

## Course Syllabus

COURSE: RSPT 1240-200 Advanced Cardiopulmonary Anatomy & Physiology  
SEMESTER: Spring 2025  
CLASS LOCATION: Reese Campus – Building 2 Room 233  
CLASS TIMES: 12:30 PM – 1:50 PM  
Monday and Wednesday  
INSTRUCTOR: Ron Edwards BS, RRT  
OFFICE: Room 233E  
OFFICE HOURS: Tuesday & Thursday: 2:00 PM – 4:00 PM  
Friday: 8:00 AM – Noon  
Other Times by Appointment  
OFFICE PHONE: (806) 716-4625  
E-MAIL: redwards@southplainscollege.edu

*"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:

Describe and explain advanced concepts of cardiopulmonary anatomy and physiology; Describe the neurological control of breathing, ventilation/perfusion concepts, and summarize principles of gas transport.

#### 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 understanding of arterial blood gas interpretation and calculations (F-1, F-

## EVALUATION METHODS

1. Four objective unit examinations will be given, followed by a comprehensive final examination.
2. Students must complete the assignments and ABG interpretation assignments as outlined in the course syllabus prior to each corresponding unit exam. A grade of 0% will be entered for each assignment not completed. **Late assignments will not be accepted.**
3. **Make-up exams will not be given.**

## 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.

## 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, or access to 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, daily reports, and term papers. A score of **0** will be applied to your grade book on any assignment or test that cheating occurred. Offenders may be liable for being dropped from the course at the discretion of the instructor.

**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.

## 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.

## BLACKBOARD ULTRA

Blackboard ULTRA 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. The following link is provided to introduce students to Blackboard Ultra at <https://www.southplainscollege.edu/instructional-technology/ultra/students.php>

## FACEBOOK

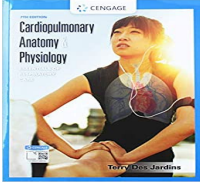
The Respiratory Care Program has a Facebook page at <https://www.facebook.com/SouthPlainsCollegeRespiratoryCare> . In addition to the South Plains College website, this Facebook page will be used to keep students up-to-date on program activities, weather delays, and South Plains College announcements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

## SPECIFIC COURSE INFORMATION

### TEXT AND MATERIALS

Students are required to obtain the following:

1. Cardiopulmonary Anatomy & Physiology Essentials of Respiratory Care, 7<sup>th</sup> Edition, Terry Des Jardins  
ISBN 978133794909



2. Class Notes

### ASSIGNMENT POLICY

1. Students are expected to maintain a reading schedule at home to keep current with classroom discussions.
2. Assignments for each unit **must** be completed prior to the exam for that unit. Each required unit will be graded and averaged will be averaged for the overall assignment grade. Not attempted **assignments will be graded as a zero.**

### ATTENDANCE POLICY

Students are expected to attend all classes in order to be successful in a course. The student may be administratively withdrawn from the course when absences become excessive as defined in the course syllabus.

When 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 the student to make up the work missed. It is the student's responsibility to complete work missed within a reasonable period of time as determined by the instructor. Students are officially enrolled in all courses for which they pay tuition and fees at the time of registration. Should a student, for any reason, delay in reporting to a class after official enrollment, absences will be attributed to the student from the first-class meeting date.

Students who enroll in a course but have "Never Attended" by the official census date, as reported by the faculty member, will be administratively dropped by the Office of Admissions and Records. A student who does not meet the attendance requirements of a class as stated in the course syllabus and does not officially withdraw from that course by the official census date of the semester, may be administratively withdrawn from that course and receive a grade of "X" or "F" as determined by the instructor. Instructors are responsible for clearly stating their administrative drop policy in the course syllabus, and it is the student's responsibility to be aware of that policy.

It is the student's responsibility to verify administrative drops for excessive absences through MySPC using his or her student's online account. If it is determined that a student is awarded financial aid for a class or classes in which the student never attended or participated, the financial aid award will be adjusted in accordance with the classes in which the student did attend/participate and the student will owe any balance resulting from the adjustment.

Regular attendance is necessary to successfully meet the course objectives. The student is responsible for all class work covered during absences from class. Students are expected to be in class and on time. A student is tardy if he/she arrives more than 5 minutes after class begins. If a student is tardy to class three times, it will be counted as one absence. It is the student's responsibility to inform the instructor of the reason for an absence and to do so in a timely fashion. A student may be administratively withdrawn from the course if than **3 absences** from class and the instructor determines

the student is unable to successfully meet the course objectives. Students who are tardy are asked to respect their peers and enter the classroom quietly in order not to disrupt the class. Students who are late to a class starting with an examination will not be given additional time to complete the exam. **A student's work schedule is not an excuse for missing classes.**

### COMPUTER USAGE

As computer technology in the field of health occupations continues to become more popular, computers will be used in this course for several assignments. All students have access to computers and printers on the South Plains College campus. Students will be expected to utilize computers to access assignments and classroom resources. All registered students are supplied with a working email account from South Plains College. In order to take exams, students must have their username and password.

**ALL STUDENTS ARE EXPECTED TO KNOW THEIR SPC STUDENT USERNAME AND PASSWORD.**

### COMPUTER LAB USAGE

The computer lab(s) on any campus may be used by students during scheduled open hours or as assigned by an instructor. Printer paper will not be provided for students to print materials but students may seek assistance from faculty or staff to request lab paper from the college if needed. A lack of computer lab paper is not an excuse for not having homework assignments, skills lab sheets, or any other required documents. Students should come prepared for class.

### COMPUTER TESTING

We will be utilizing **Honorlock** within Blackboard Ultra to administer exams. You will need to have a working camera on your computer to take these exams. In the event technical problems arise there is a chat help option within the exam and an exam proctor to assist with these problems. Basic calculators will be provided during the exam within the exam. Restrictions regarding computerized testing will be set by the instructor within Honorlock to ensure academic integrity and review of testing as necessary. The following link is provided for student viewing prior to test taking.

<https://honorlock.kb.help/honorlock-best-practices-for-test-takers/>

### ASSIGNMENT POLICY

Students are expected to maintain a study schedule at home to keep current with classroom discussions, assignments, and unit exams. Unit assignments are due by the date posted in the syllabus. **No credit will be given for late assignments.**

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

|                                 |            |
|---------------------------------|------------|
| <b>Exams</b>                    | <b>45%</b> |
| <b>Comprehensive Final</b>      | <b>25%</b> |
| <b>Unit 1,3,4,5 Assignments</b> | <b>16%</b> |
| <b>ABG Unit 2 Assignment</b>    | <b>14%</b> |

A = 90 - 100

B = 80 - 89

C = 75 - 79

D = 65 - 74

F = 0 - 64

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

Students that score less than 80% on their course average should seek remedial help from the instructor on record for specific remediation planning and instructions.

## COMMUNICATION POLICY

Electronic communication between instructor and students in this course will utilize the South Plains College “My SPC”, GroupME, and email systems. Instructors will not initiate communication using private email accounts. Students should regularly check Blackboard, GroupMe app, and email systems for specific course assignments/announcements.

Students may contact me through E-mail or office phone.

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.

## STUDENT CONDUCT

Rules and regulations relating to the students at South Plains College are made with the view of protecting the best interests of the individual, the general welfare of the entire student body, and the educational objectives of the college. As in any segment of society, a college community must be guided by standards that are stringent enough to prevent disorder, yet moderate enough to provide an atmosphere conducive to intellectual and personal development. A high standard of conduct is expected of all students. When a student enrolls at South Plains College, it is assumed that the student accepts the obligations of performance and behavior imposed by the college relevant to its lawful missions, processes, and functions. Obedience to the law, respect for properly constituted authority, personal honor, integrity, and common sense guide the actions of each member of the college community both in and out of the classroom. Students are subject to federal, state, and local laws, as well as South Plains College rules and regulations. A student is not entitled to greater immunities or privileges before the law than those enjoyed by other citizens. Students are subject to such reasonable disciplinary action as the administration of the college may consider appropriate, including suspension and expulsion in appropriate cases for breach of federal, state, or local laws, or college rules and regulations. This principle extends to conduct off-campus which is likely to have adverse effects on the college or on the educational process which identifies the offender as an unfit associate for fellow students. Any student who fails to perform according to expected standards may be asked to withdraw. Rules and regulations regarding student conduct appear in the current Student Guide.

The SPC Student Guide can be found at the following link:

<http://catalog.southplainscollege.edu/content.php?catoid=49&navoid=1321>

## EMERGENCY MESSAGES

The student should notify his/her family that in case of an emergency during the normal class schedule, they should call the Nursing Office at (806)716-2391 or (806)716-2193. Class will not be interrupted unless it is an emergency, so they must identify themselves and say it is an emergency to get immediate action.

## DROPPING A CLASS

Students should submit a [Student Initiated Drop Form](#) online.

**Students will not be required to obtain an instructor signature to drop**, however, we do encourage students to communicate with instructors or advisors prior to dropping a course when they are able. **There will be no charge for drops for the fall or spring semesters.**

## WITHDRAWING FROM ALL CLASSES

If a student wishes to withdraw from all courses, they should initiate that process with the Advising Office. They can schedule an appointment with an advisor by visiting <http://www.southplainscollege.edu/admission-aid/advising/spcadvisors.php> or by calling 806-716-2366.

## SCHEDULE CHANGE (after late registration and before census date)

To make a schedule change after late registration (August 30th) and before the census date (September 11th), students should submit a [Schedule Change Form](#).

After late registration, adding a class requires instructor approval. If a student is requesting to be added to one of your courses and you approve, please email [registrar@southplainscollege.edu](mailto:registrar@southplainscollege.edu) with your approval. This can take the place of signature on the Schedule Change Form that we have required in the past.

For additional information regarding schedule changes, drops and withdrawals, [click here](#).

### **SPECIAL REQUIREMENTS**

**Cell Phones** – Cell phones are to be turned OFF or silenced 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. Students are not allowed to have cell phones during exams.

### **SYLLABUS STATEMENTS**

Statements for the following items can be found at [Syllabus Statements \(southplainscollege.edu\)](http://southplainscollege.edu)

- **Intellectual Exchange Statement**
- **Disabilities Statement**
- **Non-Discrimination Statement**
- **Title IX Pregnancy Accommodations Statement**
- **CARE (Campus Assessment, Response, and Evaluation) Team**
- **Campus Concealed Carry Statement**
- **Covid 19 Statement**

### **CHANGES AND AMENDMENTS TO SYLLABUS**

The program director or the clinical coordinator reserves 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.

## COURSE OUTLINE

### **UNIT 1: OXYGEN & CARBON DIOXIDE TRANSPORT/ SHUNTING**

Reading Assignment: Chapter 6

ASSIGNMENT POSTED IN BLACKBOARD: Chapter 6

TEST #1

### **UNIT 2: ACID BASE BALANCE & REGULATION**

Reading Assignment: Reading Chapter 7

Notes

Assignment: ABGs: Acid Base, Oxygenation Interpretation

TEST #2

### **UNIT 3: VENTILATION/PERFUSION RELATIONSHIPS**

Reading Assignment: Chapter 8

ASSIGNMENT POSTED IN BLACKBOARD: Chapter 8

TEST #3

### **UNIT 4: CONTROL OF VENTILATION**

Reading Assignment: Chapter 9

ASSIGNMENT POSTED IN BLACKBOARD: Chapter 9

TEST #4

### **UNIT 5: PULMONARY –SYSTEMIC VASCULAR SYSTEM & BASIC HEMODYNAMIC MEASUREMENTS REVIEW**

Reading Assignment: Chapter 5 pp. 228-249 & Chapter 15

ASSIGNMENT POSTED IN BLACKBOARD: Chapter pp. 228-249 & Chapter 15

**Unit 5 material will be assessed on the Final Exam**

### **COMPREHENSIVE FINAL EXAM**

## 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 2024



**COURSE AGREEMENT RSPT 1240-200**  
**Spring 2023**

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.

Student's Name (print)

\_\_\_\_\_

Student's Signature

\_\_\_\_\_

Date \_\_\_\_\_