

# Respiratory Care

## | American River College

ARC's Respiratory Care Program is designed to prepare California licensed respiratory care practitioners at the registered respiratory therapist level. It focuses on diagnostic procedures, treatment, and management of patients with conditions affecting the cardiopulmonary system. The respiratory care practitioner works closely with the physician in assessing the patient and planning the proper respiratory care protocol.

The Respiratory Care curriculum is a two-year program designed to prepare the student for employment and to participate as a member of the healthcare team by providing direct patient care. Experience in respiratory care is provided in selected local hospitals where the student participates in clinical externships. Safe, ethical, and professional levels of practice are necessary for retention of students in the Respiratory Care Program.

The program is accredited by the [Commission on Accreditation for Respiratory Care \(CoARC\)](https://www.coarc.com/) (<https://www.coarc.com/>), P.O. Box 54876, Hurst, TX 76054-4876; (817) 283-2835.

[\(ARC%20Program Road maps \(x10971\).xml\)](#)

DIVISION DEAN [Jan DeLapp \(/about-us/faculty-and-staff-directory/jan-delapp\)](#)

 [Health & Education Division Office \(/academics/arc-health-and-education-division-office\)](#)

DEPARTMENT CHAIR [Lisa Ilaga \(/about-us/faculty-and-staff-directory/lisa-ilaga\)](#)

 (916) 484-8902

 [KaoL@arc.losrios.edu \(mailto:KaoL@arc.losrios.edu\)](mailto:KaoL@arc.losrios.edu)

↓

## Associate Degree

### A.S. in Respiratory Care

This degree is preparation for licensure as a Respiratory Care Practitioner in the state of California as a Respiratory Care Practitioner at the Advanced Registered Respiratory Therapist level. It focuses on diagnostic procedures, treatment, and management of patients with conditions affecting the cardiopulmonary system. Course work includes physical assessment, medical gas therapies, mechanical life support, airway care, pharmacology, neonatal/pediatric therapy, and specialized cardiopulmonary procedures.

All degree major courses require a grade of "C" or better to remain in the program.

#### Degree Requirements

COURSE CODE	COURSE TITLE	UNITS
AH 110	Medical Language for Health-Care Providers	3
BIOL 430	Anatomy and Physiology	5
BIOL 431	Anatomy and Physiology	5
BIOL 440	General Microbiology (4)	4 - 5
or BIOL 442	General Microbiology and Public Health (5)	
PHYS 310	Conceptual Physics (3)	3 - 4
or PHYS 350	General Physics (4)	
RC 110	Cardiopulmonary Pathologies for Respiratory Care	3
RC 111	Principles of Respiratory Care	8
RC 121	Concepts of Airway Care & Mechanical Ventilation	4

COURSE CODE	COURSE TITLE	UNITS
RC 122	Airway Care & Mechanical Ventilation Laboratory	1
RC 123	Clinical Externship I	3
RC 124	Respiratory Care Pharmacology	3
RC 130	Respiratory Care in Neonatal and Pediatric Populations & Diagnostic Studies	3
RC 131	Respiratory Care in Neonatal and Pediatric Populations & Diagnostic Studies Laboratory	1
RC 132	Clinical Externship II	6
RC 140	Professional Development in Respiratory Care	2
RC 142	Clinical Externship III	6
A minimum of 3 units from the following:		3
ENGWR 300	College Composition (3)	
ENGWR 480	Honors College Composition (3)	
ESLW 340	Advanced Composition (4)	
A minimum of 3 units from the following:		3
ANTH 310	Cultural Anthropology (3)	
ANTH 481	Honors Cultural Anthropology (3)	
PSYC 300	General Principles (3)	
PSYC 320	Social Psychology (3)	
PSYC 390	Psychology of Death and Dying (3)	
PSYC 480	Honors General Principles (3)	
Total Units:		66 - 68

*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.*

## Enrollment Eligibility

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

- Graduation from an accredited high school (graduates from outside the United States must have transcripts evaluated by an independent agency), 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.
- A GPA of 2.5 in all prerequisite courses.
- AH 110 with a grade of "C" or better.
- BIOL 430 and BIOL 431 with grades of "C" or better.
- BIOL 440 or BIOL 442 with a grade of "C" or better.
- PHYS 310 or PHYS 350 with a grade of "C" or better.
- Current college GPA of 2.0 or better.
- A Curriculum Planning Summary Sheet completed by an ARC counselor and dated within the year the enrollment application packet is submitted.
- A completed pre-enrollment application.

## Enrollment Process

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

- Applications to the program may be obtained online at [http://www.arc.losrios.edu/Programs\\_of\\_Study/Health\\_and\\_Education/Respiratory\\_Care.htm](http://www.arc.losrios.edu/Programs_of_Study/Health_and_Education/Respiratory_Care.htm) and are due in the Health and Education office no later than 4:00 p.m. the second Friday in October.
- Only students who meet the pre-enrollment requirements and follow the pre-enrollment procedures will be considered for the program.
- Selection is based on a computerized random selection process from among the qualified applicants.
- The student accepted into the Respiratory Care program is required to have a physical examination, inoculations, drug screen, background check, and malpractice insurance. The student is responsible for any cost incurred related to meeting the requirements.

## Student Learning Outcomes

Upon completion of this program, the student will be able to:

- discuss patient/client reports with members of the health care network.
- collect patient information relevant to the diagnosis and treatment of patients affected by pulmonary disease.
- recommend appropriate treatment plans based upon auditory, tactile, and visual feedback.
- record assessment findings, treatment plans, and recommendations for care in medical records.
- chart patient care in accordance with local, regional, and national standards.
- categorize patients affected by pulmonary disease as having acute or chronic conditions.
- define pulmonary disorders as restrictive or obstructive disease.
- comply with ethical standards of the profession.

## Career Information

The Bureau of Labor Statistics states that faster than average employment growth is projected for respiratory therapists. The increasing demand will come from substantial increases in the middle aged and elderly populations. Greater demand will also result from the expanding role of respiratory therapist in case management, disease prevention, emergency care, and the early detection of pulmonary disorders. Career opportunities include positions in hospitals and other areas, especially in home health care services, physician's offices, and medical equipment supply companies.

# Respiratory Care (RC)

---

## RC 110 Cardiopulmonary Pathologies for Respiratory Care

Units:	3
Hours:	54 hours LEC
Prerequisite:	None.
Corequisite:	RC 111
Enrollment Limitation:	Acceptance into the Respiratory Care Program.
Advisory:	Eligible for ENGRD 310 or ENGRD 312 AND ENGWR 300; OR ESLR 340 AND ESLW 340.

This course introduces the common pathologies affecting the cardiopulmonary system and related pharmacological treatment. Topics include obstructive and restrictive airway diseases, early childhood respiratory diseases, infectious pulmonary diseases, and pulmonary vascular diseases.

## Student Learning Outcomes

Upon completion of this course, the student will be able to:

- identify and relate common developmental pathologies.
- catalog pulmonary diseases as obstructive or restrictive.
- recommend diagnostic procedures for identification and staging of cardiopulmonary disease.
- analyze data collected from various diagnostic procedures including x-ray, arterial blood gases, and pulmonary function tests.
- compile data for development of therapist driven protocols.
- analyze disease states and pharmatherapeutic strategies.
- define categories of drugs and apply appropriate category to various cardiopulmonary disease states.
- recommend appropriate pharmacological intervention for cardiopulmonary pathologies.

## RC 111 Principles of Respiratory Care

Units:	8
Hours:	126 hours LEC; 54 hours LAB
Prerequisite:	None.
Corequisite:	RC 110
Enrollment Limitation:	Acceptance into the Respiratory Care Program.
Advisory:	Eligible for ENGRD 310 or ENGRD 312 AND ENGWR 300; OR ESLR 340 AND ESLW 340.

This course introduces critical thinking skills necessary for entry into clinical practice in respiratory care. It includes a comprehensive overview of the cardiopulmonary system with emphasis on applied physiology. Additionally, it covers ventilation, gas transport, gas exchange, and acid-base balance, including interpretation of data and the relationship of therapeutics to physiological principles. Respiratory care equipment, patient assessment skills, safe practices, such as the Health Insurance Portability and Accountability Act (HIPAA), human rights and privacy, personal health and hygiene, and hospital orientations are introduced. This course is preparation for general practice as a respiratory care practitioner. It covers laboratory skills and procedures with emphasis on the application of theories and techniques related to assessment, evaluation, and interpretation of patients with cardiopulmonary illness. Included are concepts of Basic Life Support. Field trips may be required.

### Student Learning Outcomes

Upon completion of this course, the student will be able to:

- evaluate the difference between the mechanical and metabolic work involved in ventilation and perfusion and their significance in patient care.
- explain compensatory mechanisms of human physiology in the presence of disease.
- demonstrate patient assessment skills and related therapeutics.
- analyze information received from patients' records and tests.
- measure the mechanisms by which oxygen and carbon dioxide are transported in the blood and the factors affecting that transport to and from the tissues and apply the data to patient care situations.
- evaluate electrolyte and acid base regulation in relationship to kidney function.
- correlate acid-base regulation and the control of ventilation.
- analyze how the cardiovascular system coordinates its functions under normal and abnormal conditions.
- compare and contrast various respiratory care procedures and equipment.
- draft an appropriate plan for correction of various forms of cardiovascular disease.

- explain the role of HIPAA in the respiratory care field.
- identify two methods to ensure proper patient identification.
- explain the importance of the patient's right to privacy.
- recognize examples of inappropriate conversation topics.
- formulate an appropriate plan for safe practice and preventing spread of infection.
- demonstrate verbal, nonverbal, and written communications skills in patient interactions.
- recommend appropriate treatment modalities for patients affected by cardiopulmonary disease.
- create respiratory care treatment plans for patients affected by cardiopulmonary disease.
- identify and assemble respiratory care equipment for application in treating oxygen failure.
- assess patient responses to oxygen therapies.
- interpret cardiopulmonary diagnostic test results and recommend appropriate modifications to treatment plans.
- demonstrate appropriate blood gas draw procedure and knowledge to successfully obtain the blood gas certificate.
- cite drugs and preparation utilized in the management of respiratory disease.

## RC 121 Concepts of Airway Care & Mechanical Ventilation

Units:	4
Hours:	72 hours LEC
Prerequisite:	RC 110 and 111 with grades of "C" or better
Corequisite:	RC 122, 123, and 124

This course expands on the principles of respiratory failure, airway protective techniques, and advanced life support. Topics include mechanical ventilator theories and modes, invasive and noninvasive airway care, and Advanced Cardiac Life Support (ACLS) procedures.

### Student Learning Outcomes

Upon completion of this course, the student will be able to:

- identify signs and symptoms of respiratory failure.
- demonstrate appropriate treatment of respiratory failure.
- clear an obstructed airway.
- compile a list of equipment utilized in the intubation process.
- list modes of mechanical ventilation.
- assess patients for weaning readiness from mechanical ventilation.
- analyze mechanical ventilator data and modify therapy.
- troubleshoot various mechanical ventilator problems.
- cite the basic parameters of ventilation.
- construct a ventilator record or flow sheet.

## RC 122 Airway Care & Mechanical Ventilation Laboratory

Units:	1
Hours:	54 hours LAB
Prerequisite:	RC 110 and 111 with grades of "C" or better
Corequisite:	RC 121, 123, and 124

This course introduces higher levels of clinical practice including critical care. It covers Advanced Cardiac Life Support (ACLS), airway protective procedures, and mechanical ventilation. Field trips may be required.

### Student Learning Outcomes

Upon completion of this course, the student will be able to:

- identify adjunctive airway and intubation equipment.
- establish effective airway techniques and perform intubations.
- select mechanical ventilators and assess for proper function.
- troubleshoot mechanical ventilators.
- interpret mechanical ventilator and hemodynamic wave forms.
- collect mechanical ventilator data and construct flow sheets.
- diagnose respiratory failure.
- differentiate types of artificial airways and mechanical ventilators.

## RC 123 Clinical Externship I

Units:	3
Hours:	162 hours LAB
Prerequisite:	RC 110 and 111 with grades of "C" or better
Corequisite:	RC 121, 122, and 124
Enrollment Limitation:	Students must 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.

This course presents the principles of medical gas delivery devices; humidity, aerosol and hyperinflation therapies, and chest physiotherapy. It also covers the application, patient assessment, patient monitoring, and evaluation of the efficacy of medical gas, humidity, aerosol and hyperinflation therapies, and chest physiotherapy. A portion of this course may be offered with a TBA component which may include working in clinical sites.

### Student Learning Outcomes

Upon completion of this course, the student will be able to:

- analyze information received from patients, records, and tests.
- select and recommend appropriate drugs and preparations utilized in the management of respiratory disease.
- adapt respiratory care equipment to meet a patient's oxygen therapy needs.
- apply evaluation skills to identification of various pathologies.
- explain the rationale for various respiratory care procedures.

- perform technical skills common to care of the critically ill.
- assess a patient's response to therapy.
- assemble appropriate equipment for therapeutic procedures.

## RC 124 Respiratory Care Pharmacology

Units:	3
Hours:	54 hours LEC
Prerequisite:	RC 110 and 111 with grades of "C" or better
Corequisite:	RC 121, 122, and 123

This 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. Topics include 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.

### Student Learning Outcomes

Upon completion of this course, the student will be able to:

- describe principles of drug actions
- explain the pharmaceutical theory of drug therapy
- cite preferred methods of administration of drugs
- identify drugs utilized for prevention of pulmonary disease
- analyze disease states and pharmatherapeutic strategies
- recommend appropriate pharmacological intervention for various cardiopulmonary pathologies
- interpret the appropriateness of drug intervention

## RC 130 Respiratory Care in Neonatal and Pediatric Populations & Diagnostic Studies

Units:	3
Hours:	54 hours LEC
Prerequisite:	RC 121, 122, 123, and 124 with grades of "C" or better
Corequisite:	RC 131 and 132

This course prepares students to work in laboratories and special care areas of a hospital. Topics include perinatal and pediatric diseases, labor and delivery, rehabilitation, and advanced diagnostic studies performed by respiratory therapists. Additional topics include bronchoscopy, advanced pulmonary function studies, bronchial provocation testing, polysomnography, exercise stress tests, metabolic studies, hemodynamic measurements, advanced modalities of mechanical ventilation, and cardiovascular testing.

### Student Learning Outcomes

Upon completion of this course, the student will be able to:

- differentiate the methods of assessing the newborn infant, including maternal and fetal factors.
- describe the hazards and indications for special equipment, application, and techniques applied to infants and children.
- describe the etiology, pathophysiology, clinical manifestations, and treatment of selected neonatal and pediatric diseases.
- analyze the process of cardiopulmonary rehabilitation including program form, content, and outcome evaluation, patient assessment for selection into a program, exercise evaluation, and preparation of a respiratory care plan.
- analyze the modalities and equipment available for cardiopulmonary rehabilitation, exercise, reconditioning, breathing retraining, as well as long term oxygen and ventilation care.
- select and evaluate the delivery of respiratory care in the home setting including assessment of the home environment, patient comprehension of treatment modalities, equipment, and infection control.
- recommend appropriate reconditioning exercises and rehabilitation programs for the outpatient client.
- analyze and recommend appropriate advanced mechanical ventilation strategies.

## RC 131 Respiratory Care in Neonatal and Pediatric Populations & Diagnostic Studies Laboratory

Units:	1
Hours:	54 hours LAB
Prerequisite:	RC 121, 122, 123, and 124 with grades of "C" or better
Corequisite:	RC 130 and 132

This course prepares students for general practice as respiratory care practitioners. It provides 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. Additionally, it covers pulmonary rehabilitation techniques, cardiopulmonary stress testing, sleep studies, and respiratory care techniques in the home setting. Field trips may be required. Students must successfully complete the National Board for Respiratory Care Self Assessment Examinations to receive a passing grade in this course. Students are responsible for fees associated with this examination.

### Student Learning Outcomes

Upon completion of this course, the student will be able to:

- monitor hemodynamic values of patients undergoing special procedures.
- assess performance of patients before during and after special procedures.
- troubleshoot equipment malfunctions.
- analyze results of tests performed.
- discuss abnormal findings from examinations performed.
- chart patient progress.
- assemble equipment to perform various procedures.
- select and recommend drugs, gases, and preparations utilized in respiratory and diagnostic laboratories.
- assemble pediatric ventilators.
- apply pediatric ventilators.
- assess health status of newborn infants.

- develop appropriate care plans.
- coordinate rehabilitation activities.

## RC 132 Clinical Externship II

Units:	6
Hours:	324 hours LAB
Prerequisite:	RC 121, 122, 123, and 124 with grades of "C" or better
Corequisite:	RC 130 and 131
Enrollment Limitation:	Student must meet the health requirements of the Los Rios Community College District for Allied Health Programs and certification in Advanced Cardiac Life Support.

This is a preparatory course for advanced practice as respiratory care practitioners. Topics include clinical practice in the application of airway management, including intubation, suctioning, and bronchoscopy, to adult patients in critical care units. Additionally it includes clinical practice in application of non-invasive and invasive mechanical ventilatory support, ventilator settings/adjustments, monitoring, adjusting ventilators to improve oxygenation and/or ventilation and discontinuance from mechanical ventilatory support. Clinical experience is provided in regional hospitals and clinics. A portion of this course may be offered with a TBA component which may include working in clinical sites.

### Student Learning Outcomes

Upon completion of this course, the student will be able to:

- monitor patient care in critical care units.
- evaluate patients in critical care units.
- assess ventilation disorders.
- troubleshoot mechanical ventilator problems.
- perform technical skills common to care of the critically ill.
- collect and analyze blood and tissue samples from critically ill patients.
- report on patient status to physicians and co-workers.
- record critical data in patient records.
- chart patient progress.
- collect and evaluate diagnostic data to include chest radiography, electrocardiography, pulmonary function testing, and laboratory studies.

## RC 140 Professional Development in Respiratory Care

Units:	2
Hours:	36 hours LEC
Prerequisite:	RC 130, 131, and 132 with grades of "C" or better
Corequisite:	RC 142

This course prepares students for transition into professional practice. Topics include ethical behaviors, resume writing, and professional attributes and dress for the respiratory care setting. Interviewing skills, professional test preparation for state and national licensing examinations, and practice examinations for the National Board of Respiratory Care's Therapist Multiple-Choice Examination and Clinical Simulation Self Assessment Examinations are also covered.

## Student Learning Outcomes

Upon completion of this course, the student will be able to:

- describe appropriate business attire for respiratory care professionals working outside the hospital environment.
- write an effective resume for employment in respiratory care.
- compose a letter of introduction for future employment.
- schedule an interview with a potential employer.
- discuss interviewing principles in relation to employment in respiratory care.
- complete job and licensing applications for respiratory care practice.
- assess preparation for state and national testing standards.
- discuss appropriate business practices for respiratory care practitioners working in home care.
- explain the Respiratory Care Practice Act as it relates to delivery of respiratory home care.
- describe the advanced practice examination system for Registered Respiratory Therapist.

## RC 142 Clinical Externship III

Units:	6
Hours:	324 hours LAB
Prerequisite:	RC 130, 131, and 132 with grades of "C" or better
Corequisite:	RC 140
Enrollment Limitation:	Meet the health requirements of the Los Rios Community College District for Allied Health Programs and certification in Pediatric Advanced Life Support and Neonatal Resuscitation Program.

This course prepares for advanced practice of respiratory care. Topics include labor and delivery, neonatal intensive care, cardiac and medical intensive care, medical trauma management, application of pulmonary rehabilitation techniques, cardiopulmonary stress testing, sleep studies, and respiratory care techniques in the home setting. Additional topics include case studies in medical management. Field trips are required.

## Student Learning Outcomes

Upon completion of this course, the student will be able to:

- monitor hemodynamic values of patients in critical care units.
- evaluate hemodynamic values of patients in critical care units.
- assess performance of mechanical ventilators.
- troubleshoot mechanical ventilation problems.
- perform technical skills common to care of the critically ill.
- collect blood and tissue samples from critically ill patients.
- analyze blood and tissue samples from critically ill patients.
- report on patient status to physicians and co-workers.
- record critical data in patient records.
- chart patient progress.

- demonstrate correct application of therapeutic procedures to neonatal and pediatric patients.
- evaluate, assess, and modify neonatal and pediatric airways and therapy.

## RC 295 Independent Studies in Respiratory Care

Units:	1 - 3
Prerequisite:	None.

## Faculty

---

### John Coldiron

Respiratory Care Professor

Office:	ARC Main, Health & Education South, 752
Email:	<a href="mailto:ColdirJ@arc.losrios.edu">ColdirJ@arc.losrios.edu (mailto:ColdirJ@arc.losrios.edu)</a>
Phone:	(916) 484-8264
Web:	<a href="#">John Coldiron's Profile Page (/about-us/faculty-and-staff-directory/john-coldiron)</a>

### Diane Czaja

Professor

Office:	ARC Main, Health & Education, 737
Email:	<a href="mailto:CzajaD@arc.losrios.edu">CzajaD@arc.losrios.edu (mailto:CzajaD@arc.losrios.edu)</a>
Phone:	(916) 484-8704
Web:	<a href="#">Diane Czaja's Profile Page (/about-us/faculty-and-staff-directory/diane-czaja)</a>

### Lisa Ilaga

Coordinator/Professor

Office:	ARC Main, Health & Education South, 750
Email:	<a href="mailto:ilagaL@arc.losrios.edu">ilagaL@arc.losrios.edu (mailto:ilagaL@arc.losrios.edu)</a>
Phone:	(916) 484-8670
Web:	<a href="#">Lisa Ilaga's Profile Page (/about-us/faculty-and-staff-directory/lisa-ilaga)</a>

## Cookies Disclaimer

The American River College website uses cookies to enhance user experience and analyze site usage. By continuing to use this site, you are giving us consent to do this. Review our [Privacy Policy \(/about-us/our-values/privacy-policy\)](#) to learn more.

×