RCP210

Introduction to Mechanical Ventilation

2 Credit Hours

Prepared by:
Norma Cooper
Respiratory Therapy Program Director

Date Created: 4/15/11

Elizabeth Check, Dean, Career and Technical Education
Mary Beth Ottinger, Division Chair
RCP210 Introduction to Mechanical Ventilation

I. CATALOGUE DESCRIPTION
   A. Prerequisite: RCP155 Airways, RCP150 Cardiopulmonary Pathophysiology, RCP160 Arterial Blood Gases, RCP140 Respiratory Care Clinical I, and RCP145 Respiratory Care Skills Lab II; all courses must be completed with a grade of “C” or better.

   B. Credit hour award - 2

   C. Description: This course will present information relevant to positive pressure techniques and how they apply in mechanical ventilation. Basic indications and hazards of positive pressure therapies will be presented along with the technical components of intermittent positive pressure breathing, non-invasive positive pressure support, and adult mechanical ventilators. Students will utilize case studies and clinical problem based learning sessions to reinforce key principles.

(F)

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>Describe basic concepts of how ventilators work</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>Explain the inner working of ventilators and the differences between each</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>Formulate criteria for initiating 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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<td>Describe type of ventilator needed to meet a patient’s requirements</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>Decide what the proper settings for a patient will be</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>Formulate the best means for monitoring mechanically ventilated 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>Grade stability of a patient’s hemodynamic values</td>
<td>Class activity</td>
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<td>Homework</td>
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<td>Judge proper response for hemodynamic instability</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. Review of core concepts to respiratory
      1. Oxygenation and acid-base evaluations
      2. Basic terms and concepts of mechanical ventilation
      3. How ventilators work
      4. How a breath is delivered
   B. Technical Issues in initiating ventilation
      1. Establishing the need for Ventilation
      2. Selecting the type of ventilation
      3. Initial ventilator settings
      4. Noninvasive ventilation
      5. Final considerations in ventilation setup
   C. Monitoring mechanical ventilation
      1. Assessment of the mechanically ventilated patient
      2. Ventilator graphics
      3. Noninvasive monitoring
      4. Hemodynamics of mechanically ventilated patients

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

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)