

## Program Overview

This advanced online post-professional master's degree program offers practicing registered respiratory therapists (RRT) the opportunity to pursue current and emerging knowledge in the evolving respiratory care discipline within specific concentration areas. The program will prepare respiratory therapists seeking career advancement opportunities through graduate education for advanced respiratory care leadership roles, for healthcare-based clinical educators' positions, and for academic educators' positions in the discipline of respiratory care.

The educational objectives of the program are:

1. To provide a degree program that will prepare students for the emerging roles and functions within the respiratory care domains of leadership and clinical specializations.
2. To provide graduate level education that will prepare students to advance problem-solving skills with the ability to analyze and evaluate systems, technology, regulations, data needs to assist in creating new programs and systems, and policy development.
3. To provide a broad-based program of course work that supports the varied aspects of RC practice focusing on management, supervision, education, evidence-based medicine, and healthcare research.
4. To provide course work to prepare graduates to better serve as leaders and physician-extenders in clinical, managerial, and extended care settings.

## Application Requirements

The items listed below are required for admission consideration for applicable semesters of entry during the current academic year. Submission instructions, additional details, and changes to admission requirements for semesters other than the current academic year can be found on The Graduate College's website (<http://www.gradcollege.txstate.edu>). International students should review the International Admission Documents page (<http://mycatalog.txstate.edu/graduate/admission-documents/international/>) for additional requirements.

- completed online application
  - \$55 nonrefundable application fee
- or
- \$90 nonrefundable application fee for applications with international credentials
  - baccalaureate degree from a regionally accredited university (U.S. Citizens)
  - International applicants not eligible for the NBRC RRT credential must have a baccalaureate degree in Respiratory Care/Therapy (Non-U.S. degrees must be equivalent to a four-year U.S. Bachelor's degree. In most cases, three-year degrees are not considered. Visit our International FAQs (<https://www.gradcollege.txst.edu/international/faqs.html>) for more information.)
  - official transcripts from **each institution** where course credit was granted
  - a 2.75 overall GPA or a 2.75 GPA in the last 60 hours of undergraduate course work (plus any completed graduate courses)
  - GRE not required
  - proof of the RRT national credential administered through the NBRC (U.S. Citizens)

- International students not eligible for the NBRC credential must complete their country's credentialing exam, if one exists
- resume/CV
- statement of purpose indicating ability and interest in completing the degree program
- three letters of recommendation from professionals or academics competent to assess the student's interest in pursuing a career or advancing in the field of study

### Approved English Proficiency Exam Scores

Applicants are required to submit an approved English proficiency exam score that meets the minimum program requirements below unless they have earned a bachelor's degree or higher from a regionally accredited U.S. institution or the equivalent from a country on our exempt countries list (<http://www.gradcollege.txstate.edu/international/language.html#waver>).

- official TOEFL iBT scores required with a 78 overall
- official PTE scores required with a 52
- official IELTS (academic) scores required with a 6.5 overall with minimum individual module scores of 6.0
- official Duolingo Scores required with a 110 overall
- official TOEFL Essentials scores required with an 8.5 overall

This program does **not** offer admission if the scores above are not met.

## Degree Requirements

The Master of Science in Respiratory Care (M.S.R.C.) degree with a major in Respiratory Care concentration in Polysomnography requires 36 semester credit hours.

## Course Requirements

| Code                    | Title   | Hours     |
|-------------------------|---|-----------|
| <b>Required Courses</b> |   |           |
| RC 5301                 | Advanced Cardiopulmonary Physiology                         | 3         |
| RC 5302                 | Clinical Practice Guidelines and Respiratory Care Protocols | 3         |
| RC 5303                 | Respiratory Care Research Methods and Design                | 3         |
| RC 5304                 | Cardiopulmonary Disease Patient Education                   | 3         |
| RC 5305                 | Respiratory Care Applied Research                           | 3         |
| RC 5306                 | Academic Leadership in Respiratory Care                     | 3         |
| RC 5307                 | Advanced Respiratory Care Seminar                           | 3         |
| RC 5308                 | Advanced Cardiopulmonary Diagnostics and Therapeutics       | 3         |
| <b>Concentration</b>    |   |           |
| RC 5211                 | Polysomnography Instrumentation                             | 2         |
| RC 5214                 | Sleep Staging and Diagnostics                               | 2         |
| RC 5215                 | Clinical Polysomnography-Sleep Staging                      | 2         |
| RC 5310                 | Fundamentals of Polysomnography                             | 3         |
| RC 5313                 | Polysomnographic Therapeutic Intervention                   | 3         |
| <b>Total Hours</b>      |   | <b>36</b> |

## Comprehensive Examination Requirement

Students will complete a final research project and presentation that will serve as the comprehensive exam. The comprehensive exam will require design, development and implementation of an approved research

project. Students must pass the comprehensive exam requirement to complete the M.S.R.C. degree.

Students who do not successfully complete the requirements for the degree within the timelines specified will be dismissed from the program.

Master's level courses in Respiratory Care: RC

## Courses Offered

### Respiratory Care (RC)

#### RC 5211. Polysomnography Instrumentation.

Designed to teach the function, operation, and design of electroneurodiagnostic equipment. Monitoring devices, electrode application, and patient connection will be covered in detail. Prerequisite: Instructor approval.

**2 Credit Hours. 0 Lecture Contact Hours. 2 Lab Contact Hours.**

**Grade Mode:** Standard Letter

#### RC 5214. Sleep Staging and Diagnostics.

Advanced study of waveform characteristics and montage development, filters, and PSG electronics. Signal pathways, reference electrodes, impedance checking and filter settings in calibration waves will be covered. Prerequisite: Instructor approval.

**2 Credit Hours. 0 Lecture Contact Hours. 2 Lab Contact Hours.**

**Grade Mode:** Standard Letter

#### RC 5215. Clinical Polysomnography-Sleep Staging.

Advanced clinical education in sleep staging rules, light, delta and REM sleep scoring and analysis. EEG, EMG, ECG and respiratory events will be discussed in depth and are components of the polysomnogram report.

A research project and presentation will be assigned by the faculty.

Prerequisite: Instructor approval.

**2 Credit Hours. 0 Lecture Contact Hours. 10 Lab Contact Hours.**

**Grade Mode:** Standard Letter

#### RC 5301. Advanced Cardiopulmonary Physiology.

An in-depth study of cardiovascular and respiratory physiology. This course investigates pathologic physiological changes, adaptive mechanisms, and interrelationships of the cardiopulmonary systems.

Students will apply advanced cardiopulmonary physiology to the management of patients requiring respiratory care services.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

#### RC 5302. Clinical Practice Guidelines and Respiratory Care Protocols.

An examination of the roles of clinical practice guidelines and protocols in the continuum of patient care. Analysis of the development, modification, initiation, and evaluation of patient outcomes will be covered. Barriers to protocol practice and strategies for implementation will be explored. Evidence-based outcomes will be summarized through literature reviews.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

#### RC 5303. Respiratory Care Research Methods and Design.

Provides an in-depth study of medical research including evaluation of published, peer-reviewed research designs. Students examine research articles and evaluate evidence-based research findings. Topics include: research ethics, sampling and research design, test statistics, conclusions, and practical versus statistical significance. Students will explore research protocol development, research proposals, and project management.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

#### RC 5304. Cardiopulmonary Disease Patient Education.

A comprehensive study of patient education and self-management of cardiopulmonary disease exacerbations including disease information, prevention and treatment. Programs for patient self-assessment, treatment efficiency, adjustment of drug regimen, behavior modification, and nicotine addiction will be examined. Methods for documenting outcomes and patient behavior modification will be covered.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

#### RC 5305. Respiratory Care Applied Research.

This course offers an opportunity to apply research methods and design concepts. Students will design and submit a research proposal to the Texas State University's Institutional Review Board (IRB) for approval. Prerequisite: RC 5303 with a grade of "B" or better and instructor approval.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

#### RC 5306. Academic Leadership in Respiratory Care.

Introduction to the foundations necessary to build a strong understanding of academic administration, fiscal planning, curriculum development, and outcomes assessment for respiratory therapist programs. Topics include preparation of annual accreditation reports, organization of clinical practice rotations, the role of advisory committees, and integration of didactic, laboratory, and clinical experiences.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

#### RC 5307. Advanced Respiratory Care Seminar.

In-depth discussion of topics related to current issues and trends in the profession and the impact on patient care services. Includes journal review, group discussion, project development, and online presentation.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**RC 5308. Advanced Cardiopulmonary Diagnostics and Therapeutics.**

An overview of advanced cardiopulmonary diagnostic and therapeutic procedures addressing selected disorders including asthma, chronic obstructive lung diseases, restrictive lung diseases, pulmonary edema, congestive heart failure, and cardiac disorders. International disease standards and classifications established by the World Health Organization with appropriate treatment protocols will be discussed.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**RC 5309. Advanced Respiratory Care Practice.**

This course is an exploration of advanced Respiratory Care topics to optimize practice in the healthcare environment. The course will address best practice recommendations and evidence-based research to enhance and expand the role of respiratory therapists. Topics will be presented through a translational medicine lens to bridge the gap between theory and practice. Prerequisite: Departmental approval.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**RC 5310. Fundamentals of Polysomnography.**

Introduction to the physiology of sleep, including sleep neurology, sleep architecture, and classification of sleep disorders. Review of basic cardiac physiology and ECG arrhythmia recognition. Sleep pathologies will be discussed according to etiology, pathophysiology, symptoms, diagnosis, treatment, and prognosis. Prerequisite: Instructor approval.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Course Attribute(s):** Exclude from 3-peat Processing

**Grade Mode:** Standard Letter

**RC 5311. Advanced Mechanical Ventilation Practice.**

This course is an exploration of advanced mechanical ventilation in the acute care setting. This course will consist of in-depth review of current and emerging mechanical ventilation strategy and protocol. Mechanical ventilation content will be focused on invasive and non-invasive support mechanisms with a goal of bridging theory and practice. Evidence-based research, patient case studies, and video waveform analysis will be used to reinforce learning. Prerequisite: Departmental approval.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**RC 5313. Polysomnographic Therapeutic Intervention.**

In-depth study of the treatments available for sleep apnea including, CPAP, BiPAP, oxygen therapy, patient adjunctive fitting, surgical intervention, and the role of the sleep tech in titration. Special attention will be given to titration algorithms, nocturnal seizure disorder studies, REM behavior disorder studies, MSLT's, and MTW's. Prerequisite: Instructor approval.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Course Attribute(s):** Exclude from 3-peat Processing

**Grade Mode:** Standard Letter

**RC 5316. Respiratory Care Curriculum Development.**

This course prepares the respiratory therapist for a role as an educator in an academic and industry setting. The course focuses on building foundational knowledge of respiratory care curriculum and instruction. Topics include adult learning theory, writing objectives, online and in-person instruction, exam preparation, item analysis, and providing feedback. National organization curriculum recommendations will be integrated into the course content.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter