JEFFERSON COLLEGE
COURSE SYLLABUS

RCP250
Advanced Mechanical Ventilation
1 Credit Hour

Prepared by:
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Elizabeth Check, Dean, Career and Technical Education
Mary Beth Ottinger, Division Chair
RCP250 Advanced Mechanical Ventilation

I. CATALOGUE DESCRIPTION
   A. Prerequisite: RCP210 Introduction to Mechanical Ventilation, RCP225 Respiratory Care Skills Lab III, RCP170 Respiratory Care Clinical II, and RCP200 Respiratory Care Specialties; all courses must be completed with a grade of “C” or better.

   B. Credit hour award - 1

   C. Description: This course will cover the clinical applications of mechanical ventilation, to include: ventilator commitment, discontinuance and weaning techniques, the maintenance of a long term patient on a mechanical ventilator. The hazards and side effects of positive and negative pressure mechanical ventilation and the management of chronic ventilator-dependent patients will be covered. Recent development in mechanical ventilation such as inverse-ratio ventilation, APRV, and the interpretation of waveforms graphics will be covered. (S)

II. EXPECTED LEARNING OUTCOMES/CORRESPONDING ASSESSMENT MEASURES

<table>
<thead>
<tr>
<th>Expected Learning Outcomes</th>
<th>Assessment Measures</th>
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<tbody>
<tr>
<td>Determine the proper therapeutic intervention for cases presented</td>
<td>Class activity</td>
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<td>Homework/skill demonstration</td>
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<td>Summative Exam</td>
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<td>Discriminate which pharmacological agent is appropriate for a given patient situation</td>
<td>Class activity</td>
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<td>Homework</td>
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<td>Summative Exam</td>
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<tr>
<td>Explain side effects and effects of mechanical ventilation</td>
<td>Class activity</td>
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<td>Homework</td>
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<td>Summative Exam</td>
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<tr>
<td>Assess troubleshooting problems with the ventilator on and off a patient</td>
<td>Class activity/skill demonstration</td>
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<td>Homework</td>
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<td>Summative Exam</td>
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<td>Evaluate nutritional needs as pertains to the respiratory patient</td>
<td>Class activity</td>
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<td>Homework</td>
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<td>Summative Exam</td>
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<tr>
<td>Conclude the need for weaning and proper mode for weaning for patient</td>
<td>Class activity</td>
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<td>Homework</td>
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<td>Summative Exam</td>
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<td>Contrast the appropriate ventilators for long term patients</td>
<td>Class activity</td>
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<td>Homework</td>
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<td>Summative Exam</td>
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<td>Justify the initiation of special modes of ventilation</td>
<td>Class activity</td>
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<td>Homework</td>
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<td>Summative Exam</td>
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III. COURSE OUTLINE
A. Therapeutic interventions
   1. Methods to improve ventilation
   2. Methods to improve oxygenation and ARDS
B. Frequently used pharmacological agents in mechanically ventilated patients
C. Effects and complications of mechanically ventilating patients
   1. Positive pressure effects on cardiovascular and renal system
   2. Positive pressure effects on cerebral and other organs
   3. Positive pressure effects on the pulmonary system
D. Trouble shooting and problem solving
E. Nutritional status of mechanically ventilated patients
F. Discontinuation from the ventilator
   1. Weaning with positive outcomes
   2. Terminal weaning
G. Long term ventilation
H. Special applications and modes of ventilation
   1. APRV
   2. Oscillatory ventilation
   3. Heliox ventilation
   4. Independent lung ventilation
   5. Intrapulmonary percussive ventilation

IV. METHOD(S) OF INSTRUCTION
A. Lecture
B. Readings from textbook
C. Supplemental handouts
D. Classroom activities
E. Participation in active learning by computer programs, games, and internet based activities.
F. Peer interactive activities and discussions in classroom and online

V. REQUIRED TEXTBOOK


VI. REQUIRED MATERIALS
A. Course homepage available through jeffco.edu
B. A computer with internet access (available through the Jefferson College Labs).
C. Paper, notebooks, pens, pencils with erasers.

VII. SUPPLEMENTAL REFERENCES
A. Class handouts
B. Videos

VIII. METHOD OF EVALUATION (basis for determining course grade)
A. Classroom activities 10%
B. Homework 20%
C. Summation examinations-comprehensive 60% - Final is worth at least 30% of total grade
D. Attendance 10%
E. Grading scale:
   A=92-100%
   B=86-91.9%
   C=80-85.9%
   D=70-79.9%
   F=0-69.9%

IX. ADA STATEMENT
Any student requiring special accommodations should inform the instructor and the Coordinator of Disability Support Services (Library; phone 636-797-3000, ext. 169).

X. ACADEMIC HONESTY STATEMENT
All students are responsible for complying with campus policies as stated in the Student Handbook. Any student who cheats or plagiarizes will be subject to dismissal from the respiratory program and will be referred to the college for disciplinary action. (see College website, http://www.jeffco.edu/jeffco/index.php?option=com_weblinks&catid=26&Itemid=84)