



Course Outcome Summary

Required Program Core Course

RTH 120 – Respiratory Care Techniques III

Course Information

Division	Health Sciences
Contact Hours	6
Theory	55
Lab Hours	36
Total Credits	4

Prerequisites

RTH 102B- Pharmacology for Respiratory Therapists I
RTH 110 – Respiratory Care Techniques II
RTH 111 – Respiratory Care Clinical Practice I
RTH 116 – Cardiopulmonary Pathophysiology

Co-requisite

RTH 121 – Respiratory Care Clinical Practice II

Course Description

Mechanical ventilation topics are continued in this classroom and laboratory course. Topics include various ventilation brands of ventilators and their modes, cycling mechanisms, alarms and features. In addition, adjustments needed for adult patients with oxygenation, ventilation and acid-base pulmonary management challenges will be presented.

This course is a required core course for students pursuing an Associate of Applied Science - Respiratory Therapy

Program Outcomes Addressed by this Course:

Upon successful completion of this course, students should be able to meet the program outcomes listed below:

- Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.
- Demonstrate the ability to perform the clinical and technical skills relevant to his/her role as a Registered Respiratory Therapist.

Course Outcomes

In order to evidence success in this course, the students will be able to:

- List the physiologic effects of and the indications, contraindications, and hazards for mechanical positive pressure ventilation.
Applies To Program Outcome
 - Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.
- Classify common mechanical ventilators according to structural and functional features.
Applies To Program Outcome
 - Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.



3. Discuss the interrelationships between pressure, gas flow, time, and volume as relates to various types of mechanical ventilators.
Applies To Program Outcome
 - A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.
4. Describe theory of operation and appropriate application of ancillary ventilator equipment.
Applies To Program Outcome
 - A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.
5. Define, compare, and contrast the terms and acronyms for common forms of continuous distending pressure therapy, and volume and pressure control ventilation modes.
Applies To Program Outcome
 - A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.
6. Identify normal and abnormal waveform graphs and loops for various modes of mechanical ventilation.
Applies To Program Outcome
 - A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.
7. Define, state the desired effects of, and list indications/contraindications for the following ventilator modes: assist, assist/control, control, SIMV, CPAP, NIPPV, PSV, PCV, and PEEP.
Applies To Program Outcome
 - A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.
8. Define, state the desired effects of, and list indications/contraindications for the following advanced ventilator operational modes: MMV, APRV (bilevel), PRVC, PAV, VC+, rise time %, NAVA, and inverse I:E ratio mode.
Applies To Program Outcome
 - A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.
9. List and describe basic techniques of ventilator management as applied to pathologies commonly associated with patients requiring ventilatory support.
Applies To Program Outcome
 - A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.



10. Recognize the general purposes of cardiopulmonary drugs routinely used in the care of critically ill patients requiring mechanical ventilation.
Applies To Program Outcome
 - A. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using empirical information relevant to his/her role as a competent Registered Respiratory Therapist.
11. Discuss and demonstrate various techniques of ventilator set up, management, and discontinuance.
Applies To Program Outcome
 - B. Demonstrate the ability to perform the clinical and technical skills relevant to his/her role as a Registered Respiratory Therapist.
12. Establish all common basic ventilator modes (assist, assist/control, control, SIMV, CPAP/PEEP) on the designated training ventilator.
Applies To Program Outcome
 - B. Demonstrate the ability to perform the clinical and technical skills relevant to his/her role as a Registered Respiratory Therapist.
13. Perform calculations associated with ventilator management including prediction of minute ventilation changes needed to achieve a desired ventilatory outcome and prediction of FIO₂ changes needed to achieve a targeted oxygenation status.
Applies To Program Outcome
 - B. Demonstrate the ability to perform the clinical and technical skills relevant to his/her role as a Registered Respiratory Therapist.
14. Perform calculations of compliance (dynamic and static), airway resistance, and corrected tidal volumes and minute ventilation for simulated ventilator patients.
Applies To Program Outcome
 - B. Demonstrate the ability to perform the clinical and technical skills relevant to his/her role as a Registered Respiratory Therapist.
15. Demonstrate ventilator maintenance and troubleshooting skills.
Applies To Program Outcome
 - B. Demonstrate the ability to perform the clinical and technical skills relevant to his/her role as a Registered Respiratory Therapist.
16. Establish all common basic ventilator modes (both volume and pressure control related) on modern adult critical care ventilators.
Applies To Program Outcome
 - B. Demonstrate the ability to perform the clinical and technical skills relevant to his/her role as a Registered Respiratory Therapist.
17. Using graphic displays, correct common problems associated with mechanical ventilation by changing the affected setting.
Applies To Program Outcome
 - B. Demonstrate the ability to perform the clinical and technical skills relevant to his/her role as a Registered Respiratory Therapist.

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