BUTTE COLLEGE
COURSE OUTLINE

I. **CATALOG DESCRIPTION**

RT 140 - Fundamentals of Intensive Respiratory Care **6 Unit(s)**

Prerequisite(s): RT 135
Co-requisite(s): RT 142, RT 145
Recommended Prep: NONE

Transfer Status: NT
85 hours Lecture
51 hours Lab

This course is a study of the fundamentals of respiratory care in the critical care setting. Emphasis is placed on the critical care environment, advanced patient assessment, monitoring, advanced techniques of airway management and continuous mechanical ventilatory support. Graded only.

II. **OBJECTIVES**

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

A. Perform advanced clinical assessment, within the laboratory environment, of simulated acutely ill patients requiring mechanical ventilation.
B. Explain the fundamental operational principles of mechanical ventilators.
C. Demonstrate, within the laboratory environment, the ability to operate mechanical ventilators.
D. Demonstrate, within the laboratory environment, the ability to provide respiratory care to simulated patients requiring mechanical ventilation.
E. Demonstrate the ability to perform acute care respiratory care procedures within the laboratory environment.
F. Demonstrate the ability to effectively communicate with fellow students and other health care personnel within the classroom and laboratory environments.

III. **COURSE CONTENT**

A. **Unit Titles/Suggested Time Schedule**

Lecture

Topics	Hours
1. Physical Assessment in Critical Care	10.00
2. Basic Ventilator Concepts	8.00
3. Establishing the Need for Mechanical Ventilation	10.00
4. Physical Aspects of Mechanical Ventilation	10.00
5. Selecting Modes and Initial Settings	15.00
6. Effects / Complications of Mechanical Ventilation	10.00
7. Patient Management and Stabilization	10.00
8. Improving Oxygenation	6.00
9. Discontinuation/weaning from Mechanical Ventilation	6.00
Total Hours	85.00

Lab

Topics	Hours
1. Difficult/emergent airway management	3.00

2.	Endotracheal Intubation	3.00
3.	Endotracheal Extubation	3.00
4.	Ventilator Check-out and Operational Verification	3.00
5.	Initial Setup of Mechanical Ventilator	3.00
6.	Patient Assessment - Ventilator Check	3.00
7.	Periodic Circuit Change	3.00
8.	Lung Analog use (Manley, TTL, TTL with computer)	6.00
9.	Monitoring compliance curves	3.00
10.	BiPAP setup, operation	3.00
11.	Weaning from CMV	3.00
12.	Neonatal/pediatric mechanical ventilation	3.00
13.	Modification of mechanical ventilation settings based on patient response	12.00
Total Hours		51.00

IV. METHODS OF INSTRUCTION

A. Lecture
B. Instructor Demonstrations
C. Group Discussions
D. Collaborative Group Work
E. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
F. Problem-Solving Sessions
G. Laboratory Experiments
H. Service Learning

V. METHODS OF EVALUATION

A. Quizzes
B. Oral Presentation
C. Demonstration
D. Homework
E. Group Participation
F. Class participation
G. Lab Projects
H. Final Examination
I. Written Examinations

VI. EXAMPLES OF ASSIGNMENTS

A. Reading Assignments
    1. Read the assigned reading for Assessment of Critically Ill Patient and be prepared to participate in classroom discussion on the topic.
    2. Read the assigned readings for Need for Mechanical Ventilation and be prepared to participate in classroom discussion on the topic.
B. Writing Assignments
    1. Using the assigned reading, complete each item listed on the Learning Objectives for Assessment of the Critically Ill Patient.
    2. Using the assigned reading, complete each item listed on the Learning Objectives for The Need for Mechanical Ventilation.
C. Out-of-Class Assignments

1. Complete the assigned end of the chapter questions in the textbook, Mechanical Ventilation, Chapter 5, Need for Mechanical Ventilation.
2. Complete the assigned end of the chapter questions in the textbook, Mechanical Ventilation, Chapter 3, Physical Aspects of Mechanical Ventilators.

VII. **RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

A. Cairo JM, Pilbeam SP. Mosby's Respiratory Care Equipment. 8th Edition. Mosby, 2010.
B. Pillbeam, SP, Cairo JM.. Mechanical Ventilation: Physiologic and Clinical Applications. 5th Edition. Mosby, 2011.
C. Wilkins RL, Sheldon RL, Krider SJ. Clinical Assessment in Respiratory Care. 6th Edition. Mosby, 2010.
D. Wilkins RL, Stoller JK, Scanlan CL. Egan's Fundamentals of Respiratory Care. 9th Edition. Mosby, 2009.
E. Corning, H., et al.. Mosby's Respiratory Care PDQ. 2nd Edition. Mosby, 2010.

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Date: 04/02/2012