

## Course Syllabus

COURSE: RSPT 1325.200 – Respiratory Care Sciences  
SEMESTER: Spring 2016  
CLASS LOCATION: Reese Campus – Building 5 Room 521  
CLASS TIMES: 10:00 AM – 10:50 AM  
Monday-Wednesday-Friday  
INSTRUCTOR: Ron Edwards, BS, RRT  
OFFICE: Room 519  
OFFICE HOURS: Monday & Wednesday: 2:30 PM – 4:00 PM  
Tuesday & Thursday: 1:30 PM – 4:00 PM  
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 is a study of physics, mathematics, and chemistry as related to respiratory care.

#### STUDENT LEARNING OUTCOMES

Students will:
1. Apply basic concepts mathematics related to respiratory care.
2. Apply concepts of chemistry related to respiratory care.
3. Apply concepts of physics related to respiratory care.

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

1. The student will perform basic computations to calculate the answers to basic chemistry, physics, and statistics problems. (F-3)
2. The student will approach practical respiratory chemistry, physics, and statistics problems by choosing appropriately from a variety of mathematical techniques. (F-4)
3. The student will understand the theory of gas laws, and exhibit this by recognizing problems in alterations of temperature, pressure and volume, and devising a plan of action by calculating expected changes. (F-9)
4. The student will recognize quality control problems in the blood gas laboratory, and devise a plan of action to solve those problems. (F-8, F-9, C-5, C-6, C-7, C-16, C-20)
5. The student will utilize symbols, pictures, and graphs to aid in the discussion of respiratory science principles. (F-10)
6. The student will discuss atomic structure and electron configuration. (F-10)

#### EVALUATION METHODS

1. Five unit examinations will be given during the semester, followed by a comprehensive final examination. Make-up exams will not be given. Students will be allowed to drop their lowest unit exam grade.
2. A comprehensive final examination will be given.
3. Pop quizzes will be given in class.
4. Homework may be assigned during the semester.

#### 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-3, F-4, F-8, F-9, F-10, F-12. This course completes SCANS competencies: C-5, C-6, C-7, C-16, C-20. 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 Therapists.

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## **SPECIFIC COURSE INFORMATION**

### **TEXT AND MATERIALS**

1. Wojciechowski, William. Respiratory Care Sciences: An Integrated Approach, 4<sup>th</sup> Ed., (2006). New York, Delmar Publishers Inc.
2. Class Notes

### **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 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.

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 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, 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 he/she has more than **five** 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. The exam will be finished when the last on-time student has completed.*

### **ASSIGNMENT POLICY**

1. Students are expected to maintain a study schedule at home to keep current with classroom discussions.
2. **Four assignments may be given to allow students to practice the mathematical calculations prior to the examinations. Assignments are due at the time of that unit exam. No late assignments will be accepted.**
3. Students that score less than 80% on their course average are highly recommended to attend study lab until the student's course average is 80% or higher for this course. The student can schedule an appointment with the instructor of record or any program faculty for specific remediation instructions.

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

Unit Exams	60%
Pop Quizzes	10%
Homework Assignments	10%
Comprehensive Final Exam	20%

A = 90 - 100  
B = 80 - 89  
C = 75 - 79  
F = 0 - 74

### **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.

## 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.

## STUDENT CONDUCT

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

## 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.

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## COURSE OUTLINE

### TOPIC: PHYSIOLOGIC CHEMISTRY

Reading Assignment: Respiratory Care Sciences Ch. 6  
Test #1

### TOPIC: PHYSICS, PART I

Reading Assignment: Respiratory Care Sciences pp. 271-286  
Homework Assignment  
Test #2

### TOPIC: PHYSICS, PART II

Reading Assignment: Respiratory Care Sciences pp. 287-371  
Homework Assignment  
Test #3

### TOPIC: STATISTICS

Reading Assignment: Respiratory Care Sciences Ch. 5  
Homework Assignment  
Test #4

### TOPIC: PHYSICAL CHEMISTRY

Reading Assignment: Respiratory Care Sciences Ch. 3  
Homework Assignment  
Test #5

## COMPREHENSIVE FINAL EXAMINATION

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## 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 Disability 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 Disability Services Office. For more information, call or visit the Disability Services Office at Levelland Student Health & Wellness Center 806-716-2577, Reese Center (also covers ATC) Building 8: 806-716-4675, Plainview Center Main Office: 806-716-4302 or 806-296-9611, or the Health and Wellness main number at 806-716-2529.

## **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.

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## 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.



Course Agreement

RSPT 1325.200

I have received a copy of the course syllabus. I have reviewed the syllabus thoroughly, and understand the course format, attendance and tardy policies, and examination system. I further understand my responsibilities and rights, as explained by the instructor and listed also in the syllabus, and agree to all course requirements as stated in the syllabus.

Student's Name (print)

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Student's Signature

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Date \_\_\_\_\_