Bossier Parish Community College
Master Syllabus

Course Prefix and Number: RSTH 275 **Credit Hours:** 2

Course Title: Cardiopulmonary Diagnostics

Course Prerequisites: RSTH 202, RSTH 204, RSTH 210, RSTH 220, RSTH 226

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 assessment of various invasive and noninvasive monitoring systems used in the health care environment. Enrollment in Respiratory Therapy courses is limited to students who have applied, been interviewed and have been selected for the Respiratory Therapy clinical program.

Textbook: Kacmarek, R., Stoller, J., & Heuer, A. (2016). EGAN'S Fundamentals of Respiratory Care (latest edition): Elsevier.

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

a. Bedside Ventilatory Assessment
b. Flow-Volume Loop
c. Functional Residual Capacity
d. Diffusing Capacity
e. 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 <u>all</u> 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.

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Equity/Compliance Coordinator
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Reviewed by J. Danzy, March 2019