Course Description:

In this course the student will study the theories and techniques involved in pulmonary function testing diagnostics with emphasis on: blood gas theory and analysis, quality control, oximetry and capnography.

Text, References and Supplies:

Kacmarek, Stoller and Heuer, Egan’s Fundamentals of Respiratory Care, 10th edit., St. Louis, Missouri; Mosby, 2013.

Student Learning Outcomes:

Upon successful completion of the course the student will:

1. List normal arterial blood gas values
2. List normal venous blood gas values
3. List normal capillary blood gas values
4. Interpret normal and abnormal blood gas results
5. Describe arterial blood gas puncture procedure
6. Describe how to draw blood from an arterial line
7. Describe capillary blood gas sampling procedure
8. Describe the maintenance and identify the components of the blood gas machine
9. Identify the co-oximeter and the pulse oximeter
10. Describe blood gas analysis
11. Explain ventilation tests
12. List normal pulmonary function test (pft) values
13. Explain abnormal pulmonary function test (pft) values
14. Explain diffusion tests, gas distribution tests and perfusion tests
15. Perform lung volume determination
16. Perform pulmonary mechanics testing
17. Analyze pulmonary function test (pft) values

Student Contributions, Responsibilities and Class Policies:

Attendance is critical in this class. Each student will spend at least 6 hours per week preparing for class. Class disruptions are disrespectful. Phone calls, messaging, texting or any other use with a personal communication device is firmly discouraged. If you must answer a call, please excuse yourself from the classroom.

Evaluation of Students:
A minimum of two (2) tests will be given including a comprehensive final (unless otherwise designated by the instructor). Tests questions will come from lecture, reading assignments and extra credit assignments. Absolutely no personal communication devices are allowed in testing areas.

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Curriculum and course advisement from the Respiratory Care staff will be provided during registration and during office hours posted at the instructor’s office. The instructor may give continual advisement to a student as needed and when required throughout the span of the course. Assessments are made of the student through testing. Students will also assess and evaluate their progress, their instructor, the program objectives, the learning strategies and the general competencies. The assessments are tools utilized to review, evaluate and if necessary implement changes to the learning materials, the delivery of said; and the strategies for instruction.

**Course Schedule:**

Monday and Wednesday from 08:00 am – 11:50 am.

**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

Division Dean: Carmen Edwards, DNP, MSN, RN  DFHS Bldg. RM 234  432-686-4822
Program Chair: Bob Weidmann, BS, RPFT, RRT-NPS, RCP  AMS Bldg. RM A 34  432-685-5549
Division Secretary: Kay Floyd  DFHS Bldg. RM 206  432-685-4600