Course Description:

This course provides students with the essential knowledge of the equipment and techniques used in the treatment of cardiopulmonary diseases and their clinical application. The following areas are discussed in-depth; medical gas therapy, humidity and aerosol therapy, hyperinflation therapy, chest physiotherapy, pulse oximetry, arterial puncture, interpretation, patient assessment skills and medical terminology.

Text, References and Supplies:


Student Learning Outcomes:

Upon successful completion of the course the student will:

1. Identify the roles of the different regulating agencies
2. Describe cylinder identification used by the accrediting agencies.
3. Describe medical gas cylinder testing procedures.
4. Describe the different index safety systems employed with the use of medical gases.
5. Describe all the representative cylinders in use in respiratory care today.
6. Describe the construction and material used in cylinders and piping systems.
7. Describe the procedure for determining the contents of medical gas cylinders.
8. Describe the different flow meters used in respiratory care.
9. Describe pressure regulators.
10. Explain the process of fractional distillation.
11. Describe bulk oxygen systems.
12. Describe the general characteristics of oxygen.
13. Describe the indications and hazards of oxygen therapy.
14. Describe the different oxygen analyzers and controllers employed in respiratory care.
15. Discuss oxygen concentrators.
16. Discuss and describe oxygen delivery adjuncts used in respiratory care.
17. Discuss high and low flow oxygen delivery devices.
18. Define and discuss humidity and aerosol.
19. Define and discuss IPPB therapy.
20. Define and discuss incentive spirometry.
21. Define and discuss small volume nebulizer therapy.
22. Discuss the rationales for the use of IPPB vs. IS.
23. Describe and discuss the best drugs used for SVN and IPPB therapy.
24. Define, describe and discuss chest physical therapy as it relates to respiratory care patients.
25. Describe the methods used to obtain arterial blood gases.
26. Define, describe and discuss tracheobronchial aspiration.
27. Describe and discuss equipment and procedure for manual resuscitation.
28. Complete the medical terminology short course.

**Student Contributions, Responsibilities and Class Policies:**

The student agrees to devote time, study and work toward the mission of the course. All classroom performance and behavior will be considered academic. All Personal Communication Devices such as cell phones, pagers, tablets, etc. are disruptive in the classroom and should be placed in the silence/vibrate mode during class time. If you must answer or make a phone call please excuse yourself from the classroom area. **Absolutely no personal communication devices are allowed in testing areas.**

**Evaluation of Students:**

A minimum of four (4) tests will be given including a comprehensive final (unless otherwise designated by the instructor). You will be expected to complete any and all assignments given throughout the semester. Test questions will come from lecture, reading assignments and homework assignments.

1. Exams 60%
2. Medical Terminology 10%
3. Attendance 10%
4. FINAL 20%
   TOTAL 100%

Make up work of any nature is at the option and discretion of the instructor. Do not expect to make up any work unless it is discussed beforehand. You may use the final exam grade to replace a single exam grade. To use this option a note must be given in writing to the instructor before the final exam.

**Course Schedule:**

The class will meet Monday and Wednesday 10:00 am to 11:50 am. The lab will be 1:00 pm to 3:30 pm on Monday.

**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