 2
The student will complete three clinical skills lab units in critical care therapeutics and critical care patient management, and three diagnostic lab units. The format for each of these labs is similar to that of RESP 460. Upon successful completion of each of these labs, the student will be scheduled for a clinical practice rotation in patient care. The students are assigned to a faculty member to observe/practice/achieve competency in their newly acquired clinical skills. Prereq: RESP 461.

RESP 463: 3 s.h.
Clinical Practicum 2
This course provides a 120-hour supervised clinical experience for each student enrolled. It immediately follows the completion of RESP 462, in which all of the critical-care patient-care skills were presented, practiced in simulation, observed in patient care and practiced on patients. The expectation is that each student will progress to mastery in the assigned critical-care patient-care clinical skills. The former 100 hours will be devoted to supervised practice, and the latter 20 hours will consist of further practice, with a focus on skill assessment through direct observation by a faculty member. Prereq: RESP 462.

RESP 464: 10 s.h.
Clinical Practicum 3
This course provides a 600-hour supervised clinical experience for each student enrolled. The final semester of the program is devoted to refinement of all skills through practicing a great variety of equipment and procedures. Advanced techniques and procedures are stressed. A total of 16 structured weeks of clinical experiences is offered at contracted affiliated regional hospitals and medical centers. Students will accomplish learning objectives while assigned to various content experts and specialists. The focus is on pulmonary rehabilitation, home care, sleep medicine, pulmonary diagnostics, neonatal/pediatric critical care, advanced airway care, pulmonary medicine and adult critical care patient management. Each rotation area is complete with schedules, content outlines, specific learning objectives and assignments to be completed by the student. Prereq: RESP 463.

RESP 495: 2 s.h.
Respiratory Care Research
Each student selects, designs and conducts a research project, individually or with a research partner. The project culminates in a verbal presentation of the research and a manuscript from each student suitable for publication. Each project is assigned a faculty adviser to oversee and guide the research. Prereq: permission of program director.