EAST TENNESSEE STATE UNIVERSITY
College of Clinical and Rehabilitative Health Sciences
Department of Allied Health Sciences

CPSC 3110: Cardiopulmonary Critical Care Lab

Course Description and Purpose

This course is the corresponding laboratory course for CPSC 3100. Students will set up, operate, maintain, and troubleshoot machines that are used in the treatment of critically ill patients. Students are required to demonstrate operational proficiency in various cardiopulmonary critical care equipment and procedures prior to enrolling for CPSC 3350.

Prerequisite(s): CPSC 3000, CPSC 3010, and CPSC 3040; Co-requisite(s): CPSC 3100 and CPSC 3150.

Course Goals

After the course, the student should have obtained the knowledge base to:

- Initiate appropriate therapeutic interventions, monitor patient responses, and modify therapy to achieve goals
- Evaluate and apply data from the patient record to make proper care decisions
- Encourage evidence-based practice by using established clinical practice guidelines
- Apply problem-solving strategies to patient care scenarios
- Think critically to adapt to changes in clinical conditions
- Develop effective oral and written communication skills
- Provide respiratory care techniques in high-risk situations
- Assist a physician or provider in performing procedures

Student learning outcomes

Success in this course will be measured by the student's ability to:

- Evaluate data in the patient record
- Perform procedures to gather clinical information
- Evaluate procedure results
- Recommend diagnostic procedures
- Assemble and troubleshoot equipment
- Perform quality control procedures
- Maintain a patent airway
- Perform airway clearance and lung expansion techniques
- Support oxygenation and ventilation
- Ensure modifications are made to the respiratory care plan
- Utilize evidence-based medicine principles
- Provide respiratory care techniques in high-risk situations
- Assist a physician or provider in performing procedures

Course Objectives

Upon completing this course, the student will be able to:

- Following the lesson on arterial puncture and sampling, the student should be able to perform blood gas sample collection through arterial puncture and arterial line sampling, how to properly label and transport sample to the lab, how to properly run the sample to evaluate blood gas analysis/hemoximetry results, recommend blood gas analysis, troubleshoot blood gas analyzers & perform quality control procedures on blood gas analyzers.
- Following the lesson on airway management/intubation, the student should be able to properly use a bag valve mask/ manual resuscitator to ventilate and oxygenate a patient, select the correct size and type of artificial airway , identify a difficult airway, set-up equipment for intubation, perform an intubation/establishing the airway, securing and maintain the airway, troubleshoot issues associated with artificial airways, select and use alternative airway adjuncts, perform suction on an airway, recommend the insertion or

change of an artificial airway, identify an obstructed or lost airway, how to perform an extubation, and assist with tracheostomy procedures

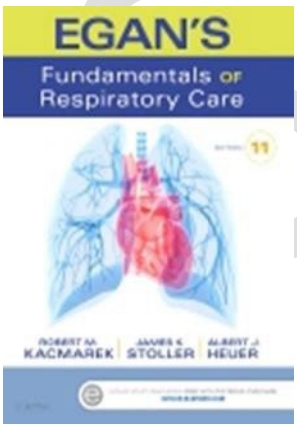
- Following the lesson on Invasive ventilation, the student should be able to completely assemble and set up a mechanical ventilator, troubleshoot mechanical ventilators and patient breathing circuits, perform maintenance and quality control on mechanical ventilators, initiate protocols to prevent ventilator-associated pneumonia, recommend mechanical ventilation parameters and settings, institute the ARDSNet protocol, imitate weaning protocols and perform weaning parameters.
- Following the lesson on non-invasive ventilation, the student should be able to assemble and setup, and initiate cpap, how to clean cpap, monitor and make adjustments, properly size, place, and adjust masks, troubleshoot issues with the cpap.
- Following the lesson on electrocardiogram, the student should be able to, place the electrodes in the proper place, attach the wires to the correct location, troubleshoot any problems, and clean and maintain the machine.
- Following the lesson on Transportation of critical ill patients, the student should be able to setup transport ventilator/equipment, troubleshoot, plan a transport of a patient, and coordinate with other professionals.

Major Topics

- Arterial puncture and sampling
- Airway management/intubation
- Noninvasive ventilation
- Invasive ventilation
- Electrocardiogram
- Transport of the critically ill patient

Textbooks and Readings

Egan's Fundamentals of Respiratory Care, 11th edition. ISBN# 978-0-323-34136-3



Classroom and Communication Policies

Email Communication
The ETSU email policy requires all faculty communication with students regarding ETSU business be conducted via the official ETSU email account. Please include your name, E number, and course and section number with all emails to the instructor for a more expedient response.

Attendance and Participation
The Cardiopulmonary Science program recognizes four types of absences: 1. an institutional absence (weather, athletic event, etc.) 2. An unavoidable absence outside the student's control (accident, death, jury duty, etc.) 3. A doctor's or other healthcare provider's written excuse, and 4. A willful or unexcused absence. Each unexcused absence will result in the student's final grade being reduced by 2 points. It is the student's responsibility to provide proper explanation and documentation to the instructor for unavoidable absences. Failure to contact the instructor on the day of the absence or prior via email or phone will automatically generate an unexcused absence. Any examinations, quizzes, or presentations that are missed as a result of absenteeism must be taken on the next regularly scheduled class without exception. If a student is going to be absent from the didactic (classroom) area, the following procedure(s) should be instituted:

1. Attendance in all didactic classroom and lab sessions is MANDATORY.

2. The student is to notify the instructor at least 30 minutes prior to the beginning of the class/lab start time via phone or email.

3. It is the responsibility of the student to get all notes from other classmates.

4. The tardiness policy is enforced in the classroom and clinical affiliates. Three occurrences of tardiness are equal to one unexcused absence.

5. Attendance at functions related to respiratory care (national, state, regional conferences, etc.) may be allowed in lieu of normal class attendance, but must be approved by the instructor and Program Director in advance.

Testing Policy

Each student will be required to perform procedure competencies over each content area.

Late and Missing Submission Policy

Any competency evaluations that are missed as a result of absenteeism must be rescheduled with the professor.

Cell Phone Policy

The use of personal cell phones or any electronic item while in class is not permitted. These items are not to be visible or be left out during class. They must be put away and out of sight for the duration of class. If the need for the use of a cell phone or electronic device is required, the instructor must approve it first.

Grading Policy

97-100 = A 94-96 = A- 91-93 = B+ 88-90 = B 86-87 =B-

83-85 = C+ 80-82 = C **78-79 = C-** **75-77 = D+** **73-74 = D** **below 73 = F**

Check-offs

Oxygen Devices- 20, Patient Assessment- 20, ABG- 40, MBV-20, Manual Resuscitation-20, Intubation- 50, Extubation- 40, Ventilator Set-Up 50, Initiation of MV-40, Peep/ FIO2- 10, Monitoring MV- 30, Circuit Change- 20, ETT Suctioning- 20, Initiation NIV CPAP- 30, Initiation NIV BiPAP- 30, EKG- 30, Miscellaneous worksheets-30

Total= 500

Honor Code

East Tennessee State University is committed to developing the intellect and ethical behavior of its students. Students found to be in violation of policies on plagiarism, cheating, and/or fabrication will be held accountable for their actions. Any knowledge of academic misconduct should be reported. Students are expected to act with honesty, integrity, and civility in all matters.

Student Services

Academic Accommodations for Students with Disabilities
It is the policy of ETSU to accommodate students with disabilities, pursuant to federal law, state law and the University's commitment to equal educational access. Any student with a disability who needs accommodations, for example arrangement for examinations or seating placement, should inform the instructor at the beginning of the course. Faculty accommodation forms are provided to students through Disability Services in the D.P. Culp Center, Room 326, telephone 423-439-8346. Visit the Disability Services webpage for more information.

Syllabus Changes: The instructor reserves the right to make changes as necessary to the syllabus. If changes are necessitated during the term, the instructor will immediately notify students of such via either email communication or posting the nature of the change on the D2L site homepage.

Course Schedule

Spring Schedule 2019	Mon	Wed	Fri
Week 1	Jan 14 Orientation/Pt Assessment	Jan 16 Pt Assessment	Jan 18 **Pt Assessment Check off**
Week 2	Jan 21 **School Closed MLK Jr Day**	Jan 23 **Pt Assessment Check off**	Jan 25 Oxygen Therapy
Week 3	Jan 28 Oxygen Therapy	Jan 30 **Oxygen Therapy Check off**	Feb 1 **Oxygen Therapy Check off**
Week 4	Feb 4 ABG	Feb 6 ABG	Feb 8 ABG
Week 5	Feb 11 **ABG Check off**	Feb 13 **ABG Check-off**	Feb 15 Airway Management
Week 6	Feb 18 Airway Management	Feb 20 Airway Management	Feb 22 Airway Management
Week 7	Feb 25 **Airway Management Check Off**	Feb 27 **Airway Management Check Off**	Mar 1 **No Class Accreditation Site Visit**
Week 8	Mar 4 Mechanical Ventilation Introduction	Mar 6 Mechanical Ventilation	Mar 8 Mechanical Ventilation
Week 9	**Spring**	**Break**	**Mar 11-15**
Week 10	Mar 18 Mechanical Ventilation	Mar 20 Mechanical Ventilation	Mar 22 Mechanical Ventilation
Week 11	Mar 25 Mechanical Ventilation	Mar 27 **Ventilator Check off**	Mar 29 **Ventilator Check off**
Week 12	**April 1 TSCR State Conference Gatlinburg TN**	April 3 Noninvasive ventilation	April 5 Noninvasive ventilation
Week 13	April 8 Noninvasive ventilation	April 10 **Noninvasive ventilation Check-off**	April 12 **Noninvasive ventilation Check-off**
Week 14	April 15 EKG	April 17 EKG	April 19 **No School Good Friday**
Week 15	**April 22 Building 60 SIMS/EKG Check-off**	**April 24 Building 60 SIMS/EKG Check-off**	**April 26 Building 60 SIMS/EKG Check-off**