

# COURSE SYLLABUS

<b>LAST REVIEW</b>	Spring 2021
<b>COURSE TITLE</b>	Therapeutic Devices
<b>COURSE NUMBER</b>	RSCR 0240
<b>DIVISION</b>	Health Professions
<b>DEPARTMENT</b>	Respiratory Therapy
<b>CIP CODE</b>	51.0908
<b>CREDIT HOURS</b>	2
<b>CONTACT HOURS/WEEK</b>	Class: 2
<b>PREREQUISITES</b>	None
<b>COURSE PLACEMENT</b>	This course is part of a selective admission program. Students must be admitted to the Respiratory Therapy program to enroll in this course.

## COURSE DESCRIPTION

Students become familiar with medical devices used in caring for patients with cardiopulmonary problems. This course requires an understanding of physics to mechanically regulate pressures, gas flow, compliance, resistance elasticity, and conductance. Students learn safe operation of equipment, and equipment troubleshooting, in the treatment of adults, pediatrics and neonates.

## PROGRAM ALIGNMENT

This course is part of a program aligned through the Kansas Board of Regents and Technical Education Authority. For more information, please visit:

[https://kansasregents.org/workforce\\_development/program-alignment](https://kansasregents.org/workforce_development/program-alignment)

## PROGRAM LEARNING OUTCOMES

1. Formulate the knowledge and critical reasoning skills necessary to pass the National Board for Respiratory Care Therapist Multiple Choice Exam.
2. Execute the variety of assessment and intervention skills necessary to provide respiratory care in the clinical setting at the entry Registered Respiratory Therapist level.
3. Integrate professional behaviors necessary at the entry Registered Respiratory Therapist level.

## TEXTBOOKS

<http://kckccbookstore.com/>

## **METHODS OF INSTRUCTION**

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom.

Methodology will be selected to best meet student needs.

## **COURSE OUTLINE**

- I. Neonatal Therapeutic Devices
  - A. Oxyhoods
  - B. Apnea monitors
  - C. Pulse oximeters
  - D. Croup tents
  - E. Non rebreathing pressure relief resuscitation equipment with manometer
  - F. Isolettes
  - G. Warmers
  - H. Delee trap
  - I. Suction regulators
  
- II. Pediatric Therapeutic Devices
  - A. Pediatric aerosol devices
  - B. Pediatric resuscitation bag/valve/mask devices
  - C. Percussion equipment
  - D. Pediatric oxygen delivery equipment
  
- III. Hyperinflation Equipment
  - A. IPPB therapy
  - B. CPAP/bipap/DPAP therapy
  - C. Inspiratory muscle trainers
  - D. Positive expiratory pressure devices
  
- IV. Cardiopulmonary Diagnostics and Monitoring Equipment
  - A. Electrocardiograph and telemetry equipment
  - B. Spirometers
  - C. Negative inspiratory force manometers
  - D. Respirometers
  - E. Arterial blood gases analyzers
  - F. Electrolyte instruments
  - G. Bronchoscopy equipment

## **COURSE LEARNING OUTCOMES AND COMPETENCIES**

Upon successful completion of this course, the student will:

- A. Select appropriate therapeutic devices for the desired therapeutic effect.

1. Explain neonatal and pediatric applications of respiratory therapy equipment and monitors.
2. Differentiate various hyperinflation devices.
- B. Select appropriate medical technology for cardiopulmonary diagnostics and monitoring.
  3. Differentiate various cardiographic diagnostic and monitoring devices.
  4. Evaluate features of pulmonary laboratory equipment.
  5. Evaluate blood gas laboratory equipment.
- C. Explain the operation of medical equipment as therapeutic devices.
  6. Explain operation of aerosol enclosures.
  7. Explain operation of pediatric resuscitation bag/mask/valve devices.
  8. Explain operation of adult resuscitation bag/mask/valve devices.
  9. Explain operation of flow inflating resuscitation devices.
  10. Explain operation of flow inflating resuscitation devices.
  11. Explain operation of oxygen analyzers.
- D. Explain mechanical ventilation equipment.
  12. Identify power sources for mechanical ventilators.
  13. Describe mechanical ventilator triggers.
  14. Describe mechanical ventilator modes.
  15. Describe mechanical ventilator circuit.
  16. Describe mechanical ventilator alarms.

## **ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES**

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

## **COLLEGE POLICIES AND PROCEDURES**

*Student Handbook*

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

*College Catalog*

<https://www.kckcc.edu/academics/catalog/index.html>

*College Policies and Statements*

<https://www.kckcc.edu/about/policies-statements/index.html>

*Accessibility and Accommodations*

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.

