## Respiratory Therapy

CVRS110: Cardio-vascular Diagnostics

Respiratory Therapists work in critical care areas, operating rooms, wards and diagnostic areas of health care facilities to deliver health care to adults, children, and newborns with cardiopulmonary disorders. The technology that the Respiratory Therapist works with is broad, ranging from basic gas delivery equipment and diagnostic instruments to complicated microprocessor controlled life support equipment. The Respiratory Therapist must learn the basic principles of operation, proper usage, and application to the patient for each instrument.

Cardiovascular Diagnostics evaluate patients' heart and blood systems to aid in the diagnosis of disease and to guide patient management. It is a required skill for Respiratory Therapists (RT) to perform a variety of tests and assessments to monitor the heart and its characteristics. It is performed in a variety of situations, over a wide range of patient care areas and for a multitude of reasons in an effort to identify health care needs. The application of technology through invasive and non-invasive monitoring and cardiac testing to assess cardiovascular function is one of the cornerstones of Respiratory Therapy.

Successful completion of this course will prepare the Student Respiratory Therapist (SRT) for the clinical portion of the program where these skills will be preformed on patients. The student will have the background knowledge skills and attitudes to achieve specific competencies outlined in the National Competency Profile (NCP). This will be achieved by performance of the stated competencies in simulated patient environments. FORMAT: Lecture 4 hours, lab 2 hours

RSRS110: Respiratory Care Procedures I

Respiratory Therapists work in critical care areas, operating rooms, wards, and diagnostic areas of health care facilities to deliver respiratory care to adults, children, and newborns. The equipment that the Respiratory Therapist works with is broad: starting with gas and vacuum delivery equipment to oxygen, humidity, and aerosol therapy. The therapist must learn the basic principles of operation, proper usage, and application to the patient for each device. The therapist must then apply the proper device using basic respiratory care procedures.

This course is the first of three in a series titled Respiratory Care Procedures. In year 1, semester one, the students will develop skills in the use of medical gas delivery devices. This will begin with a review of basic mathematical, chemical and physical principles of gases including fluid properties, characteristics of gases and the gas laws. The structure of gas delivery devices, associated safety systems, and gas analysis is studied in depth. The course then continues on to the delivery of oxygen, humidity, and aerosol where in-depth understanding of the physics, devices, and their application is expected. The final section of this course concludes with a focused study of vacuum systems used for suctioning. FORMAT: Lecture 4 hours, lab 2 hours

PVRS120: Pulmonary Ventilation I

Patient assessment is a requisite skill for Respiratory Therapists and is performed in a variety of situations, over a wide range of patient care areas and for a multitude of reasons. Assessment of the patient begins with the senses of the therapist-Looking, listening, smelling, and touching patients in an effort to identify health care needs. As the assessment targets the cardiac and respiratory system, equipment is utilized to enhance the skills of the therapist. The application of technology through invasive and non-invasive monitoring pulmonary function to assess cardiopulmonary function cornerstones of Respiratory Therapy. This course also looks at the underlying theories, concepts and practical applications of mechanical ventilation. The content covered in this course is the foundation from which the students can subsequently learn about ventilators and how to safely use them to mechanically ventilate patients. Successful completion of this course will ensure the Student RT (SRT) has the basic skill sets and knowledge to perform and/or interpret tests of pulmonary function and provide and optimize pulmonary ventilation for the adult population in a didactic and simulated clinical setting. FORMAT: Lecture 6 hours, lab 2 hours

RSRS120: Respiratory Care Procedures II

This course is the second of three courses on basic respiratory care procedures; a continuation of RSRS 110. You will learn theory and skills for providing safe and effective airway maintenance. Establishing and maintaining a secure and patent airway is the key to providing effective assisted ventilation. Emphasis will be placed on areas of practice related to manual ventilation equipment and techniques, orotracheal suctioning techniques, airway management equipment including various artificial airways, laryngoscopes, adjunctive equipment, and specialty procedures like bronchoscopy. You will learn standard airway management techniques (intubation, extubation, and tube security), surgical airway techniques, tracheostomy care, and advanced techniques for the management of a difficult airway. FORMAT: Lecture 2 hours, lab 2 hours

CRRS120: Cardio-pulmonary Physiology

The study of anatomy and physiology provides the Respiratory Therapist with knowledge that can be applied to pulmonary medicine in evaluating and avoiding potential difficulties in clinical practice. This course is designed to provide the student with additional education in respiratory, cardiovascular and renal anatomy and physiology. In addition, this course will introduce the student to arterial blood gas interpretation. Understanding the rationale for presentation of abnormal blood gases requires that a student have a sound basis in normal anatomy and physiology. Ultimately, this course will prepare the student for future studies in pathophysiology and the treatment of disease. FORMAT: Lectures 5 hours

PVRS230: Pulmonary Ventilation II

Respiratory Therapists work in critical care areas, operating rooms, wards, and diagnostic areas of health care facilities to deliver health care to adults, children and newborns with cardiopulmonary disorders. Mechanical ventilators are a mainstay of life support in these areas. There are numerous ventilators in use today, ranging from older pneumatically operated machines to complicated microprocessor controlled equipment. In order to safely and knowledgeably operate this equipment, the Respiratory Therapist must learn the basic principles of operation, and how to use and apply each instrument to particular patients. In this course, areas of ventilation that will be covered include negative pressure ventilation, positive pressure ventilation (noninvasive and invasive), and various forms of nonconventional ventilation. FORMAT: Lecture 6 hours, lab 2 hours.

MDRS230: Disease Management I

This course is part one in a two-part series on the management of disease. The focus of the course is not solely on the pathology of disease and the pharmaceutical treatment, but a more holistic view of the diagnosis and management of respiratory diseases. FORMAT: Lecture 6 hours.

RSRS 230: Respiratory Care Procedures III

This course is a continuation of RSRS110 and RSRS120 and the last of three courses for respiratory care procedures. At the end of this course you will be ready to move into simulated clinical education in the areas of respiratory practice including both acute and sub-acute care as well as pulmonary rehabilitation.

Building on the knowledge and skills obtained in the two pre-requisite courses will enhance your current skill level in the areas of infection control, patient assessment, airway management, home oxygen, screening sleep studies and thoracic suction. New topic areas covered in this course include chest x-ray interpretation, chest and physical assessment, sputum collection/induction, patient education and rehabilitation, discharge planning and home care. FORMAT: Lecture 4 hours, lab 2 hours.

SPRS 240: Specialty Practice I

Respiratory Therapists work in critical care areas including the operating room to deliver health care to adults, children and newborns with cardiopulmonary disorders. Mechanical ventilators, monitoring, and technology are a mainstay of life support in these areas.

This course incorporates 3 distinct components of anesthesia: airway management, instrumentation, and case management, which includes pharmacology. The course starts with a review of basic airway management and continues with the application of these concepts in anesthesia. Then, anesthesia equipment is discussed in detail, starting with an introduction to basic gas supply and physics and following with its application to the pre-operative and peri-operative setting.

Anesthesia monitoring systems and the process of monitoring a patient during general and regional anesthesia is integrated into the discussion during the second section and then all concepts including the management of the patient pre-operatively and intra-operatively concludes with the understanding of anesthesia pharmacology. Clinical simulations and practical laboratories facilitate the integration of all components of the course. FORMAT: Lecture 3 hours, lab 2 hours.

SPRS 241: Specialty Practice II

In Specialty Practice II, students will study the anatomy and physiology, pathologies, diagnostic and treatment strategies for neonatal and pediatric cardio respiratory systems. The course content will include pregnancy, labor and delivery as related to cardio respiratory function. Special topics include maternal anesthesia.

This course integrates the specific concepts of respiratory therapy instrumentation and mechanical ventilation previously studied and applies them to the specialty areas of neonatology and pediatrics. Specialty Practice II is designed to address the equipment specific to maintaining infant cardio-respiratory function. Clinical simulations and practical laboratories will facilitate the integration of skills in the course.

An appropriate knowledge level in anatomy and physiology is essential for comprehension of the various neonatal and pediatric disorders, and for future competency in the understanding and application of therapeutic modalities within this specialty area in the clinical setting. FORMAT: Lecture 6 hours, lab 2 hours.

MDRS 240: Disease Management II

This course is part two in a two-part series on the management of disease. The focus of the course is not solely on the pathology of disease and the pharmaceutical treatment, but a more holistic view of the diagnosis and management of cardiac, neurological and other conditions in patients who require the assistance of a Respiratory Therapist. FORMAT: Lecture 7 hours.

IPCL 251: Interprofessional Collaborative Clinical Simulation

This course is designed to provide you with the necessary interpersonal and professional skills required in a clinical environment. You will learn how to model your professional role within a collaborative interprofessional team while planning to optimize patient care and safety. You will have multiple opportunities in seminars to utilize self reflection, exercise judgment and integrate core abilities. Upon successful completion of this course, you will be able to transfer your profession specific knowledge, skills and judgment from the simulated to the clinical environment. FORMAT: Tutorial 3 hours.

SNRS 251: Specialty Clinical Simulation

This 14 week course is designed to prepare the student for entry in to the clinical environment. Each week students will be assigned to simulated patient cases in a variety of "environments" that are typical for Respiratory Therapists. The

environments will include Intensive Care Unit, Wards/Emergency Dept., Sub-acute Care, Pulmonary Function Testing, Cardiac Stress Testing, Pediatrics and Operating Room. Students will be expected to review relevant didactic course material in preparation for each environment.

The course will be divided into three 4 week blocks. Each block will expose students to 3 different "environments". Each week will begin with a plenary session that will introduce the week. Students will be advised of what didactic materials to review in preparation for handling the next week. The students will take turns rotating through each of the 3 environments in small groups. On-going peer and instructor evaluation and/or de-briefing sessions are expected to occur within these sessions to provide students with continuous feedback. Each week the class will meet as a whole for a final de-briefing session and/or discussion of the previous week's activities. FORMAT: Lecture 4 hours, lab 9 hours, 1 hour self study.

CLRS360: Clinical Practice I

The clinical education component for the Respiratory Therapy Program consists of 2 courses, CLRS 360 (Clinical Practice I) and CLRS 370 (Clinical Practice II). Each course is 15 weeks long within a 31 week clinical year of Respiratory Therapy education in a hospital or clinical setting. Students will each begin with an orientation week, then go on to either CLRS 360 or CLRS 370 depending on scheduling arrangements, and proceed through various clinical rotations to achieve course requirements.

In CLRS 360, students will have the opportunity within an interprofessional team, to provide and manage respiratory care for patients in the adult intensive care unit, the operating room, the wards and emergency department, the rehabilitation/longterm care unit, as well as the outpatient pulmonary function lab. Evaluation emphasis will be placed on safety, professionalism, performance of clinical competencies, and various performance assessment tasks such as oral presentations and a summative written examination. Please note that some rotations are offered in two parts in both CLRS 360 and CLRS 370 (i.e: wards, intensive care), and the sequence of rotations a student experiences in these courses will be given the designation of Wards A/Wards B and ICU A/ICU B respectively. Students must complete both A and B rotations prior to the end of the academic year in order to be successful in their clinical year of the Respiratory Therapy Program. Please note that the weeks within a base site rotation may or may not be scheduled sequentially depending on site specific resources and scheduling. This will be determined by the base site Clinical Coordinator. Otherwise, all specialty rotations will be completed in their entirety. FORMAT: Clinical placement 37.5 hours/week

CLRS370: Clinical Practice II

The clinical education component for the Respiratory Therapy Program consists of 2 courses, CLRS 360 (Clinical Practice I) and CLRS 370 (Clinical Practice II). Each course is 15 weeks long within a 31 week clinical year of Respiratory Therapy education in a hospital or clinic setting. Students will each begin with an orientation week, then go to either CLRS 360 or CLRS 370 depending on scheduling arrangements, and proceed through various clinical rotations to achieve course requirements.

In CLRS 370, students will have the opportunity within an interprofessional team, to provide and manage respiratory care for the critically ill adult patient, the nonacute adult patient, and the critically ill neonate and pediatric patient. Evaluation emphasis will be placed on safety, professionalism, performance of clinical competencies, and various performance assessment tasks such as oral presentations on equipment evaluation, patient case studies, and a summative written examination. Please note that some rotations are offered in two parts in both CLRS 360 and CLRS 370 (ie: wards, intensive care), and the sequence of rotations a student experiences in these courses will be given the designation of Wards A/Wards B and ICU A/ICU B respectively. Students must complete both A and B rotations prior to the end of the academic year in order to be successful in their clinical year of the Respiratory Therapy Program. Please note that the weeks within a base site rotation may or may not be scheduled sequentially depending on site specific resources and scheduling. This will be determined by the base site Clinical Coordinator. Otherwise, all specialty rotations will be completed in their entirety. FORMAT: Clinical placement 37.5 hours/week