RST - Respiratory Therapy

Course Descriptions - Respiratory Therapy (RST)

RST 311. Principles of Patient Assessment.--Patient care procedures, physical assessment, laboratory assessment, communication skills and charting, and professionalism in Respiratory Care. Prerequisite: Admission to RST Program or permission of instructor. 2 hours.

RST 312. Basic Respiratory Care Procedures.--Review of physical concepts and laws governing fluids; composition and percentages of atmospheric gases. Principles, operations, maintenance, and identifying characteristics of primary gas systems. Rationale, indications, contraindications, hazards and maintenance of common Medical Gas delivery systems. Humidity and humidifiers; aerosol and nebulizers; administration of aerosolized solutions; gas analysis and analyzers. Incentive spirometry, IPPB, and other hyperinflation techniques. Advanced oxygen and aerosol therapy, bedside patient assessment, postural drainage, and vibropercussion. Prerequisite: Admission to RST Program or permission of instructor. 4 hours.

RST 313. Basic Respiratory Care Procedures Laboratory.--Laboratory practice of respiratory care procedures included in RST 311 and RST 312; airway management techniques and procedures; reinforcement of material covered in RST 314 via audiovisual programs and computer assisted instruction. Prerequisite: Admission to RST Program. 3 hours.

RST 314. Cardiopulmonary Anatomy and Physiology.--Structure of airways, lung parenchyma, chest wall, pulmonary and systemic circulations, diaphragm, heart, and kidneys. Physiology of pulmonary blood flow, ventilation, gas diffusion, gas transport, ventilation/perfusion relationships, control of ventilation, hemodynamics, pressure and flow relationships, arterial blood gases and acid-base balance, electrical properties of heart, contractile properties of heart, cardiac output, regulation of arterial blood pressure, and renal physiology. Prerequisite: Admission to RST Program or permission of instructor. 3 hours.

RST 321. Clinical Practicum in Respiratory Care I.--Practical application of respiratory care performed under supervision at clinical sites and proficiency evaluations of selected respiratory care procedures. Prerequisite: Admission to RST Program. 6 hours.

RST 322. Respiratory Care Pharmacology.--Legal aspects, terminology, use of pharmacology references, routes of administration, solutions and dosages, pharmacodynamics, autonomic nervous system, alpha and beta receptors, bronchodilators, mucolytics, respiratory stimulants, neuromuscular blocking agents, expectorants, cough and cold medications, steroids, cromolyn sodium and anti-infective agents. Prerequisite: Admission to RST Program or permission of instructor. 3 hours.

RST 323. Airway Management.--Selection, application, maintenance, and discontinuance of various artificial airways, including intubation, extubation, tracheostomy care, and suctioning. Prerequisite: Admission to RST Program or permission of instructor. 2 hours.
RST 331. Pulmonary Pathology.--Diseases affecting respiratory system, including symptoms, signs, laboratory tests, etiology, and treatment; emphasis on diseases commonly encountered by practicing respiratory therapists. Prerequisite: BY 216; admission to RST Program or permission of instructor. 2 hours.

RST 332. Mechanical Ventilation.--Basic physics and mechanics of artificial ventilation; theory and practical application of manual resuscitators and mechanical ventilators; ventilator classification and general operational characteristics. Prerequisite: Admission to RST Program; corequisite: RST 333. 4 hours.

RST 333. Mechanical Ventilation Laboratory.--Laboratory practice of mechanical ventilation procedures and reinforcement of material covered in RST 332. Corequisite: RST 332. 2 hours.

RST 334. Perinatal/Pediatric Respiratory Care.--Anatomy, physiology, embryonic development of human fetus, with emphasis on embryonic lung development; transition from fetal to extra-uterine life; prenatal and perinatal history. Etiology, pathophysiology, clinical presentation, radiologic assessment and management of neonatal and pediatric lung diseases. Obstructive airway diseases in infants and children. Congenital heart diseases; sudden infant death syndrome and apnea disorders; Reye’s Syndrome and other neurologic/neuromuscular disorders. Prerequisite: Admission to RST Program or permission of instructor. 4 hours.

RST 335. Critical Care Monitoring.--Assembly and operation of hemodynamic monitoring systems, safety precautions, quality control, and troubleshooting of equipment; measurement, interpretation, and application of hemodynamic parameters. Prerequisite: Admission to RST Program or permission of instructor. 2 hours.

RST 336. Pediatric and Monitoring Laboratory.--Laboratory practice of respiratory care procedures and reinforcement of material covered in RST 334 and 335. Prerequisite: Admission to RST Program. 1 hour.

RST 411. Clinical Practicum in Respiratory Care II.--Clinical refinements of concepts and procedures in cardiopulmonary care with emphasis on advanced procedures in adult and neonatal critical care. Prerequisite: Admission to RST Program. 4 hours.

RST 412. Advanced Mechanical Ventilation.--Advanced mechanical ventilation techniques, including advanced concepts in adult and neonatal mechanical ventilators, transport, and homecare; overview of advanced mechanical ventilation techniques, such as liquid ventilation. Prerequisite: Admission to RST Program or permission of instructor. 3 hours.

RST 413. Long Term and Preventive Care.--Components of rehabilitation programs, patient education and motivation, home care concepts, reimbursement, gerontology, specialized home care procedures, and preventive care procedures. Prerequisite: Admission to RST Program; corequisite: RST 414. 3 hours.

RST 414. Long Term and Preventive Care Laboratory.--Laboratory practice of respiratory care procedures and reinforcement of material covered in RST 413. Prerequisite: Admission to RST Program;
corequisite: RST 413. 1 hour.

RST 415. Cardiopulmonary Seminar I.--Student and faculty presentations on recent developments in cardiopulmonary care. Prerequisite: Admission to RST Program or permission of instructor. 1 hour.

RST 421. Clinical Practicum in Respiratory Care III.--Clinical refinement of concepts and procedures in cardiopulmonary care with emphasis on special procedures, pulmonary rehabilitation, and home respiratory care, diagnostic testing, and advanced adult, pediatric, and neonatal critical care procedures and functions. Prerequisite: Admission to RST Program. 4 hours.

RST 422. Special Procedures and Pulmonary Function Testing.--Pulmonary function testing procedures including equipment, spirometric measurement of pulmonary function, lung volume measurements, pulmonary mechanics tests, gas distribution studies, lung diffusion studies, exercise testing, bronchial provocation testing, interpretation and application of test results, and case studies. Assistant functions in tracheostomy and thoracostomy tube insertion, bronchoscopy, thoracentesis, tracheotomy, and pulmonary artery catheterization; insertion of arterial cannulae; and introduction to neurodiagnostic procedures and sleep studies. Prerequisite: Admission to RST Program or permission of instructor. 3 hours.

RST 423. Special Procedures Laboratory.--Laboratory practice in respiratory care practitioner’s role in fiberoptic bronchoscopy, thoracentesis, tracheotomy, arterial cannulation, transtracheal catheter placement, and sleep studies; laboratory practice of basic pulmonary function procedures. Prerequisite: Admission to RST Program. 1 hour.

RST 424. Directed Study in Respiratory Care I.--Study of conditions and therapeutic measures frequently confronting respiratory care practitioner; student case study presentations and discussions. Prerequisite: Admission to RST Program. 2 hours.

RST 425. Cardiopulmonary Seminar II.--Student and faculty presentations on recent developments in cardiopulmonary care. Prerequisite: Admission to RST Program or permission of instructor. 1 hour.

RST 431. Clinical Practicum in Respiratory Care IV.--Clinical refinement of concepts and procedures in cardiopulmonary care with emphasis on special procedures, pulmonary function testing, pulmonary rehabilitation, home care therapy, diagnostic testing, hemodynamic monitoring, advanced mechanical ventilation procedures. Prerequisite: Admission to RST Program. 5 hours.

RST 432. Directed Study in Respiratory Care II.--Study of conditions and therapeutic measures frequently confronting respiratory care practitioner; student case study presentations and discussions. Prerequisite: Admission to RST Program. 2 hours.

RST 433. Laboratory Proficiency Practice.--Laboratory course designed to give senior student chance to practice all of laboratory proficiencies taught throughout curriculum prior to taking Laboratory Proficiency Exit Examination. Prerequisite: Admission to RST Program. 2
hours.

**RST 434. CRT Exam Review.**--Review of all respiratory therapy topics covered on CRT Entry Level exam that student must take upon graduation; topics reviewed based on weak areas identified in CRT Entry Level Self-Assessment and Written Registry Exams previously taken by student. Prerequisite: Admission to RST Program or permission of instructor. 2 hours.

**RST 435. Review of Critical Care Concepts.**--Concepts involved in care of critically ill patients, including hemodynamic monitoring, fluid and electrolyte studies, metabolic studies, and mechanical ventilation concepts. Prerequisite: Admission to RST Program or permission of instructor. 2 hours.

**RST 441. Clinical Internship.**--Final clinical experience before graduation; student will choose specialization area, such as neonatal, adult critical care, pediatrics, and pulmonary function. Prerequisite: Admission to RST Program. 8 hours.

**RST 442. Directed Study in Respiratory Care III.**--Study of conditions and therapeutic measures frequently confronting respiratory care practitioner; student case study presentations and discussions. Prerequisite: Admission to RST Program. 3 hours.