

**HCCS: Coleman College for Health Sciences
Respiratory Care Sciences
RSPT 1325 – CRN 72810
Spring 2011**

Name of Course

RSPT 1325: Respiratory Care Sciences

Course Description (same as in Catalog)

Credit: 3 (3 lecture)

Physics, mathematics, and chemistry as related to respiratory care. Topics covered include scientific measurement, basic math, physics, chemistry and microbiology

Prerequisites

None

Course Goals (includes competencies, incorporation of SCANS, etc.)

The course goal is the mastery of the learning objectives as outlined at the beginning of each chapter of the text. Assigned reading, class lectures, and class discussion will facilitate the learning of the objectives. As a result, the student will be able to solve basic mathematical equations related to respiratory care; apply the concepts of chemistry/physics to respiratory care; and apply and interpret statistics as they relate to respiratory care. The course will also incorporate a portion of the SCANS competencies to include enhancing basic skills and the application of critical thinking skills. Course outcomes include the ability to apply mathematics and the concepts of chemistry/physics related to respiratory care.

SCANS Competencies

SCANS is an acronym for Secretary's Commission on Achieving Necessary Skills. Thus, SCANS incorporates basic workforce skills identified by the U.S. Department of Labor, Secretary's Commission on Achieving Necessary Skills. The areas of competency identified by the commission include: enhancing basic skills, applying critical thinking skills, the utilization of information skills, the use of technology, the ability to maximize resources, the exhibition of appropriate interpersonal skills and personal qualities, and the comprehension and application of system knowledge.

1. Information C7 Interprets and Communicates Information

Description:

Selects and analyzes information and communicates the results to others using oral, written, graphic, pictorial, or multi-media methods.

Objective:

Describe the normal values of PaCO₂ and correcting abnormal values via frequency and/or tidal volume maneuvers.

Description of Module:

Instruction consists of abnormal PaCO₂ value recognition, resulting factors and method of correction to normal value.

2. Systems C16 Monitors and Corrects Performance

Description:

Distinguishes trends, predicts impact of actions on system operations, diagnoses deviations in the function of a system/organization, and takes necessary action to correct performance.

Objective:

Describe the procedure for mechanical ventilation

Description of Module:

Instruction consists of identifying the primary differences between pressure ventilation and volume ventilation.

3. Basic Skills F1 Reading

Description:

Locates, understands, and interprets written information in prose and documents--including manuals, graphs, and schedules--to perform tasks; learns from text by determining the main idea or essential message; identifies relevant details, facts, and specifications; infers or locates the meaning of unknown or technical vocabulary; and judges the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers.

Objective:

The student must be able to read and understand technical language relating to Respiratory Care Science, which may require going beyond the text.

Description of Module:

Students must read specific chapters in their respiratory care science text which coincide with lectures and modules on mathematics, algebra, chemistry, physics, and microbiology. Exams are tools to measure and evaluate this competency.

4. Basic Skills F3 Arithmetic

Description:

Performs basic computations; uses basic numerical concepts such as whole numbers and percentages in practical situations; makes reasonable estimates of arithmetic results without a calculator, and uses tables, graphs, diagrams, and charts to obtain or convey quantitative information.

Objective:

Performs, explain, and apply physiologic calculations

Description of Module:

Define and describe the procedure for performing / calculating I:E Ratios to determine adequate time for ventilation.

5. Basic Skills F4 Mathematics

Description:

Approaches practical problems by choosing appropriately from a variety of mathematical techniques; uses quantitative data to construct logical explanations for real world situations; expresses mathematical ideas and concepts orally and in writing; and understands the role of chance in the occurrence and prediction of events.

Objectives:

The student is required to successfully perform calculations involving basic algebra.

Description of Module:

The students describe, transpose, and evaluate formulas to determine pressure gradients, lung compliance, elastance, surface tension, time constants, airway resistance to understand various laws and concepts in relation to ventilation.

6. Basic Skills F6 Speaking

Description:

Organizes ideas and communicates oral messages appropriate to listeners and situations; participates in conversation, discussion, and group presentations; selects an appropriate medium for conveying a message; uses verbal language and other cues such as body language appropriate in style, tone, and level of complexity to the audience and the occasion; speaks clearly and communicates a message; understands and responds to listener feedback; and asks questions when needed.

Objectives:

Performance will be satisfactory if the student successfully contributes to classroom discussions and communicates with colleagues over discussions in the classroom.

Description of Module:

Various topics, modules, and practice problems concerning the various aspects in the respiratory care science text allows active classroom discussions during the lecture class that engages speaking and communication skills.

7. Thinking Skills F10 Mental Visualization

Description:

Thinking about what something will be. Discovers rules or principles underlying the relationship between two or more objects and applies it in solving a problem. The student will use logic to draw conclusions from available information, extract rules or principles from a set of objects or written text; applies rules and principles to a new situation, or determines which conclusions are correct when given a set of facts and a set of conclusion.

Objectives:

The student will be able to analyze data from calculations, studies, and tests as it relates to Respiratory Care.

Description of Module:

In the physics module, instruction consists of fluid dynamics and its relation to flow pattern in order to draw conclusions regarding the current nature of the tracheobronchial tree.

Instructor Information

Name: James Campbell BS, RRT-NPS, CPFT, RCP
Office Location: JB Coleman HSC, Room 380
Contact: Office - 713-718-7003
 JAMESS.CAMPBELL@HCCS.EDU

Office Hours: Tuesday, Thursday 12:30 PM – 02:30 PM
 Friday 12:30 PM – 02:30 PM
 (Other times by appointment)

Class Times: Tuesdays/Thursday 10:30 a.m. – 12:00 p.m.
 Room 367, JB Coleman HSC

Textbook Information

Respiratory Care Science: An Integrated Approach (4th Edition). William V. Wojciechowski, Delmar 2006, ISN 1-4018-6491-0 or 9781401864910

Suggested:

- 1) Taber's Cyclopedic Medical Dictionary by Donald Venes
- 2) Practical Math for Respiratory Care: A Text and Workbook by Raymond Sibberson, publisher; Elsevier, ISBN: 9780815180012, 0815180012
- 3) Respiratory Care Calculations by David W. Chang, publisher: Delmar Learning, ISBN: ISBN-13: 9780766805170

Lab Requirements (if any)

None

Students with Disabilities

Please don't change

"Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at the respective College at the beginning of each semester. Faculty are authorized to provide only the accommodations requested by the Disability Support Services Office."

If you have any questions, please contact Disability Counselor at your college or Donna Price at 713/718-5165.

Coleman ADA Counselor – Dr. Raj Gupta – 713-718-7631. Rm# 224.

Academic Honesty

Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Academic (scholastic) dishonesty includes but is not limited to, cheating on a test, plagiarism and collusion. Possible punishments may include a grade of 0 or F on the particular assignment, failure of the entire course, dismissal from the program and/or dismissal from the college system. Please refer to the HCCS Student Handbook for the complete policy.

Attendance and Withdrawal Policies

- A. Attendance will be taken each class day.
- B. Each class is designed to cover specific information and it is imperative that the student attend to obtain maximum benefit. Students are expected to attend class regularly unless they are officially excused. Students unable to attend class should inform the instructor in advance if possible.
- C. Students will be responsible for obtaining all materials, notes, or handouts covered on days that they missed. Also, the instructor will not reiterate content in class sessions that a student missed. If handouts were given out, it the student's responsibility is to obtain them at the instructor's office. Students unable to attend class should inform the instructor in advance if possible.
- D. Students who are 15 minutes late to class will be counted tardy. Three tardies equates to one absence. Avoid this, as it is disruptive to the instructor and the class. Leaving class early is considered an absence. If a student needs to leave early, the student must notify the instructor before class begins otherwise it is considered an absence. Students who miss more than half of class instruction will be considered absence.

- E. The school has an attendance policy stating that a student may be administratively withdrawn from a course if they miss more than 12.5% of the hours of instruction (including lecture and lab). This course meets 3 hours per week for 16 weeks for a total of 48 hrs of instruction. If you miss more than 6 hrs of class (12.5% of 48), you are in violation of this policy. Students may accumulate up to a maximum of four (4) absences; all absences up to and including the maximal amount are excused. If a student exceeds the maximum number of allowable, (excused), absences; the student will be counseled by the instructor. The instructor may recommend that the student be administratively withdrawn from the course.
- F. All students that exceed the maximum are considered to be *un-excused*, regardless of reason, unless noted by a physician recommendation.
- G. Absences in excess of the Maximum allowed will be excused for reasons of:
1. Death in the immediate family (with verification)
 2. Illness of the student:
 - a. Hospitalization (with verification)
 - b. Under the care of a physician, with a “Release to return to Work/School” statement that is dated.
 - c. Automobile accidents (with documentation)
 3. National Guard/Reserve duty (with dated documentation)
- H. Students who choose to take the exam or quiz during “**excused**” events will earned the grade for that exam or quiz. The exam or quiz will not be excused or reset for future attempts. Given the nature of the excused absence, the instructor will allow the student to complete the missed exam/quiz on a future date, not more than 30 days of the actual event.
- I. **In order to withdraw from your class, you MUST first contact your professor, PRIOR to the withdrawal deadline to receive a “W” on your transcript.** After the withdrawal deadline has passed, you will receive the grade that you would have earned. Zeros averaged in for required coursework not submitted will lower your semester average significantly, most likely resulting in a failing grade of an “F”. It is the responsibility of the student to withdraw from the class; however, your professor reserves the right to withdraw you without your request due to excessive absences. If you do not feel comfortable contacting your professor to withdraw, you may contact a counselor.

Course Requirements and Grading Policy

- A. Several module exams will be administered throughout this course. The exam format is at the discretion of the instructor. It may consist of multiple-choice, short answer, listing, fill-in-the-blank, matching, essay, or all the above.
- B. All module exams will be weighed equally, averaged, and will count as sixty percent (60%) of the final grade.
- C. If a student is late to any exam, the following applies:
1. The student must complete the exam within the class time allocated for the exam. The student will **not** have additional time in which to complete the exam. For example, if the exam is scheduled from 9 to 10 a.m., the student must complete the exam by 10:00 a.m.
 2. If the student arrives after any student has completed the exam/quiz and left the room, that student who is late **WILL NOT** be allowed to take the exam.
- D. Not more than any two (2) students are allowed outside of the classroom during any exam. This excludes those who have completed the examination.
- E. The homework assignments will count fifteen (15%) of the final grade.

- F. There will be one **Final Examination** will be comprehensive. It will be composed of the courses accumulative material that will count for twenty-five (25%) of the final grade. The actual grade score on the final exam will be recorded as the official grade. (No 50's are given on finals.) **Final Exam** must be taken as scheduled. A student who must be absent from a final may be given an alternate essay exam within 30 days at the discretion of the instructor. The only exceptions to this policy are those listed in the attendance and withdrawal policies.

Persons averaging of 92%, minimum or greater in all course components maybe exempt from the final if he/she wishes. The current average of 92% or greater will be recorded as the final exam grade.

- G. Only a 4-function calculator may be used during lab/class time for mathematical calculations. However, calculators, cell phones, and other electronic devices are **NOT** allowed during examinations/quizzes and may change at the instructor's discretion.

Grading System:	Grading Source:	% of Total Grade:
90 - 100	A Exams	60%
80 – 89 B	Assignments	15%
74.5 - 79	C Final Exam	<u>25%</u>
00 – 74.4	F Total	100%

Testing

- A. As scheduled. See Course Requirements and Grading Policies above. The score marked by the Scantron Test Scorer (machine) on your form will be the score you receive. Any stray marks, incomplete erasure, or blanks, which are sensed by the machine and result in a “wrong grade”, are your hardship. A change will not be made on your Scantron score. For computer testing,
- B. All students who fail an exam are required to remediate that exam. Remediation will be held on Fridays (excluding holidays) at times designated by each instructor. Students who fail to complete remediation on scheduled dates risk administrative withdrawal if before the withdrawal due date. If after the withdrawal due date, the student forfeits taking subsequent exams and the final exam and will receive a grade of zero (0) for the Final Exam.
Remediation does not change the exam grade.
- C. Remediation requires that the student:
1. Obtain exam from instructor and Identify missed questions.
 2. Justify why each wrong answer is wrong (quote a source/reference/pg.#).
 3. Justify why the correct answer is correct (quote a source/reference/pg.#).
 4. Attach document to exam and return to instructor
 5. It must be handwritten.
- D. Students will not be allowed to answer cell phones during exams. All cell phones must be turned in the off mode. If student is found using Cell Phone a 0% grade will be given for the exam. All backpacks and any related material shall be placed in the front of the room before Testing begins.

Make-up policy

There will be **no** make-up exams. If a student misses one of the exams (**Excludes the Final Exam**), the student will be awarded a total of fifty percentage (50%) points. Students who know in advance they will need to miss a class exam may make arrangements to take the exam in advance of the scheduled test date. Exceptions for rescheduled exams are only for emergency cases and absences considered excused as listed within the attendance and withdrawal policy. A student who must be absent from a final may be given an alternate exam within 30 days starting from the scheduled Final Exam at the discretion of the instructor.

Projects, Assignments, Portfolios, Service Learning, Internships, etc.

1) The instructor will give homework assignments which must be completed by the student(s). Must be handwritten only. This is to be done on an individual basis, honor system. Any typed or copied assignments will not be accepted. To receive credit, all questions must be completed according to the required instructions. Failure to follow any of the directions will yield an incomplete assignment. Due date: before the beginning of the module presentation. This assignment must be turned in **before** the class period begins to the instructor or instructor's classroom desk. Not the instructor's office. Any assignments turned in after the class period has started will be considered "late" and will not be accepted for credit.

2) Students will answer all chapter objectives and practice problems listed at the beginning of the chapter/power point presentation. The assignment will be turned into the instructor at the beginning of class, on my desk, prior to lecture of the corresponding chapter. The assignment is to be hand written and include the objective followed by the correct answer. Practice problems must show all work. Please keep in mind that this assignment will count for 15% of your course grade.

3) Students should review the objectives, review questions, and clinical application questions of each chapter; read the assigned chapters; and look up any words that are unclear in a medical dictionary. Students should use alternate reference text in an attempt to clarify information. Time permitting, students should outline the assigned reading in an attempt to digest the information well enough to put it in his/her own words. Going back to the objectives, the student should now be able to address each objective as though it were a question and be able to reflect on it during class discussion.

- *Students should check with instructor concerning assigned problems in each chapter as all problems will not be covered.*

Course Content

MODULE 1 – Mathematics (Chapter 1)

MODULE 2 – Algebra (Chapter 2)

MODULE 3 – Chemistry (Chapter 3)

MODULE 4 – Physics (Chapter 4)

MODULE 5 – Microbiology (Chapter 7)

NOTE: The instructor reserves the right to modify the syllabus, course requirements, assignments, grading procedures, and other related policies as changes take place during the semester however, proper notice will be given.

Course Calendar with Reading Assignments

Semester: Spring 2011
 Class Times: TBA
 Holidays: See college catalog
 Assigned Reading: TBA

Other Student Information (clubs, tutoring, web resources, etc.)

Early Alert Syllabus Statement:

The Houston Community College Early Alert program has been established to assist in the overall effort to retain students who are at risk of failing, withdrawing, or dropping a course. This process requires instructional faculty and student support staff to identify students who are performing poorly as early as possible and provide relevant support services to help students overcome their deficiencies. A student is identified when an instructor notices academic or personal difficulties that affect student's academic performance. The possible problem (s) could be tardiness, missed/failed test scores, excessive absences, or a number of other circumstances. Once a referral is made counselors will then contact students to discuss the issues and possible solutions to their academic difficulties.

Recording Devices:

"Use of recording devices, including camera phones and tape recorders, is prohibited in classrooms, laboratories, faculty offices, and other locations where instruction, tutoring, or testing occurs. Students with disabilities who need to use a recording device as a reasonable accommodation should contact the Office for Students with Disabilities for information regarding reasonable accommodations."

Beepers, Cellular Telephones, And Personal Telephone Calls:

All beepers and cellular phones are required to be turned off at the beginning and during class lecture. For examinations and quizzes, Cell phones, beepers, and all electronic devices will be turned off. No cell phone speakers are to be worn in the ears during lectures or exams. If an emergency situation exists and only with instructor approval, cell phones may be placed in "vibrate" mode. Only emergency telephone calls are to be made to the Respiratory department's secretary at **(713) 718-7382**. No personal phone calls (non-emergency) will be accepted. However, leaving the classroom to answer an emergency call **MUST** be an infrequent occurrence. Frequent leaving to have phone conversations in the hall will be considered disruptive and will constitute dismissal for the day and consequently, an absence. Phones in the faculty offices are business phones and are not to be used by students except in an emergency.

Classroom Conduct

Classroom conduct is expected to be courteous, respectful, and professional. Please respect your student colleagues' participation during class. When another student is presenting, encourage him/her by actively listening and participating. You are also responsible for adhering to the Code of Student Conduct outlined in the HCC Student Handbook as well as the Respiratory Therapy Program Handbook. Students violating this policy may be asked to leave the class period in which it occurs. Re-entry to class will be permitted only after counseling with the instructor; department head and others may be involved where appropriate.

For ongoing student information always check the student association web site. Students are encouraged to schedule tutoring with instructors in classes they are having difficulty with. Web sites for state and national Respiratory Care entities are listed below.

www.TSRC.org

www.AARC.org

www.NBRC.org

<http://hccs.askonline.net/>

<http://www.school-closings.net/>

www.hccs.edu

The Texas Society for Respiratory Care
The American Association for Respiratory
Care

The National Board for Respiratory Care
AskOnline – Houston Community College Online
Tutoring service
closure list of schools

Books:

HCC bookstore

<http://www.majorsbooks.com/>

<http://ebooks.com/>

<http://www.amazon.com>

<http://books.half.ebay.com>

<http://www.barnesandnoble.com>

Majors books store
E books

**RSPT 1325 - Respiratory Care Sciences
CRN 72810
Spring 2011 Course Tentative Schedule**

January

18	Introduction/ <u>Math</u> - sec. 1-1 & 1-2
20	sec. 1-3 & 1-4
25	sec. 1-5 & 1-7
27	sec. 1-8

February

01	<u>Exam #1: Chapter 1 (Lab B & C)</u>
03	<u>Algebra</u> sec. 1-9, 2-1, & 2-2
08	sec. 2-3, 2-4 & 2-5
10	sec. 2-6 & 2-7
15	<u>Exam #2: Chapter 2 (Lab A)</u>
17	<u>Chemistry</u> sec. 3-1 & 3-2
22	sec. 3-3 & 3-4
24	sec. 3-4

March

01	<u>Exam #3: Chapter 3, Part 1, Sections 3-1 to 3-4 (Lab A- 11 a.m. to 12 noon)</u>
03	sec. 3-5
08	sec. 3-6, 3-7, & 3-8
10	sec. 3-9 & 3-10

14-20 *****Spring Break*****

22	<u>Exam #4: Chapter 3, Part 2, Sections 3-5 to 3-10 (Lab A)</u>
24	<u>Physics</u> sec. 4-1 & 4-2
29	sec. 4-3 to HFV
31	<u>Exam #5: Chapter 4, Part 1, Sections 4-1 to 4-3 (Air:02) (Lab A)</u>

April

05	sec 4-3 (Raw) – 4-4
07	sec. 4-4
12	sec. 4-5
14	<u>Exam #6: Chapter 4, Part 2, Sections 4-3 (Laminar & Turbulent flow) to 4-5 (Lab A)</u>
19	<u>Microbiology</u> sec. 7-1 & 7-2
21	sec. 7-3 & 7-4
21	*Last Day for Administrative/Student Withdrawals – 4:30 p.m.
26	sec. 7-5 & 7-6
28	sec. 7-7 & 7-8

May

03	sec. 7-9, 7-10, & 7-11
05	<u>Exam #7: Chapter 7 (Lab A)</u>
11	FINAL EXAM (LAB D)

**Houston Community College System
Southeast Health-Science Center
Respiratory Therapist Program
Respiratory Care Sciences
RSPT 1325: CRN 72810**

Student Signature Page (Return to Instructor)

The instructor discussed with the class and I have read the Spring-2011 course syllabus for RSPT 1325 – Respiratory Care Sciences. I am familiar with the contents there in and I will abide by the stated rules / policies for the course.

I am aware of the required textbook and materials and I realize that the reading and coming prepared to class is critical for my success in this course.

I understand that additional help may be obtained from the instructor during posted office hours or by appointment, but that it is my responsibility to seek such help. I further understand that a student tutor will be provided upon my request and upon appropriate application to student services.

I understand the potential for both passing and failing this course, and that I must obtain a cumulative grade of at least 75% (C) to successfully complete the course.

All students must review the course syllabus and sign the course syllabus receipt within the first week of class.

By signing, I indicate my understanding and willingness to comply with these regulations and requirements.

Student Name (Print) _____

HCC ID (W#) _____

Current Telephone Number _____

Current Email Address _____

Student Signature (Ink) _____

Date Signed _____