

Area: Health & Education
 Dean: Sheryl Gessford
 Phone: (916) 484-8902
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Degree: A.S. - Respiratory Care

The ARC Respiratory Care Program

The program is accredited by the Commission on Accreditation of Allied Health Programs. Successful completion of the program qualifies the graduate to apply for the credentialing examinations offered through the State of California and the National Board for Respiratory Care. The student is responsible for providing laboratory coats, laboratory fees, malpractice insurance and transportation to off-campus facilities. There may be morning, afternoon or evening clinical experiences in a variety of clinical settings with limited notice.

NOTE: In accordance with Article 5 of the Respiratory Care Practice Act, a person convicted of any offense other than a minor traffic violation, may not qualify to be licensed as a Respiratory Care Practitioner. Questions regarding this matter must be directed to the Respiratory Care Board, Board of Medical Quality Assurance.

Respiratory Care Degree

This degree is designed to prepare licensed respiratory care practitioners. It focuses on the treatment and management of patients with conditions affecting the cardiopulmonary system. Courses include physical assessment, medical gas administration, life-supporting mechanical ventilation, pharmacology, neonatal/pediatric therapy, and specialized cardiopulmonary procedures.

NOTE: All degree major courses require a grade of "C" or better.

Career Opportunities

The outlook for respiratory care practitioners is expected to grow in the coming years due to the large increase in the elderly population, the impact of environmental problems that have contributed to breathing problems, and technological advances that are prolonging the lives of those suffering from heart attack, cancer and accidents, as well as premature babies. In addition, an increasing number of practitioners have branched out into alternate care settings such as nursing homes, physicians' offices, home health agencies, specialized care hospitals, medical equipment supply companies, and patients' homes.

Enrollment Eligibility

To be eligible for enrollment in the program, the student must meet the following criteria:

- Graduation from an accredited high school in the United States or successful completion of the General Educational Development (GED) Test or California High School Proficiency Examination (CHSPE) as defined by the current requirements of the State of California and National Board for Respiratory Care.
- BIOL 430 with a grade of "C" or better.
- MATH 100 or equivalent with a grade of "C" or better.
- Minimum cumulative college GPA of 2.0.

- A Curriculum Planning Summary Sheet dated within the semester the enrollment packet is submitted.

Enrollment Process

Eligible students are selected for the program according to the following steps:

- Applications to the program may be obtained at the Health and Education Building, Room 770 or online at www.arc.losrios.edu/edhealth/respcare.html, and are due in the Health and Education office no later than 4:00 p.m. the second Friday in October.
- Selection is based on a computerized random selection process from among the qualified applicants.
- Only students who meet the pre-enrollment requirements and follow the pre-enrollment procedures will be considered for the program.
- The student accepted into the Respiratory Care program is required to have a physical examination, inoculations, drug screen, background check, and malpractice insurance.

Requirements for Degree		73-74 Units
BIOL 430	Anatomy and Physiology	5
BIOL 431	Anatomy and Physiology	5
BIOL 440	General Microbiology	4
CISA 305	Beginning Word Processing	2
CISA 315	Introduction to Electronic Spreadsheets	2
CISC 300	Computer Familiarization	1
ENGWR 300	College Composition (3)	3 - 4
or ESLW 340	Advanced Composition (4)	
MATH 100	Elementary Algebra	5
PHYS 310	Conceptual Physics	3
PSYC 300	General Principles	3
RC 110	Introduction to Health Care for the Respiratory Care Practitioner	2
RC 111	Applied Cardiopulmonary Physiology	3
RC 112	Patient Assessment - Introduction to Clinical Problem Solving	2
RC 113	Patient Assessment Techniques	2
RC 120	Pharmacology for Respiratory Care	3
RC 121	Cardiopulmonary Pathophysiology	3
RC 122	Theory and Techniques I - Fundamental Respiratory Care	3
RC 123	Fundamental Respiratory Care Techniques	2
RC 130	Theory II - Adult Critical Care Techniques/Special Procedures	3
RC 131	Techniques II - Adult Critical Care Techniques/ Special Procedures	1
RC 132	Clinical Application: Adult Critical Care Techniques/ Special Procedures	6
RC 140	Theory III - Respiratory Care in Specialty Areas	3
RC 141	Techniques III - Neonatal/Pediatric and Cardiopulmonary Rehabilitation Techniques	1
RC 142	Clinical Application: Neonatal/Pediatric and Cardiopulmonary Rehabilitation Techniques	6

Associate Degree Requirements: The Respiratory Care Associate in Science (A.S.) Degree may be obtained by completion of the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See ARC graduation requirements.

RC 110 Introduction to Health Care for the Respiratory Care Practitioner 2 Units

Prerequisite: Acceptance into the Respiratory Care Program.
Corequisite: RC 111 and 112.
Hours: 36 hours LEC

The course describes the organizational context of the U.S. health care system as it relates to the role and function of respiratory care practitioners. It focuses on the skills of communication and human interaction within the context of the modern health care delivery system. It also presents the ethical, legal, interprofessional and economics aspects of health care. It also identifies health care related safety techniques including universal precautions and infection control. Critical thinking processes are presented as a basis for comprehension of course content.

RC 111 Applied Cardiopulmonary Physiology 3 Units

Prerequisite: Acceptance into the Respiratory Care Program.
Corequisite: RC 110 and 112; BIOL 431.
Hours: 54 hours LEC

This course provides a foundation for the development of critical thinking skills necessary for the clinical practice of respiratory care. It gives a comprehensive overview of the cardiopulmonary system with emphasis on applied physiology expanding on the concepts introduced in anatomy and physiology, and provides in depth information on ventilation, gas transport and acid-base balance, including interpretation of data and the relationship of physiological principles to patient care.

RC 112 Patient Assessment - Introduction to Clinical Problem Solving 2 Units

Prerequisite: Acceptance into the Respiratory Care Program.
Corequisite: RC 110, 111, and 113.
Hours: 36 hours LEC

The course presents a clinically oriented guide to assessment of the patient's cardiopulmonary system with emphasis on its application to respiratory care procedures. It also describes assessment procedures, equipment, and the interpretation of results arising from the gathered information.

RC 113 Patient Assessment Techniques 2 Units

Prerequisite: Acceptance into Respiratory Care program.
Corequisite: RC 110, 111, and 112.
Hours: 108 hours LAB

This course consists of laboratory introduction of skills and procedures as well as supervised clinical experience, with emphasis on the application of theories and techniques related to assessment of patients with cardiopulmonary illness. It integrates the patient assessment procedures, manipulation, examination, plus assessment of equipment, with the evaluation, interpretation, and application of patient data in the clinical setting.

RC 120 Pharmacology for Respiratory Care 3 Units

Prerequisite: RC 110, 111, 112, and 113 with a grade of "C" or better.
Corequisite: RC 121, 122, 123.
Hours: 54 hours LEC

The course covers the concepts and principles of pharmacology required in the practice of respiratory care, including medications, actions, dosages, routes of administration and adverse reactions. It also includes patient education of medication delivery devices, patient monitoring devices, utilization techniques, and the standards for therapeutic efficacy in relation to asthma, chronic obstructive pulmonary disease and smoking cessation.

RC 121 Cardiopulmonary Pathophysiology 3 Units

Prerequisite: RC 110, 111, 112 with a grade of "C" or better.
Corequisite: RC 120 and 122.
Hours: 54 hours LEC

This course covers the manifestations of cardiopulmonary and related diseases encountered in respiratory care practice. It presents the causes for and general treatment, as well as respiratory care treatment of these diseases. It also includes the evaluation for possible diagnoses, treatment approaches and evaluation of patient response to treatment for possible modification.

RC 122 Theory and Techniques I - Fundamental Respiratory Care 3 Units

Prerequisite: RC 110, 111, 112, and 113 with a grade of "C" or better.
Corequisite: RC 120, 121, and 123; and PHYS 310.
Hours: 54 hours LEC

The course presents the principles of medical gas delivery devices; humidity, aerosol and hyperinflation therapies and chest physiotherapy. It also presents the application, patient assessment, patient monitoring, and the evaluation of the efficacy of medical gas, humidity, aerosol and hyperinflation therapies and chest physiotherapy.

RC 123 Fundamental Respiratory Care Techniques 2 Units

Prerequisite: RC 110, 111, 112, and 113 with grade of "C" or better.
Corequisite: RC 120, 121, 122.
Hours: 108 hours LAB

This course consists of laboratory introduction of skills and procedures as well as supervised clinical experience, with emphasis on the application of theories and techniques related to fundamental respiratory care procedures. Focus is on the application of skills learned in previous respiratory care courses while developing new skills related to medical gas, humidity, aerosol medication administration, hyperinflation therapies and chest physiotherapy.

RC 130 Theory II - Adult Critical Care Techniques/Special Procedures 3 Units

Prerequisite: RC 120, 121, 122 with a grade of "C" or better.
Corequisite: RC 131.
Hours: 54 hours LEC

This course presents the principles of airway management, mechanical ventilatory support of the adult, hemodynamic monitoring, metabolic assessment, hyperbaric oxygen therapy and the transport of the mechanically ventilated adult. It presents advanced cardiopulmonary life support techniques.

RC 131 Techniques II- Adult Critical Care Techniques/Special Procedures 1 Unit

Prerequisite: RC 120, 121, 122, and 123 with grades of "C" or better.
Corequisite: RC 130 and 132.
Hours: 54 hours LAB

This course provides in class laboratory practice in airway management, including intubation, suctioning and bronchoscopy to adult patients in critical care units. It further provides in class laboratory practice in non-invasive and invasive mechanical ventilatory support, including ventilator settings/adjustments, monitoring, adjusting ventilators to improve oxygenation and/or ventilation and discontinuance from ventilatory support on adult patients in critical care units.

**RC 132 Clinical Application: Adult Critical Care
Techniques/Special Procedures 6 Units**

Prerequisite: RC 120, 121, 122, and 123 with grades of "C" or better.

Corequisite: RC 130 and 131.

Enrollment Limitation: Meet the health requirements of the Los Rios Community College District for Allied Health programs and certification in Basic Life Support for the Health Care Provider.

Hours: 324 hours LAB

This course provides clinical practice in the application of airway management, including intubation, suctioning and bronchoscopy to adult patients in critical care units. It further provides clinical practice in application of non-invasive and invasive mechanical ventilatory support, including ventilator settings/adjustments, monitoring, adjusting ventilators to improve oxygenation and/or ventilation and discontinuance from ventilatory support on adult patients in critical care units.

**RC 140 Theory III - Respiratory Care in Specialty
Areas 3 Units**

Prerequisite: RC 130, 131 with a grade of "C" or better; current certification of advanced cardiopulmonary life support.

Corequisite: RC 141

Hours: 54 hours LEC

This course presents the principles of neonatal/pediatric respiratory care, including basic and advanced techniques as well as transport of mechanically ventilated newborns and children. It also presents the principles underlying cardiopulmonary rehabilitation, including patient assessment, stress testing, reconditioning techniques, psychosocial aspects specific to the home setting and long term ventilator care.

**RC 141 Techniques III - Neonatal/Pediatric and
Cardiopulmonary Rehabilitation Techniques 1 Unit**

Prerequisite: RC 130 and 131 with grades of "C" or better.

Corequisite: RC 140 and 142.

Hours: 54 hours LAB

This course provides in class laboratory practice in medical gas, humidity/aerosol, hyperinflation and bronchial hygiene therapies, airway management and non-invasive and invasive mechanical ventilatory support as applied to neonatal and pediatric patients in specialized critical care units. It also provides practice in pulmonary rehabilitation techniques, cardiopulmonary stress testing, sleep studies and respiratory care techniques in the home setting.

**RC 142 Clinical Application: Neonatal/Pediatric and
Cardiopulmonary Rehabilitation Techniques 6 Units**

Prerequisite: RC 130, 131, and 132 with grades of "C" or better.

Corequisite: RC 140 and 141.

Enrollment Limitation: Meet the health requirements of the Los Rios Community College District for Allied Health programs and certification in Advanced Cardiac Life Support (ACLS).

Hours: 324 hours LAB

This course provides clinical practice in the application of medical gas, humidity/aerosol, hyperinflation and bronchial hygiene therapies, airway management and non-invasive and invasive mechanical ventilatory support as applied to neonatal and pediatric patients in specialized critical care units. It further provides practice in the application of pulmonary rehabilitation techniques, cardiopulmonary stress testing, sleep studies and respiratory care techniques in the home setting. Field trips are required.

Area: Science and Engineering
Dean: Rina Roy (Interim)
Phone: (916) 484-8107
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Degree: A.S. - General Science

General Science Degree

This program provides a broad study in the fields of biological and physical sciences in preparation for transfer to a four-year program and continuation of studies in upper division science courses.

Requirements for Degree **18 Units**

A minimum of 18 units from the following: 18

Transfer level courses in addition to other graduation requirements. One laboratory course in a physical science and one laboratory course in a biological science must be included. Courses may be selected from anatomy, astronomy, bacteriology, biology, botany, chemistry, geology, physical anthropology, physical geography, physical science, physiology, physics, and zoology.

Associate Degree Requirements: The General Science Associate in Science (A.S.) Degree may be obtained by completion of the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See ARC graduation requirements.