

**Course Objectives/Course Outline**  
**Spokane Community College**

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**Course Title: Fundamentals of Respiratory Care II**

**Prefix and Course Number: RT 251**

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**Course Learning Outcomes:**

**By the end of this course, a student should be able to:**

Apply the following in a patient care situation:

- A. Introduction to respiratory disease states
- B. Interpretation of clinical laboratory data
- C. Introduction to nutritional assessment
- D. Thoracic imaging
- E. Respiratory mechanics measurement
- F. Noninvasive monitoring: oxygen analyzers, pulse oximetry, capnography, transcutaneous monitoring)
- G. Apnea monitoring and continuous oximetry / capnography
- H. Medical gas supply systems
- I. Medical gas therapy including oxygen and mixed-gas therapy
- J. Selection of a medical gas delivery system for acute and home care
- K. Humidity and aerosol therapy
- L. Selection of an aerosol delivery device for acute and home care
- M. Introduction to clinical simulation (COPD simulation - patient assessment)
- N. Discuss the content of the AARC learning module "Guide to Aerosol Therapy"

**Course Outline:**

- I. Respiratory disease states
  - A. Obstructive diseases
  - B. Restrictive diseases
  - C. Circulatory diseases
- II. Interpretation of clinical lab data
  - A. CBC
  - B. WBC
  - C. Differential
  - D. Basic metabolic panel
- III. Nutritional assessment
  - A. Metabolic measurements
  - B. Caloric predictions
- IV. Thoracic imaging
  - A. Chest radiographs
  - B. Computerized tomography of the chest
  - C. Magnetic resonance imaging of the chest
- V. Respiratory mechanics

- A. MIP/MEP
- B. Raw
- C. Forced vital capacity
- VI. Non-invasive monitoring
  - A. Pulse oximetry
  - B. Capnography
  - C. Apnea monitoring
  - D. Recording oximetry systems
  - E. Home sleep monitors
- VII. Medical gas supply systems
  - A. Cylinders
  - B. Liquid systems
  - C. Piping systems
  - D. Pressure regulation devices
  - E. Flow regulation devices
  - F. Safety systems
- VIII. Medical gas therapy
  - A. High flow systems
  - B. Low flow systems
  - C. Enclosures
  - D. Helium/oxygen therapy
  - E. Carbon dioxide/oxygen therapy
  - F. Nitric oxide delivery
- IX. Humidity and aerosol therapy
  - A. Humidification systems
  - B. Aerosol delivery devices
  - C. AARC "Guide to Aerosol Therapy"
- X. COPD patient simulation