A. Academic Division: Health Sciences

B. Discipline: Respiratory Care

C. Course Number and Title: RESP 2310 Respiratory Care Equipment/Procedures III

D. Course Coordinator: Tricia Winters, BBA, RRT, RCP
   Assistant Dean: Melinda Roepke, MSN, RN

Instructor Information:
- Name: Click here to enter text.
- Office Location: Click here to enter text.
- Office Hours: Click here to enter text.
- Phone Number: Click here to enter text.
- E-Mail Address: Click here to enter text.

E. Credit Hours: 2
   Lecture: 1 hour
   Laboratory: 3 hours

F. Prerequisites: RESP1220
   Co-requisite(s): RESP2330, RESP2390

G. Syllabus Effective Date: Fall, 2019

H. Textbook(s) Title:
   Neonatal/Pediatric Respiratory Care: A Critical Care Pocket Guide
   - Author: Oakes
   - Copyright Year: 2009
   - Edition: 2009
   - ISBN #: 978-0932887399

   Egan’s Fundamentals of Respiratory Care
   - Authors: Kacmarek, Stoller, and Heuer
   - Copyright Year: 2012
   - Edition: 10th
   - ISBN #: 978-0323082037

I. Workbook(s) and/or Lab Manual: None

J. Course Description: This course is a continuation of RESP 1220 and has instruction and laboratory application in adult critical care procedures such as: advance assessment in respiration of oxygen and carbon dioxide, hemodynamic monitoring, high frequency ventilation, and nitric oxide administration. The course transitions the student from the adult critical care experience to the neonatal and pediatric clinical settings focusing on infant and pediatric mechanical ventilation, ventilation techniques, CPAP, Bi-Level ventilation, nitric oxide therapy, therapeutic procedures, and equipment specific to the neonatal and
pediatric setting. The course will cover neonatal and pediatric pathologies such as HMD, BPD, CHD, asthma, meconium aspiration, SIDS, and CF.

K. **College-Wide Learning Outcomes:**

<table>
<thead>
<tr>
<th>College-Wide Learning Outcome</th>
<th>Assessments - - How it is met &amp; When it is met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication – Written</td>
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<tr>
<td>Communication – Speech</td>
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<tr>
<td>Intercultural Knowledge and Competence</td>
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<tr>
<td>Critical Thinking</td>
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<td>Information Literacy</td>
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<tr>
<td>Quantitative Literacy</td>
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</table>

L. **Course Outcomes and Assessment Methods:**

Upon successful completion of this course, the student shall:

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Assessments – How it is met &amp; When it is met</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Associate the indications, complications, hazards of arterial line monitoring</td>
<td>Quiz week 2, Examinations weeks 5 &amp; 10</td>
</tr>
<tr>
<td>2. Interpret normal and abnormal hemodynamic monitoring pressures</td>
<td>Quiz week 2, Examinations weeks 5 &amp; 10</td>
</tr>
<tr>
<td>3. Calculate hemodynamic monitoring values from given pressures</td>
<td>Quiz week 2, Examinations weeks 5 &amp; 10</td>
</tr>
<tr>
<td>4. Operate conventional and non-conventional mechanical ventilators as they apply to the pediatric and neonatal patient</td>
<td>Lab check-off week 4, Quiz week 4, Examinations weeks 5 &amp; 10</td>
</tr>
<tr>
<td>5. Associate pathology as it applies to pediatrics and neonates</td>
<td>Quiz weeks 2,3,4,6,7,8,9, Examinations week 5 &amp; 10</td>
</tr>
<tr>
<td>6. Associate the indications, contraindications, hazards of ECMO, nitric oxide</td>
<td>Quiz week 8 &amp; 9, Examination week 10</td>
</tr>
<tr>
<td>7. Generalize the concept of fluidics</td>
<td>Examination week 5</td>
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<tr>
<td>8. Apply oxygen assessment techniques</td>
<td>Examinations week 5 &amp; 10</td>
</tr>
</tbody>
</table>
Outcomes | Assessments – How it is met & When it is met
--- | ---
9. Perform the following procedures:  
a. Adult diagnostics: hemodynamic monitoring:  
hemodynamic monitoring: arterial line  
sampling, arterial line insertion, pulmonary  
artery pressure measurement, thermodilution  
cardiac output measurement  
b. Cardiology testing: electrocardiography  
c. Neonate/Pediatric procedures:  
d. Patient Data: vital signs, chest assessment,  
patient assessment, x-ray interpretation  
e. Oxygen therapy: nasal CPAP, oxygen hood,  
nasal cannula, pulse oximetry, transcutaneous  
monitoring  
f. Aerosol drug administration: metered dose  
hematol via manual resuscitator, small volume  
nebulizer via blowby, in-line metered dose  
hematol, in-line small volume nebulizer  
g. Bronchial hygiene: chest physiotherapy  
h. Suction procedures: bulb suctioning,  
endotracheal suctioning, nasotracheal  
suctioning, in-line suctioning  
i. Ventilatory care: ventilator setup, routine  
ventilator check, ventilator parameter change,  
surfacetant replacement therapy  
j. Weaning from mechanical ventilation: weaning  
k. Patient transports: manual ventilation during  
transport  
| Check-offs weeks 2,4,6  
Examination week 10

M. Topical Timeline (Subject to Change):

1. Hemodynamic monitoring:  
a. Pressures: normal & abnormal values: MAP, CVP, RV, PCWP, PAP  
b. Hemodynamic calculations, C.O., SVR, PVR, SV, Ejection fraction, pulse pressure, normal and  
abnormal values  
2. Arterial lines: equipment, monitoring, drawing a blood sample  
3. Fluidics, terms and fluidic gates  
4. VD/VT ratios: equipment and performing procedure  
5. 12 lead EKG: equipment and performing procedure  
6. Heel Puncture: indications, contraindications, hazards, performing procedure  
7. Nitric Oxide: indications, contraindications, hazards, setup and calibration of equipment  
8. ECMO: indications, contraindications, hazards and equipment set up  
9. Infant and Pediatric Mechanical Ventilation: indications, contraindications, hazards, monitoring and  
maintaining, trouble shooting  
10. Neonatal/Pediatric Pathology: Croup, Epiglottitis, CHD, HMD, BPD, RSV, CDH, ROP, PPHN,  
Asthma, CF

N. Course Assignments:

1. Lecture/discussion  
2. Lab experiments  
3. Check-offs and Demonstrations  
4. Videos  
5. Quizzes  
6. Practical and Written exams
O. **Recommended Grading Scale:**

<table>
<thead>
<tr>
<th>NUMERIC</th>
<th>GRADE</th>
<th>POINTS</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>93–100</td>
<td>A</td>
<td>4.00</td>
<td>Superior</td>
</tr>
<tr>
<td>90–92</td>
<td>A-</td>
<td>3.67</td>
<td>Superior</td>
</tr>
<tr>
<td>87–89</td>
<td>B+</td>
<td>3.33</td>
<td>Above Average</td>
</tr>
<tr>
<td>83–86</td>
<td>B</td>
<td>3.00</td>
<td>Above Average</td>
</tr>
<tr>
<td>80–82</td>
<td>B-</td>
<td>2.67</td>
<td>Above Average</td>
</tr>
<tr>
<td>77–79</td>
<td>C+</td>
<td>2.33</td>
<td>Average</td>
</tr>
<tr>
<td>73–76</td>
<td>C</td>
<td>2.00</td>
<td>Average</td>
</tr>
<tr>
<td>70–72</td>
<td>C-</td>
<td>1.67</td>
<td>Below Average</td>
</tr>
<tr>
<td>67–69</td>
<td>D+</td>
<td>1.33</td>
<td>Below Average</td>
</tr>
<tr>
<td>63–66</td>
<td>D</td>
<td>1.00</td>
<td>Below Average</td>
</tr>
<tr>
<td>60–62</td>
<td>D-</td>
<td>0.67</td>
<td>Poor</td>
</tr>
<tr>
<td>00–59</td>
<td>F</td>
<td>0.00</td>
<td>Failure</td>
</tr>
</tbody>
</table>

P. **Grading and Testing Guidelines:**

Click here to enter text.

Q. **Examination Policy:**

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R. **Class Attendance and Homework Make-Up Policy:**

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S. **Classroom Expectations:**

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T. **College Procedures/Policies:**

Important information regarding College Procedures and Policies can be found on the syllabus supplement located at https://sharept.ncstatecollege.edu/committees/1/curriculum/SiteAssets/SitePages/Home/SYLLABUS%20SUPPLEMENT.pdf

The information can also be found Choose an item.