Cardiorespiratory Care

Department Information

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Department of Cardiorespiratory Care website
https://www.southalabama.edu/colleges/alliedhealth/crc

The University of South Alabama offers a complete program in Cardiorespiratory Care leading to the Bachelor of Science degree. The curriculum provides a broad education in liberal arts and basic sciences and an in-depth study in respiratory therapy and non-invasive cardiovascular technology. The program is accredited by the Commission on Accreditation for Respiratory Care (CoARC), www.coarc.com, Program #200267. Student and graduate outcomes are found at: https://www.coarc.com/Students/Programmatic-Outcome-Data.aspx. Upon graduation students are eligible to sit for the National Board for Respiratory Care Examinations for entry into practice.

The curriculum is divided into two components: the Pre-Professional Component and the Professional Component.

**Pre-Professional Component**

The Pre-Professional Component (freshman and sophomore years) may be completed in two years and consists of 59-63 semester hours of prescribed and elective course work.

**Professional Component**

The Professional Component (junior and senior years) consists of two years of academic and clinical study in Cardiorespiratory Care. The program includes one summer term between the junior and senior years. All candidates must have satisfied the requirements of the Pre-Professional Component to qualify for admission to the Professional Component. Enrollment into the Pre-Professional Component as a Cardiorespiratory Care major does NOT automatically assure the student admission to the Professional Component. Enrollment in the Professional Component is limited and admission is based on academic record and aptitude for a career in respiratory therapy and non-invasive cardiovascular technology as evidenced by personal qualifications such as character and motivation.

Students will be required to complete formal application to the Professional Component. The application process normally begins in the spring semester of the sophomore year.

**Cardiorespiratory Care Curriculum**

The Cardiorespiratory Care curriculum incorporates problem-based learning and team-based learning in its curriculum. These instructional methodologies require students to actively participate in the learning process. Problem-based learning and team-based learning are used to develop and improve the students' problem-solving and decision-making skills.

In the two problem-based learning courses, students work in groups and solve case studies under the direction of faculty members. Students assume the major responsibility for resolving the problems in the case studies by utilizing a variety of resources.

This approach to learning emphasizes self-direction, independent thinking, decision-making, information gathering, and problem solving. All of these skills are needed to succeed in the clinical setting. Students also develop and improve communication skills
through this process, as they interact with fellow students, instructors, and other health care personnel. Students learn the value of working together as a team through the small group process.

General Curriculum Description: Clinical Statement

The curriculum includes over 800 hours of clinical experiences in adult, pediatric, and neonatal acute care and in specialty areas (such as sleep diagnostics, pulmonary function testing, pulmonary rehabilitation, cardiac catheterization, long-term care/home care), and in community service. Each semester includes a clinical component.

Admission Requirements For The Professional Component

1. Completed application form submitted no later than March 15 of the year for which admission is requested. (Late applications will be evaluated based on individual circumstances.)
2. A minimum of a 2.8 cumulative grade-point average in the mathematics and science prerequisites.
3. A minimum of a 2.8 cumulative grade-point average in the Pre-Professional Component.
4. A personal interview with the Cardiorespiratory Care Admissions Committee.
5. Tour of hospital.
6. International students must score a minimum of 76 on the TOEFL exam with the following minimum subscores on the IBT:
   • Listening 20
   • Speaking 20
   • Reading 18
   • Writing 18
   or an IELTS score of 6.

Areas Of Study

Cardiorespiratory Care (BS)
Instructional Design w/ Respiratory Therapy Educator Preparation Electives (MS)

Courses

Cardiorespiratory Care (CRC)

CRC 330 CRC Assessmt Skill 5 cr
A presentation of patient assessment skills to prepare for subsequent courses in the curriculum. Modules included are chart review and history, vital signs, physical assessment of the chest, chest radiography, laboratory assessment, bedside pulmonary function testing, electrocardiography, and cardiopulmonary resuscitation. Special Fee.

CRC 331 Respiratory Anatomy-Physiology 3 cr
The structure and function of the respiratory system will be discussed. Emphasis will be placed on (1) the physiologic ramifications associated with respiratory therapeutic intervention and (2) interrelationships between the pulmonary and renal systems and how these two systems influence and control the body's acid-base status.

CRC 332 Intermittent & Diagnostic CRC 4 cr
This course will focus on cases involving patients receiving intermittent respiratory care modalities including oxygen and aerosol therapy, resuscitation, airway care, pharmacology, tracheobronchial hygiene, and lung expansion therapy. Infection control issues will be included. Diagnostic issues include pulmonary function testing and arterial blood gas analysis. Students will discuss the pathophysiology, health promotion and disease prevention aspects of each case. Relevant laboratory exercises will be conducted.

CRC 334 Pharmacology 3 cr
An overview of pharmacological principles will be presented. Emphasis will be given to drugs influencing the respiratory, cardiovascular, nervous, and renal systems.
CRC 335  Intensive CRC  5 cr
This course will focus on cases involving patients receiving intensive cardiorespiratory care modalities including mechanical ventilation, invasive and non-invasive monitoring, artificial airways. Diagnostic issues will include hemodynamic monitoring and fiberoptic bronchoscopy. Students will discuss the pharmacology, pathophysiology, health promotion and disease prevention aspects of each case. Relevant laboratory exercises will be conducted.

CRC 342  Intermittent CRC Practicum  3 cr
Clinical experiences are conducted in the care of patients who are receiving respiratory care modalities, as discussed in the cases in CRC 330.

CRC 345  Intensive Cardioresp Care Prac  5 cr
Clinical experiences will involve patients who receive intermittent and intensive care modalities and diagnostic procedures discussed in the cases in CRC 335.

CRC 346  Intensive CRC Practicum II  3 cr
This is the second part of a two-part course. This course will focus on cases involving patients receiving intensive cardiorespiratory care modalities including mechanical ventilation, invasive and non-invasive monitoring, and artificial airways. Diagnostic issues will include pulmonary function testing, hemodynamic monitoring and fiber optic bronchoscopy. Students will discuss the pharmacology, pathophysiology, health promotion and disease prevention aspects of each case. Successful completion of this course will help prepare for the National Board for Respiratory Care (NBRC) Therapist Multiple Choice and Clinical Simulation examinations.

CRC 415  Research Methodology  2 cr
A survey of research designs, methods, and evaluative techniques, applicable to basic science and clinical research studies.

CRC 428  Cardiorespiratory Diseases  3 cr
This course will discuss the pathophysiology, signs and symptoms, patient assessment, diagnostic testing, laboratory data, and respiratory therapeutic interventions pertaining to common pulmonary, cardiac, and cardiovascular disease. Review of electrocardiography and Advanced Cardiac Life Support are included. The role of the respiratory therapist during bronchoscopy is also presented. Special Fee.

CRC 430  Neonatal/Pediatric CRC  2 cr
This course will focus on cases involving infants and children. Topics include developmental anatomy and physiology, assessment, pathophysiology, basic and intensive care, pharmacology, extracorporeal membrane oxygenation, and resuscitation. Students will discuss the pharmacology, pathophysiology, health promotion and disease prevention aspects of each case. Relevant laboratory exercises will be conducted.

CRC 435  Critical Care Concepts  3 cr
This course presents current theories and applications of adult critical care, in addition to those of mechanical ventilation. It focuses on pathophysiology, diagnostic procedures, and clinical presentation of disease.

CRC 440  Advanced Clinical I  6 cr
Clinical experiences will involve three major areas: the care of neonatal and pediatric patients receiving intermittent and intensive cardiorespiratory care (as discussed in the CRC 430 course); the care of patients in subacute settings (such as the sleep laboratory, long-term care, pulmonary rehabilitation, and home care); and diagnostic procedures (such as pulmonary function testing, cardiac catheterization, and bronchoscopy).

CRC 441  Advanced Clinical II  6 cr
This course presents current knowledge of adult critical care. The four components are advanced patient assessment, advanced respiratory care, surgical issues, and medical issues. This course includes selected content from the matrix of the National Board for Respiratory Care Adult Critical Care Specialist examination.

CRC 446  CRC Education  2 cr
Fundamental educational principles will be the focal point. These principles include writing instructional objectives, developing didactic, laboratory, and clinical instructional strategies, and constructing evaluation instruments. Accreditation and credentialing issues will also be addressed. Developing and presenting one major instructional topic will be a requirement for each student.

CRC 447  CRC Management  2 cr
This course will provide the student with experiences and projects pertaining to the management of a respiratory therapy and cardiopulmonary department. Some management functions include: JCAHO respiratory therapy standards, staff scheduling, departmental budgeting, quality assurance, evaluation of personnel, purchasing, and grievance procedures.

CRC 450  Clinical Research I - W  2 cr
This is the first part of a two-part course. Students will design and perform a research project, relating to either clinical practice, education, or management. The work involved in this course will extend through two successive semesters. Students register for CRC 450 in the Fall Semester of the senior year for two credit hours and for CRC 451 in the Spring Semester for two credit hours.

CRC 451  Clinical Research II - W  2 cr
This is the second part of a two-part course. Students will design and perform a research project, relating to either clinical practice, education, or management. The work involved in this course will extend through two successive semesters. Students register for CRC 450 in the Fall Semester of the senior year for two credit hours and for CRC 451 in the Spring Semester for two credit hours.
CRC 460  Advanced-Level Exam Review  3 cr
This course reviews the contents of the Therapist Multiple-Choice and Clinical Simulation Examinations offered by the National Board for Respiratory Care (NBRC). Respiratory therapy equipment, therapeutic modalities, therapeutic interventions, medications, and related procedures relevant to these examinations will be reviewed in the form of assignments, discussions, and practice examinations. Special fee.

CRC 499  Senior Honors Project - W - H  3 TO 6 cr
Under the advice and guidance of a faculty mentor, honors students will identify and carry out a research project relevant to the field of Cardiorespiratory Care study that will lead to a formal presentation at the annual Honors Student Colloquium. The senior project will be judged and graded by three faculty members, chaired by the honors mentor. This course is required for Honors recognition and may be repeated for up to 6 credit hours. Requires permission of department chair and completion of an approved project prospectus.

CRC 533  Obstructive Pulmonary Dis Mgt  3 cr
This course provides the information necessary for disease management of patients with obstructive pulmonary diseases (OPD). Emphasis will be placed on epidemiology, clinical manifestations, diagnosis, patient and family teaching skills, and patient management. Smoking cessation techniques are included. The administrative aspects of establishing a program/clinic and reimbursement issues will be discussed. This course is open to registered respiratory therapists and registered nurses (with a baccalaureate degree), nurse practitioners, NP students, physician assistants, and PA students. Successful completion of this course will help prepare for the National Asthma Education Certification Board examination.

CRC 543  Obstruct Pulm Dis Mgt-Clinical  3 cr
This course provides the clinical skills necessary for COPD and asthma management. Emphasis is on the clinical manifestations, verifying diagnosis, patient and family teaching skills, smoking cessation techniques, administrative aspects of establishing a clinic and reimbursement, and disease management, in several clinical settings. This course is the clinical correlate of CRC 533, open to registered respiratory therapists and registered nurses (with a baccalaureate degree), nurse practitioners, NP students, physician assistants, and PA students. Successful completion of this course will help prepare for the National Asthma Education Certification Board examination.

CRC 590  Sp Topics Resp Ther Education  3 cr
Topics will include accreditation, use of NBRC school score reports and self-assessment examinations, roles of key personnel, tenure and promotion policies, the instructor's roles in classroom, laboratory and clinical instruction, student evaluation, student counseling and services, higher education law, and current issues in respiratory therapy and allied health education.

Faculty

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MBA, Brenau University