Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should <u>not</u> be used to purchase course materials.

COURSE SYLLABUS

RESP 420
CARDIOPULMONARY PHYSIOLOGY AND MONITORING

COURSE DESCRIPTION

Study of cardiopulmonary anatomy, physiology and monitoring of functionality. The study includes but not limited to ventilatory mechanics, gas transport, natural and chemical regulation of breathing, circulation, blood flow and pressure, cardiac output and the monitoring of each of these topics.

RATIONALE

Disease and therapeutic interventions often alter cardiopulmonary physiology. When the respiratory therapist is treating disease, he or she must monitor and trend the effects of the prescribed intervention on the cardiopulmonary system. This course will focus cardiopulmonary interactions utilizing current monitoring theories and technology.

I. PREREQUISITE

For information regarding prerequisites for this course, please refer to the Academic Course Catalog.

II. REQUIRED RESOURCE PURCHASE

Click on the following link to view the required resource(s) for the term in which you are registered: http://bookstore.mbsdirect.net/liberty.htm

III. ADDITIONAL MATERIALS FOR LEARNING

A. Computer with basic audio/video output equipment

B. Internet access (broadband recommended)

C. Blackboard recommended browsers

D. Microsoft Office

IV. PROGRAM LEARNING OUTCOMES

The below are the Respiratory Therapy Program Learning Outcomes (PLO):

A. Comprehend, apply, and evaluate clinical information relevant to their roles as a registered respiratory therapist (cognitive domain).

B. Perform the technical skills necessary to fulfill their role as a registered respiratory therapist (psychomotor domain).

C. Demonstrate professional behavior consistent with clinical rotation site expectations as a registered respiratory therapist (affective domain).

D. Utilize critical thinking/problem solving skills to develop the best patient treatment for those suffering from cardiopulmonary disease.

E. Integrate the biblical worldview into all aspects of respiratory therapy.

Upon successful completion of this course, the student will have been introduced to PLO A, D, and E, emphasized PLO A and D and reinforced PLO A and D.

V. MEASURABLE LEARNING OUTCOMES

Upon successful completion of this course, the student will be able to:

A. Explain in detail the anatomy and physiology and interactions of the cardiopulmonary system.

B. Correctly evaluate clinical data to determine the cause and effect of therapeutic interventions such as mechanical ventilation, medications or fluid status.

C. Calculate cardiac output correctly using multiple methods and describe advantages, disadvantages and limitations of the various methods.

D. Determine a patient's cardiac performance using an approach of least invasive to most invasive.

E. Utilize information from esophageal manometry, CVP, PAC, indirect calorimetry, arterial blood gases, ventilator pressure waveforms to determine cardiopulmonary interactions of the severely ill patient and recommend appropriate interventions.

F. Describe the biblical basis for respiratory care.

VI. COURSE REQUIREMENTS AND ASSIGNMENTS

A. Textbook readings and lecture presentations

B. Course Requirements Checklist

After reading the Course Syllabus and Student Expectations, the student will complete the related checklist found in Module/Week 1.

C. Discussion Board Forums (3)

Discussion boards are collaborative learning experiences. Therefore, the student will respond to articles related to a respiratory therapy in a Discussion Board Forum thread. Each thread must be 450–500 words and include integration of the student's Christian beliefs. Outside research may be used to respond to the prompt. The student will also reply to at least 2 classmates' threads in 250–300 words each.

D. Article Review Activities (4)

An article published in the medical literature is assigned for the student to read. A 5–question test will be based on the assigned reading (see below).

E. Article Review Quizzes (4)

The tests are based on the assigned review article for the module/week (see above). Each test will contain 5 multiple-choice, multiple-answer, and/or true/false questions and have a time limit of 2 hours.

F. Tests (4)

Each test contains 60 multiple-choice questions based on the material in 2 modules/weeks' readings, videos, and PowerPoint presentations. Each test must be completed in 2 hours.

VII. COURSE GRADING AND POLICIES

A. Points

Course Requirements Checklist		10
Discussion Board Forums (3 at 80 pts ea)		240
Article Review Quizzes (4 at 70 pts ea)		280
Tests (4 at 120 pts ea)		480
	Total	1010

B. Scale

A = 900–1010 B = 800–899 C = 700–799 D = 600–699 F = 0–599

C. Confidentiality and Limits of Confidentiality

Because many of our students are already actively involved in a career in Health Promotion, the student may have experiences that will naturally lend themselves to the curriculum of this course. To respect the privacy of others, it is imperative that students do not use the names of individuals that they have worked with and/or treated.

In the event of a student's disclosure, either verbally or in writing, of threat of serious or foreseeable harm to self or others, abuse or neglect of a minor, elderly or disabled person, or current involvement in criminal activity, the faculty, staff, administrator, or supervisor will take immediate action. This action may include, but is not limited to, immediate notification of appropriate state law enforcement or social services personnel, emergency contacts, and notification of the appropriate program chair or online dean. The incident and action taken will become part of the student's permanent record.

D. Disability Assistance

Students with a documented disability may contact Liberty University Online's Office of Disability Accommodation Support (ODAS) at LUOODAS@liberty.edu to make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.

If you have a complaint related to disability discrimination or an accommodation that was not provided, you may contact ODAS or the Office of Equity and Compliance by phone at (434) 592-4999 or by email at equityandcompliance@liberty.edu. Click to see a full copy of Liberty's Discrimination, Harassment, and Sexual Misconduct Policy or the Student Disability Grievance Policy and Procedures.

VIII. BIBLIOGRAPHY

Referencing for this course required the format acceptable to our professional journal of Respiratory Care. Details can be located by clicking here. References must be listed and numbered in the sequence in which they are first cited in the text. Citations *must* conform to Respiratory Care Journal style. Authors are responsible for accuracy of their references.

LIBERTY UNIVERSITY
DEPARTMENT of PUBLIC & COMMUNITY HEALTH

COURSE SCHEDULE

RESP 420

Textbook: Beachy, *Respiratory Care Anatomy and Physiology* (2018).

MODULE/WEEK	READING & STUDY	ASSIGNMENTS	POINTS
1 (CLO: A, B, E, F; PLO: A, D, E)	Beachy: chs. 3, 11 3 presentations 1 article	Course Requirements Checklist Class Introductions DB Forum 1 Article Review Quiz 1	10 0 80 70
2 (CLO: A, B, E; PLO: A, D)	Beachy: ch. 4 2 presentations 1 website	Test 1 – Week 1 and 2 Material	120
3 (CLO: A, B, E, F; PLO: A, D, E)	Beachy: chs. 4, 14 6 presentations 1 article	DB Forum 2 Article Review Quiz 2	80 70
4 (CLO: A, B, E; PLO: A, D)	Beachy: ch. 7 1 presentation	Test 2 – Week 3 and 4 Material	120
5 (CLO: A, B, E, F; PLO: A, D, E)	Beachy: chs. 6, 12 4 presentations 1 article	DB Forum 3 Article Review Quiz 3	80 70
6 (CLO: A, B, C, D, E; PLO: A, D)	Beachy: chs. 18–20 6 presentations	Test 3 – Week 5 and 6 Material	120
7 (CLO: A, B, C, D, E; PLO: A, D)	Beachy: chs. 8–9 2 presentations 1 article	Article Review Quiz 4	70
8 (CLO: A, B, C, D, E; PLO: A, D)	Beachy: ch. 23 1 presentation 2 articles	Test 4 – Week 7 and 8 Material	120
		TOTAL	**1010**

DB = Discussion Board

NOTE: Each course module/week (except Module/Week 1) begins on Tuesday morning at 12:00 a.m. (ET) and ends on Monday night at 11:59 p.m. (ET). The final module/week ends at 11:59 p.m. (ET) on **Friday**.