

Course Syllabus

COURSE: RSPT 1240.200 – Advanced Cardiopulmonary Anatomy & Physiology
SEMESTER: Spring 2014
CLASS LOCATION: Reese Campus – Building 5 Room 521
CLASS TIMES: 11:00 AM – 11:50 AM
Monday-Wednesday-Friday
INSTRUCTOR: Ron Edwards BS, RRT
OFFICE: Room 519
OFFICE HOURS: Monday & Wednesday: 2:00 PM – 4:00 PM
Tuesday & Thursday: 1:30 PM. – 3:00 PM
Other Times by Appointment
OFFICE PHONE: (806) 716-4625
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"South Plains College improves each student's life."

GENERAL COURSE INFORMATION

COURSE DESCRIPTION

This course provides an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system.

STUDENT LEARNING OUTCOMES

Students will:

1. Describe and explain advanced concepts of cardiopulmonary anatomy and physiology;
2. Describe the neurology of breathing, ventilation/perfusion concepts, and gas transport from the lung to the tissues.

COURSE OBJECTIVES - Outline form (correlated to Scans and Foundations Skills)

1. The student will gain an understanding of the physiology of ventilation, including lung compliance, airway resistance, and time constants, and their associated calculations. (F-1, F-2, F-3, F-4, F-5, F-10, F-11, F-12, F-16, F-17, C-5, C-7, C-8)
2. The student will gain an understanding of the physiology of the pulmonary and systemic vascular systems, and the determinants of cardiac output. (F-1, F-2, F-5, F-10, F-11, F-12, F-16, F-17, C-5, C-7, C-8)
3. The student will gain an understanding of hemodynamic measurements, including the calculation of normally computed values. (F-1, F-2, F-3, F-4, F-5, F-10, F-11, F-12, F-16, F-17, C-5, C-7, C-8)
4. The student will gain an understanding of the various methods by which oxygen is carried in the blood, factors responsible for shifts in the oxyhemoglobin curve, and the calculations involved in oxygen transport studies. (F-1, F-2, F-3, F-4, F-5, F-10, F-11, F-12, F-16, F-17, C-5, C-7, C-8)
5. The student will gain an understanding of the various methods by which carbon dioxide is carried in the blood, and its effects on acid-base balance. (F-1, F-2, F-5, F-10, F-11, F-12, F-16, F-17, C-5, C-7, C-8)
6. The student will gain an understanding of the ventilation-perfusion ratio and the effects respiratory disorders have on it. (F-1, F-2, F-5)

7. The student will gain an understanding of the neuronal control of ventilation. (F-1, F-2, F-5)
8. The student will gain an understanding of renal failure and its effects on the cardiopulmonary system. (F-1, F-2, F-5, F-10, F-11, F-12, F-16, F-17, C-5, C-7, C-8)

EVALUATION METHODS

1. Five objective unit examinations will be given, followed by a comprehensive final examination.
2. Students must successfully complete the shunt program module and return the certificate to the instructor prior to the unit exam 3.
3. Students must complete the workbook assignments as outlined in the course syllabus prior to the unit exam. A grade of 50% will be entered in the grade book for submitting partially completed workbook assignments. **Late workbook assignments will not be accepted. Workbook assignments corresponding to assigned reading and unit are due on test day.**
4. **Make-up exams will not be given.** Students will be allowed to drop their lowest unit exam grade

ACADEMIC INTEGRITY

It is the aim of the faculty of South Plains College to foster a spirit of complete honesty and a high standard of integrity. The attempt of any student to present as his or her own any work which he or she has not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offender liable to serious consequences, possibly suspension.

Cheating - Dishonesty of any kind on examinations or on written assignments, illegal possession of examinations, the use of unauthorized notes during an examination, obtaining information during an examination from the textbook or from the examination paper of another student, assisting others to cheat, alteration of grade records, illegal entry or unauthorized presence in the office are examples of cheating. Complete honesty is required of the student in the presentation of any and all phases of coursework. This applies to quizzes of whatever length, as well as final examinations, to daily reports and to term papers.

Plagiarism - Offering the work of another as one's own, without proper acknowledgment, is plagiarism; therefore, any student who fails to give credit for quotations or essentially identical expression of material taken from books, encyclopedias, magazines and other reference works, or from themes, reports or other writings of a fellow student, is guilty of plagiarism.

SCANS and FOUNDATION SKILLS

This course completes the following Foundation Skills: F-1, F-2, F-3, F-4, F-5, F-10, F-11, F-12, F-16, F-17. This course completes the following SCANS competencies: C-5, C-7, and C-8. Refer also to Course Objectives. SCANS and Foundation Skills attached.

VERIFICATION OF WORKPLACE COMPETENCIES – HEALTH OCCUPATIONS DIVISION

Successful completion of this course is required for the student to be eligible to sit for the Certification Exam for Entry-Level Respiratory Therapists, and to obtain a Texas License to practice Respiratory Care.

SPECIFIC COURSE INFORMATION

TEXT AND MATERIALS

Students are required to obtain the following:

1. Des Jardins, Terry. Cardiopulmonary Anatomy and Physiology; Essentials for Respiratory Care, 6th Ed., (2013). New York, Delmar Cengage Learning.
2. Des Jardins, Terry. Workbook T/A Cardiopulmonary Anatomy and Physiology; Essentials for Respiratory Care, 6th Ed., (2013). New York, Delmar Cengage Learning.
3. Class Notes

ATTENDANCE POLICY

Attendance indicates the maturity, motivation, responsibility, and reliability expected of a student entering the respiratory care profession. Regular attendance RSPT 1240 is necessary to gain proficiency in respiratory care procedures.

1. Whenever absences become excessive and, in the instructor's opinion, minimum course objectives cannot be met due to absences, the student should be withdrawn from the course. These cases will be handled on an individual basis.
2. Whenever an unavoidable reason for class absence arises, such as illness, an official trip authorized by the college or an official activity, the instructor may permit students to make up work missed for that absence day.
3. The instructor is required to notify the Office of Student Services when the student has missed every class day during any 14 consecutive calendar day period, excluding holidays.
4. Students are responsible for all class work covered during absences from class.
5. A student who does not attend a class and does not officially withdraw from that course by the 12th class day in a regular semester or by the 4th class day in a summer session will be administratively withdrawn from that course and receive an "X" or "F" as determined by the instructor.
6. It is the student's responsibility to verify administrative drops for excessive absences through MYSPC using his or her student online account.

ASSIGNMENT POLICY

1. Students are expected to maintain a reading schedule at home to keep current with classroom discussions.
2. Workbook pages as listed for each unit may be completed prior to the exam for that unit. Students must bring their workbooks to class on the day of the test. **Late workbooks will not be accepted.**
3. Laboratory Assignments:
 - a. The Shunt program is available on the hard-drive of each computer in the Respiratory Care lab. Students must successfully complete the module and return the certificate to the instructor.
 - b. Basic ABG interpretation assignments are due prior to TEST 2.

GRADING POLICY - Grades in this course will be determined using the following criteria:

Exams	60%
Comprehensive Final	20%
Workbook/ShuntSoftware/ ABG assignments	20%
	A = 90 – 100 C = 75 - 79
	B = 80 – 89 F = 0 – 74

Successful completion of this course requires a final grade average of 75 or better.

COMMUNICATION POLICY

- Electronic communication between instructor and students in this course will utilize the South Plains College "My SPC", blackboard, and email systems. Instructor will not initiate communication using private email accounts. Students are encouraged to check SPC email and blackboard on a regular basis.
- Blackboard is an e-Education platform designed to enable educational innovations everywhere by connecting people and technology. This educational tool will be used in this course throughout the semester.

FACEBOOK

- The Respiratory Care Program has a Facebook page at <http://www.facebook.com/SouthPlainsCollegeRespiratoryCare>. In addition to the South Plains College website, this Facebook page will be used to keep students up-to-date on program activities, weather delays, South Plains College announcements and will help with program recruitment. “Liking” the South Plains College Respiratory Care Facebook page is not mandatory, nor are personal Facebook accounts, in order to access this page.

STUDENT CONDUCT

- Students in this class are expected to abide by the standards of student conduct as defined in the SPC Student Guide.

CHANGES AND AMENDMENTS TO SYLLABUS

- The program director or the clinical coordinator reserve the right to make reasonable changes to the syllabus at any time during the semester. If this occurs, the students will be notified and furnished a copy of all applicable changes or amendments.

SPECIAL REQUIREMENTS

- **Cell Phones** – Cell phones are to be turned OFF during scheduled class periods, unless prior approval has been given from the instructor. This includes text messaging. Cell phones are to be used outside the classroom only.

COURSE OUTLINE

TOPIC: OXYGEN & CARBON DIOXIDE TRANSPORT

Reading Assignment: Chapter 6

Workbook: Chapter 6

Assignment: “Shunt Assessment and Application” computer module

TEST #1

TOPIC: ACID BASE BALANCE & REGULATION

Reading Assignment: Reading Chapter 7

Workbook: Chapter 7

Assignment : ABGs – Acid Base, Oxygenation Interpretation

TEST #2

TOPIC: VENTILATION/PERFUSION RELATIONSHIPS

Reading Assignment: Chapter 8

Workbook: Chapter 8

TEST #3

TOPIC: CONTROL OF VENTILATION

Reading Assignment: Chapter 9

Workbook: Chapter 9

TEST #4

TOPIC: PULMONARY –SYSTEMIC VASCULAR SYSTEM & BASIC HEMODYNAMIC MEASUREMENTS

Reading Assignment: Chapter 5 pp. 225-247 & Chapter 15

Workbook: Chapter 15

Test #5

COMPREHENSIVE FINAL EXAM

ACCOMMODATIONS

DIVERSITY STATEMENT

In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

DISABILITIES STATEMENT

Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Special Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Coordinator of Special Services. For more information, call or visit the Special Services Office in rooms 809 and 811, Reese Center Building 8, (806) 885-3048 ext. 4654.

FOUNDATION SKILLS

BASIC SKILLS—Reads, Writes, Performs Arithmetic and Mathematical Operations, Listens and Speaks

F-1 Reading—locates, understands, and interprets written information in prose and in documents such as manuals, graphs, and schedules.

F-2 Writing—communicates thoughts, ideas, information and messages in writing and creates documents such as letters, directions, manuals, reports, graphs, and flow charts.

F-3 Arithmetic—performs basic computations; uses basic numerical concepts such as whole numbers, etc.

F-4 Mathematics—approaches practical problems by choosing appropriately from a variety of mathematical techniques.

F-5 Listening—receives, attends to, interprets, and responds to verbal messages and other cues.

F-6 Speaking—organizes ideas and communicates orally.

THINKING SKILLS—Thinks Creatively, Makes Decisions, Solves Problems, Visualizes and Knows How to Learn and Reason

F-7 Creative Thinking—generates new ideas.

F-8 Decision-Making—specifies goals and constraints, generates alternatives, considers risks, evaluates and chooses best alternative.

F-9 Problem Solving—recognizes problems, devises and implements plan of action.

F-10 Seeing Things in the Mind's Eye—organizes and processes symbols, pictures, graphs, objects, and other information.

F-11 Knowing How to Learn—uses efficient learning techniques to acquire and apply new knowledge and skills.

F-12 Reasoning—discovers a rule or principle underlying the relationship between two or more objects and applies it when solving a problem.

PERSONAL QUALITIES—Displays Responsibility, Self-Esteem, Sociability, Self-Management, Integrity and Honesty

F-13 Responsibility—exerts a high level of effort and perseveres towards goal attainment.

F-14 Self-Esteem—believes in own self-worth and maintains a positive view of self.

F-15 Sociability—demonstrates understanding, friendliness, adaptability, empathy and politeness in group settings.

F-16 Self-Management—assesses self accurately, sets personal goals, monitors progress and exhibits self-control.

F-17 Integrity/Honesty—chooses ethical courses of action.

SCANS COMPETENCIES

C-1 **TIME** - Selects goal - relevant activities, ranks them, allocates time, prepares and follows schedules.

C-2 **MONEY** - Uses or prepares budgets, makes forecasts, keeps records and makes adjustments to meet objectives.

C-3 **MATERIALS AND FACILITIES** - Acquires, stores, allocates, and uses materials or space efficiently.

C-4 **HUMAN RESOURCES** - Assesses skills and distributes work accordingly, evaluates performances and provides feedback.

INFORMATION - Acquires and Uses Information

C-5 Acquires and evaluates information.

C-6 Organizes and maintains information.

C-7 Interprets and communicates information.

C-8 Uses computers to process information.

INTERPERSONAL—Works With Others

C-9 Participates as member of a team and contributes to group effort.

C-10 Teaches others new skills.

C-11 Serves Clients/Customers—works to satisfy customer’s expectations.

C-12 Exercises Leadership—communicates ideas to justify position, persuades and convinces others, responsibly challenges existing procedures and policies.

C-13 Negotiates—works toward agreements involving exchanges of resources; resolves divergent interests.

C-14 Works With Diversity—works well with men and women from diverse backgrounds.

SYSTEMS—Understands Complex Interrelationships

C-15 Understands Systems—knows how social, organizational, and technological systems work and operates effectively with them.

C-16 Monitors and Corrects Performance—distinguishes trends, predicts impacts on system operations, diagnoses systems performance and corrects malfunctions.

C-17 Improves or Designs Systems—suggests modifications to existing systems and develops new or alternative systems to improve performance.

TECHNOLOGY—Works with a Variety of Technologies

C-18 Selects Technology—chooses procedures, tools, or equipment, including computers and related technologies.

C-19 Applies Technology to Task—understands overall intent and proper procedures for setup and operation of equipment.

C-20 Maintains and Troubleshoots Equipment—prevents, identifies, or solves problems with equipment, including computers and other technologies.

January 2013



COURSE AGREEMENT

I have received a copy of the course syllabus for RSPT 1240-200. I have reviewed the syllabus, and understand the course format, course competencies, attendance policy, and examination system. I further understand my responsibilities and rights, as explained by the instructor and listed in the syllabus, and agree to all course requirements as stated in the course syllabus.

Printed Name

Signature

Date