

**Northwest Arkansas Community College
Health Professions Division
Respiratory Therapy Program Course Outline**

Course Number and Title

RESP 2414 Mechanical Ventilation I

Catalog Description

This lecture/laboratory course provides an in-depth study of the application of mechanical ventilation. Emphasis is placed on basic terms and concepts of mechanical ventilation, initiation of mechanical ventilation, monitoring techniques for the mechanically ventilated, and therapeutic interventions.

Prerequisites

- RESP 2102 Concepts in Respiratory Care
- RESP 2103 Cardiopulmonary Anatomy and Physiology
- RESP 2104 Respiratory Care Sciences
- RESP 2204 Cardiopulmonary Assessments and Diagnostics
- RESP 2123 Pulmonary Diseases
- RESP 2214 Equipment and Procedures
- RESP 2222 Pharmacology for Respiratory Care
- RESP 2501 Dysrhythmia for Respiratory Therapists
- RESP 2306 Clinical Practicum I

Credit Hours/Contact Hours/Load Hours

4 credit hours

64

6 load hours

Target Audience and Transfer

Students admitted into the Respiratory Therapy Program.
May transfer to other respiratory therapy programs.

Student Learning Outcomes

- Develop a working knowledge base of mechanical ventilation terms and core knowledge
- Differentiate positive pressure from negative pressure breathing and ventilators
- Perform and evaluate calculations related to pulmonary function and ventilation mechanics

- Examine the mechanical functions and parts of the ventilator
- Assemble and prepare a ventilator for use
- Examine how a breath is delivered and modes of mechanical ventilation
- Recommend initial ventilator settings that are appropriate for the patient condition
- Apply the mechanical ventilator
- Apply appropriate safety measures while using mechanical ventilation
- Recommend and apply the appropriate NIPPV interface
- Differentiate various forms of respiratory failure
- Recommend appropriate ventilator interventions: modes and settings
- Interpret ventilator graphics and other monitoring devices
- Recommend and perform lung recruitment maneuvers as indicated
- Perform comprehensive patient and ventilator assessment
- Interpret assessment findings and adapt mechanical ventilation treatment plans accordingly

Topics

- Basic Concepts and Core Knowledge
- Initiating Ventilation and NIPPV
- Monitoring Mechanical Ventilation
- Therapeutic Interventions

Format

Hybrid and laboratory, Required personal computer with web camera, Microsoft Word and PowerPoint.

Forms of Assessment

- Written examinations
- Homework
- Participation
- Simulations
- Discussions
- Must obtain a cumulative score of 75.5% to pass the course