



Course Outline

2026-2027 Catalog

RT 145 - Advanced Respiratory Care Procedures

Catalog Description

Transfer Status: NT

Prerequisite: RT 135

Corequisite: RT 140, RT 142

Unit(s): 5.00

Lab: 255.00 Contact hours/0.00 Out of class hours/255.00 Total hours/5.00 Unit(s)

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Course Description: This course is designed to support continued in-hospital development of clinical respiratory care skills with emphasis on the application of scientific principles to the therapeutic environment and life support of the critically ill patient. Graded only.

Objectives

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

1. Schedule respiratory care to be delivered to critically ill patients, based on the acuity of need.
2. Apply previously learned concepts of respiratory care modalities, patient education, and medications to patients who are critically ill.
3. Perform cardiopulmonary assessment of critically ill patients.
4. Demonstrate a fundamental knowledge of the operation of mechanical ventilators.
5. Demonstrate competency in Non-Invasive Positive Pressure Ventilation (NIPPV) Check, Arterial Blood Gas collection and analysis, Ventilator Set-up (optional), Waveform Graphics Analysis, Ventilator Parameter Change, Weaning Parameters (optional), Intubation, Extubation, Weaning, Ventilator Check, End-Tidal CO₂ Monitoring (optional), Heat Moisture Exchanger (HME) use, and Manual Ventilation during Transport or Transport Ventilator Set-up.

Course Content

Topic Titles / Suggested Time Topic	
	<u>Lab</u>
<u>Topics</u>	<u>Lab Hrs</u>
Invasive cardiopulmonary monitoring	24.00
Operation and troubleshooting of mechanical ventilators	70.00
Cardiopulmonary assessment of the critically ill patients	29.00
Maintenance of artificial airways	18.00
Emergency procedures within the critical care environment	18.00
Modification of mechanical ventilator settings based on patient response	30.00
Initiating mechanical ventilation	18.00
Weaning from mechanical ventilation	24.00
Transport of the mechanically ventilated patient	24.00
Total Hours: 255.00	

Methods of Instruction

- A. Collaborative Group Work
- B. Instructor Demonstrations
- C. Problem-Solving Sessions
- D. Reading Assignments

Methods of Evaluation

- A. Quizzes
- B. Research Projects
- C. Oral Presentation
- D. Demonstration
- E. Homework
- F. Class participation
- G. Written Assignments
- H. Performance Examinations
- I. Practical Evaluations

Examples of Assignments

Reading Assignments

1. Thoroughly review all sections of the patient's chart in preparation for presenting the patient during ICU grand rounds.
2. Read the information provided on your Data Arc disc regarding the Monitoring Mechanical Ventilation competency. Be prepared to be assessed on this competency at the next clinic session.

Writing Assignments

1. Complete an Adult Daily Log in Data Arc indicating the amount and type of procedures performed during each clinical shift, physician interactions, and include a narrative on the day's most significant experiences.
2. Complete a Patient Care Assessment form, using the patient's chart, a bedside patient assessment, and information obtained from the patient's nurse.

Out-of-Class Assignments

1. Not applicable.
2. Not applicable.

Recommended Materials of Instruction

Cairo JM. (2018). Mosby's Respiratory Care Equipment. *Mosby, 10th*.

Pilbeam, SP, Cairo JM. (2016). Mechanical Ventilation: Physiologic and Clinical Applications. *Mosby, 6th*.

Wilkins RL, Sheldon RL, Krider SJ. (2017). Clinical Assessment in Respiratory Care. *Mosby, 8th*.

Wilkins RL, Stoller JK, Scanlan CL. (2017). Egan's Fundamentals of Respiratory Care. *Mosby, 11th*.

Corning, H., et al. (2013). Mosby's Respiratory Care PDQ. *Mosby, 2nd*.

Other Learning Materials

AARC Clinical Practice Guidelines

Required Equipment:

1. Name badge
2. Stethoscope
3. Watch with seconds display
4. Approved scrub outfit
5. Working pen and pencil
6. Approved eye protection
7. Bandage scissors
8. Small spiral-bound pocket notebook

Minimum Qualifications

Respiratory Technician

Respiratory Technologies

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