Course Description:

In this course the student will be introduced to advanced monitoring techniques used clinically to assess a patient in the critical care setting.

Text, References and Supplies:


Student Learning Outcomes:

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

1. Explain advanced ventilator care techniques
2. Perform bedside patient/ventilator assessment
3. Analyze patient/ventilator system
4. Identify ventilator waveforms
5. Analyze ventilator waveforms
6. Perform bedside cardiopulmonary assessment
7. Demonstrate weaning techniques
8. Prepare any or all of the following ventilators: Bird Mark 7 ventilator, PB PR2, PB MA1, Hamilton G5, Draeger (Evita or XL), Siemens Servo 900C, Maquet Servo I, PB 840, Respironics BiPAP, ST/D, Sechrist IV 100 B
9. Explain mechanical ventilation modes.
10. Calculate A-aDO₂
11. Calculate flow
12. Calculate I:E ratio
13. Calculate shunt
14. Calculate Vd/VT
15. Calculate CO₂ change
16. Calculate FiO₂
17. Explain x-ray generation
18. Identify chest x-ray landmarks
19. Identify chest x-ray pathology
20. Describe ventilation/lung scan
21. Describe perfusion scan
22. Interpret lung/perfusion scan
23. Describe principles of intracranial pressure monitoring
24. Describe principles of chest tube drainage
25. Describe principles of counter pulsation
26. Describe principles of hemodynamics
27. Discuss techniques involved with intracranial pressure monitoring
28. Discuss techniques involved with chest tube drainage
29. Discuss techniques involved with counter pulsation
30. Discuss techniques involved with hemodynamics

Student Contributions, Responsibilities and Class Policies:

Each student will spend at least 4 hours per week preparing for class. Attendance is critical in this class and is outlined in the Midland College Catalog, the student handbook and the Respiratory policy handbook. All classroom performance and behavior will be considered academic.

Evaluation of Students:

A minimum of (4) tests will be given including a comprehensive final (unless otherwise designated by the instructor). The final exam will carry the same weight as other exams (not quizzes). Weekly quizzes will be averaged and will equal one exam. Test questions will come from lecture, reading assignments and homework assignments. Most tests will be objective in nature.

1. Tests (minimum of four), required term projects 400
2. Quiz average 100
3. Attendance 50
4. Homework 100
Total 650%

Course Schedule:

The class meets for 1 lecture hour and 3 lab hours per week.

Americans with Disabilities Act (ADA):

Any student who, because of a disabling condition, may require some special arrangements in order to meet course requirements should contact the Shep Grinnan as soon as possible. Mr. Grinnan’s office is located in the Scharbauer Student Center Building. These conditions may include documented physical or educational disabilities. Please be aware that services or accommodations are not automatic. Each student must request them and secure the proper authorizations/documentation.

Division Information: Health Sciences
<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Title/Designations</th>
<th>Location</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division Dean</td>
<td>Carmen Edwards, DNP, MSN, RN</td>
<td></td>
<td>DFHS Bldg. RM 234</td>
<td>432-686-4822</td>
</tr>
<tr>
<td>Program Chair</td>
<td>Bob Weidmann, BS, RPFT, RRT-NPS, RCP</td>
<td></td>
<td>AMS Bldg. RM A 34</td>
<td>432-685-5549</td>
</tr>
<tr>
<td>Division Secretary</td>
<td>Kay Floyd</td>
<td></td>
<td>DFHS Bldg. RM 206</td>
<td>432-685-4600</td>
</tr>
</tbody>
</table>