

Respiratory Therapy Program

Course Descriptions

RT 301 An Introduction to Respiratory Therapy (4 credits)

This course introduces the science of respiratory therapy medicine. Topics to be explored include the history of respiratory medicine, what is respiratory therapy, acute, non-acute, and atypical areas of RT practice, obtaining a patient history, performing inspection and clinical assessment techniques, medical ethic theories, outpatient diagnostics, vaping/smokeless cessation strategies, RT therapeutics, and maximizing skills to achieve optimal patient outcomes.

RT 310 Respiratory Therapy Equipment, Procedures, and Processes (3 credits)

This course will introduce students to all aspects, types, and forms of equipment utilized within respiratory therapy. A concentration of the assembly, operation, application, principles, theories, processes and procedures of respiratory therapy equipment will be comprehensively explored.

RT 311 Respiratory Therapy Equipment, Procedures, and Processes Lab (1 credit)

This course will provide valuable hands-on instruction and require students to master the set-up, initiation, operation, maintenance, modification, management, and discontinuation of respiratory therapy equipment, procedures, and processes utilized within the profession of respiratory therapy. Numerous topics will be explored including medical gases, therapeutics, patient monitoring and assessment, artificial airways, intubation/extubation, non-invasive positive pressure ventilation, high flow oxygen and others.

RT 320 Respiratory Therapy Cardiopulmonary Anatomy and Physiology (3 credits)

This course provides students a comprehensive overview of the anatomy and physiology of the cardiopulmonary system. Numerous topics will be explored including the respiratory system, ventilation dynamics, pulmonary function assessment/techniques, diffusion, gas laws, circulatory system, oxygen transport, acid base balance, ventilation perfusion relationships, and neurological control of ventilation. Respiratory therapy case study applications will be integrated into the course.

RT 340 Pharmacology Fundamentals in Respiratory Therapy (3 credits)

This course will explore the dynamic principles, theories, categories, applications, and actions of respiratory therapy pharmacology. Students will examine the phases of drug action including pharmacokinetics, pharmacodynamics, and pharmacogenetics. The dosage, delivery, methods of action, indications, contraindications, modifications, and hazards of respiratory therapy and critical care medications will be discussed.

RT 350 PFT's, Sleep, and RT Alternative Settings (3 credits)

This course will explore alternative settings and procedures of respiratory therapy practice. Students will be introduced to the areas of pulmonary function testing and interpretation, polysomnography (sleep medicine), home care, pulmonary rehabilitation, hyperbaric oxygenation, bronchoscopies and additional alternative procedures and settings utilized within respiratory therapy.

RT 360 Patient Assessment and Therapeutic Procedures in Respiratory Therapy (3 credits)

This course examines the vital topics of effective patient assessment and common therapeutic procedures and interventions utilized within respiratory therapy. The course explores evaluating data obtained from the inspection, palpation, percussion, and auscultation of patients, interviewing and educating the patient and family, analyzing patient information and modifying treatment plans, medical gas therapy, and various respiratory therapeutics processes and procedures.

RT 370 Neonatal and Pediatric Diseases and Therapeutics in Respiratory Therapy (3 credits)

This course provides an intriguing and comprehensive exploration of diseases, concepts, theories, procedures, and therapeutics found in neonatal and pediatric respiratory therapy. Students will extensively critique and analyze neonatal and pediatric anatomical, pathophysiological, and disease processes. The course examines gestational development, fetal gas exchange/circulation, fetal assessment, difficult neonatal deliveries, prematurity, neonatal/pediatric resuscitation, congenital malformations, and neonatal and pediatric therapeutics.

RT 371 Neonatal and Pediatric Laboratory Exercises and Interventions in Respiratory Therapy (1 credit)

This course will provide students hands-on activities to explore, assemble, initiate, operate, investigate, modify, and perform competencies with common procedures encountered in neonatal and pediatric respiratory therapy. Students will also develop mastery of a detailed and comprehensive methodology to analyze, evaluate, and demonstrate timely and accurate neonatal and pediatric resuscitation interventions.

RT 378 Respiratory Therapy Clinical Practicum I (An Introduction to Clinical Practice) (1 credit)

This clinical practicum course introduces the student to the clinical environment and targets basic patient respiratory interventions, care, and therapeutics. Students will complete CPR certification

at the onset of the course and prior to entering the general patient care clinical environment at an approved off-campus clinical facility.

RT 380 Mechanical Ventilation Foundations (3 credits)

This course provides an extensive overview of basic mechanical ventilation concepts and theories encountered within respiratory therapy. Numerous philosophies are explored including the indications, contraindications, initial and modification of settings, set-up process, alarm parameters, discontinuation, complications, pneumatic principles, non-invasive positive pressure ventilation, and pathophysiological effects of the mechanically controlled patient. Basic strategies to maximize mechanically ventilated patient outcomes are explored.

RT 381 Mechanical Ventilation Laboratory Exercises & Applications in Respiratory Therapy (1 credit)

This course will provide students hands-on activities to explore, assemble, set-up, initiate, operate, investigate, modify and demonstrate competencies with mechanical ventilation procedures encountered in respiratory therapy. Adult, neonatal, high frequency, non-invasive and atypical ventilatory strategies, procedures, and monitoring will be explored in detail.

RT 388 Respiratory Therapy Clinical Practicum II (4 credits)

This clinical practicum course integrates hands-on respiratory therapy patient management, diagnostic procedures, therapeutics, education of patients and family, and complete respiratory therapy in basic and high-risk scenarios and activities. This course expands student exposure in the general patient care setting and introduces various specialty areas of respiratory therapy practice including home care, sleep medicine, outpatient diagnostics, and others.

RT 389 Cardiopulmonary Disease Pathophysiology (3 credits)

This course explores the etiology, pathology, pathogenesis, pathophysiology, clinical manifestations, monitoring, diagnosis, and treatment of cardiopulmonary related diseases/disorders. This course examines asthma, chronic bronchitis, respiratory failure, emphysema, ARDS, CHF, lung cancer, neuromuscular disorders, sleep apnea, cystic fibrosis, pulmonary hypertension, post-surgical patients, pneumonia, atelectasis, drug/alcohol overdoses, pulmonary embolism, neurologic, trauma, infectious diseases, shock, sepsis, burn/inhalation injury, bariatrics, and traumatic brain injury.

RT 400 Hemodynamic and Intensive Care Principles and Practices (3 credits)

This course provides a comprehensive examination into concepts, theories, and procedures utilized by the respiratory therapist to optimally manage the critically ill patient. Topics covered include hemodynamic applications/philosophies, invasive lines/drains, neurological considerations, difficult airways, patient assessment, chest tubes, fluid balance, skin integrity,

high flow oxygen delivery, EKG's, apnea testing and monitoring, BP assessment, heart rhythm/sounds, bronchoscopies, and emergency interventions.

RT 401 Senior Respiratory Therapy Capstone (2 credits)

This course focuses on displaying mastery of knowledge, skills, and professionalism acquired by the senior respiratory therapy student. Students will complete three senior style projects which include oral, written, and portfolio development skills. Students will complete a senior research project, portfolio compilation, and extensive project creating a blueprint to prepare for the National Board for Respiratory Care credentialing exams.

RT 420 Advanced Application and Theories in Mechanical Ventilation (3 credits)

The application of mechanical ventilation concepts, theories and principles is among the most important responsibilities for respiratory therapists to master for their patients. This course will present an immersive experience which serves to prepare, examine, and synthesize advanced analytical theories and applications of mechanical ventilation. This course presents innovative interventions and strategies to maximize patient outcomes receiving mechanical ventilation support.

RT 430 Interdisciplinary Science, Leadership, Management, & Education in Respiratory Therapy (3 credits)

This course examines theories and concepts promoting the advancement and optimization of the respiratory therapy professional. Areas to be covered include interdisciplinary science, leadership roles, management strategies, respiratory education and evidence-based practice.

RT 436 Comprehensive Board Preparation and Review 1 (3 credits)

This course is the first in a two-part series which targets preparation of students for successful mastery on the National Board for Respiratory Care TMC, CSE, and Specialty credentialization examinations. Topics reviewed include medical gases, humidity/aerosols, assessment of the cardiopulmonary patient, airway management, hyperinflation therapeutics, bronchial hygiene, ABG's, pharmacology, home care, RT equipment, infection control, formulas/calculations, and disease pathology.

RT 460 Interpretation and Assessment of Labs, Tests, and Diagnostic Imagery (3 credits)

The assessment of patients can be greatly augmented by data obtained from medical procedures. This course provides an in-depth view of the vast area of medical laboratory values, testing processes, and diagnostic imagery assessment procedures utilized in respiratory therapy. The identification of normal/abnormal results will be explored and how this information can support a differential diagnosis and optimal patient management.

RT 466 Comprehensive Board Preparation and Review 2 (3 credits)

This course is the second in a two-part series which targets preparation of students for successful mastery on the National Board for Respiratory Care TMC, CSE, and Specialty credentialization examinations. Topics reviewed include test taking methodologies/strategies, special respiratory care procedures, emergency respiratory interventions/procedures, cardiac and hemodynamic monitoring, neonatal / pediatrics, pulmonary function testing, respiratory ethical considerations, formulas/calculations and ventilator management.

RT 478 Respiratory Therapy Advanced Clinical Practicum III (6 credits)

This clinical practicum course will initiate student exposure to the vital critical care arenas of respiratory therapy practice. A targeted focus will explore the management of the adult mechanically ventilated patient. This course will optimize student critical thinking and problem solving in the adult critical care environment. This course provides students with advanced clinical experience at approved off-campus clinical facilities.

RT 488 Respiratory Therapy Advanced Clinical Practicum IV (6 credits)

This clinical practicum course continues building critical care knowledge, skills, and experience and expands exposure into the neonatal/pediatric intensive care forum. Student will master critical thinking and problem solving and will expand their versatility of training by participating, managing, and optimizing neonatal and high-risk emergency scenarios. Students will complete advanced clinical experience at approved off-campus clinical facilities.

RT 497 Research and Evidence Based Practice in Respiratory Therapy (3 credits)

This course will discuss the expanding role of research and evidence-based medicine in respiratory therapy. A stepwise approach will present conceptual theories and principles targeting a thorough understanding of the research process. The research design, analysis, and writing/interpretation will be investigated in detail throughout this course.