Course Prefix and Number: RSTH 275
Credit Hours: 2

Course Title: Cardiopulmonary Diagnostics

Course Prerequisites: successful completion of prior Fall semester courses

Course Description:
This course is designed to familiarize the student with techniques used to clinically assess a patient both subjectively and objectively. It also introduces the student to invasive monitoring systems used in critical care units such as, Swan-Ganz catheterization, CVP and arterial lines, intracranial pressure monitoring, chest drainage and counter- pulsation.


Learning Outcomes:
At the end of this course the student will:

A. identify, describe, and interpret the diagnostic techniques used to assess cardiopulmonary function and status in the adult patient population;
B. determine appropriateness of current cardiopulmonary treatments based on an appraisal of diagnostic test results;
C. interpret arterial blood gases and assure machine quality assurance as indicated by CLIA standards;
D. interpret pulmonary function data via spirometry, complete PFT, and DLCO; recognize specific disease process as indicated by PFT results; and
E. interpret polysomnography, recommending appropriate treatment as indicated.

At the end of this course the student will be able to:

1. review patient records and recommend diagnostic procedures to obtain additional data (B, C, D)
2. appraise diagnostic procedures, interpret results, determine appropriateness of care plan and recommend treatment modifications (A, B, C, D)
3. Evaluate and monitor patient’s response to therapy and recommend modifications if needed (B, C, D)
4. list indications for pulmonary function testing with the proficiency of an advanced practitioner. (A)
5. define commonly utilized pulmonary function terms with the proficiency of an advanced practitioner. (A, D)
6. define provide normal values for lung volumes, performance parameters, and capacities, and perform pulmonary function testing with the proficiency of an advanced practitioner. (A, D)
7. discuss pathophysiology, clinical significance of, and techniques used to measure various pulmonary function parameters with the proficiency of an advanced practitioner. (A, B, D)
8. discuss the operating principles and mechanics of various types of various types of spirometers. (A)
9. briefly describe the technique, physical properties, and quality control of the electrodes utilized to measure blood chemistries. (A, C)
10. discuss bronchoscopy procedures, potential complications, and conditions predisposing the patient to increased risks and absolute contraindications of this procedure. (A)
11. interpret results of a polysomnography test. (B, E)
12. discuss various treatments for sleep related diseases and recommend therapy based on patient history and interpretation of the polysomnography test. (A, B, E)
13. review fundamentals and monitoring concepts of mechanical ventilation. (A)
14. describe the physiologic of mechanical ventilation, other specialized interventions, and unique treatments.
15. review the characteristics, effect and clinical applications of the common and novel modes of ventilation. (B)
16. describe hemodynamic monitoring and interpret data collected from these means. (A, B)
17. perform calculations and clinical application of hemodynamic equations. (A, B)
18. discuss effects of common drugs used in critical care setting and in during specialized procedures. (B)
19. prescribe ventilatory and hemodynamic management of disease states commonly seen on the clinical simulations portion of the National Board of Respiratory Care exam. (B)
20. review application and principles of initiation and weaning from mechanical ventilation and specialized interventions.
21. demonstrate competency in the appraisal of: (A, B, C, D, E)

**DIAGNOSTIC & ASSESSMENT PROCEDURES**
- Bedside Ventilatory Assessment
- Flow-Volume Loop
- Functional Residual Capacity
- Diffusing Capacity
- Polysomnography

**Course Requirements**: To earn a grade of “C” or higher the student must earn 70% of the total points for the course and meet all of the following course requirements.

- minimum average of 70% overall in the course

**Course Grading Scale:**

- **A-** 90-100% of total possible points
- **B-** 80-89% of total possible points
- **C-** 70-79% of total possible points
- **D-** 60-69% of total possible points
- **F-** less than 60% of total possible points
Attendance Policy: The college attendance policy, which is available at http://www.bpcc.edu/catalog/current/academicpolicies.html, allows that “more restrictive attendance requirements may apply to some specialized classes such as laboratory, activity, and clinical courses because of the nature of those courses.” The attendance policy of the Respiratory Therapy program is described in the Respiratory Therapy Clinical Handbook.

Nondiscrimination Statement

Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

Title VI, Section 504, and ADA Coordinator
Sarah Culpepper, Coordinator
Disability Services, D-112
6220 East Texas Street
Bossier City, LA 71111
Phone: 318-678-6539
Email: sculpepper@bpcc.edu
Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

Equity/Compliance Coordinator
Teri Bashara, Director of Human Resources
Human Resources Office, A-105
6220 East Texas Street
Bossier City, LA 71111
Phone: 318-678-6056
Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

Reviewed by T. Gilmore/ May 2017