

**Skyline College  
Official Course Syllabus  
2009 Fall Semester**

**Respiratory Therapy 420**  
**Application of Cardiopulmonary Anatomy and Physiology**  
**Division: Science, Math, Technology**  
**Tues: 10:40 – 12:00    Thurs 8:10am – 9:30**  
**Room 7215**  
**CRN# 80742**

**Instructor:** Raymond Hernandez  
650-738-4457  
[hernandezr@smccd.net](mailto:hernandezr@smccd.net)  
**Office:** 7311 **Office hours:** Mon/Wed. 12pm-2pm  
**Website:** <http://www.smccd.net/accounts/hernandezr/index.htm>

**Course Prerequisites:** Admission to the Respiratory Therapy Program  
**Course Classification:** Credit course applicable for the Associates Degree in Respiratory Therapy. Transfer: CSU

**Required Text:**

Egans Fundamentals of Respiratory Care  
Scanlon, Spearman and Sheldon; 9<sup>th</sup> edition, Mosby Publishing

Laboratory Exercises for Competency in Respiratory Care  
Butler et al, FA Davis

Practical Math for Respiratory Care: A Text and Workbook  
Sibberson

**Optional Text:**

Study Guide to Accompany Egan's Respiratory Care  
Stephen Wehrman

**Course Description:** Study of the healthy cardiopulmonary system with application to alterations which occur with disease. Emphasis to areas of particular concern to the Respiratory Care Practitioner. When applicable case histories and computer assisted instruction will be utilized.

**Course Objectives:** The course will review cardiopulmonary A & P with the first year respiratory therapy student. It will concentrate on facets most commonly encountered by the Respiratory Care Practitioner. It will begin the discussions on alterations from normal and is meant to act as a bridge for the student from general human physiology to respiratory diseases.

**Methods of instruction or required student preparation:** Lectures, discussion, small group and individual assignments, web-based instruction and assignments constitute the main activities of the class. You should come to class having read assigned materials / completed assigned homework / prepared to participate. If you do not understand the assignment, please contact me via email or see me during office hours.

**Course Attendance Policy:** Attendance and participation are key to success in the course and program. Chronic tardiness and absence is unacceptable. Please let the instructor know via email or phone message if you are unable to attend class or anticipate that you will be late prior to the scheduled class meeting.

**Make-up and Extra-credit Policy:** All assigned homework is due at the beginning of the next class period. If an extenuating circumstance requires you to be absent (e.g., you have the flu, your employer requires you to miss class, there is a death in your family), you may submit your assignment via e-mail or you may leave it in my mailbox in the SMT division office (building 7A, 1<sup>st</sup> floor) before the due date and time. It is your responsibility to ensure that your assignment reaches me; I will acknowledge via return email all email submission. All late assignments will receive half of graded credit. Extra credit opportunities may be available throughout the semester to all students as announced.

**Class conduct policy:** Cell phones must be turned off and put away during class. No talking during lectures unless instructed to do so. Please respect your student colleagues' participation during class. When another student is presenting, listen actively and encourage him/her. You are also responsible for adhering to the Code of Student Conduct outlined in the College Catalog as well as the Respiratory Therapy Program Handbook.

**Academic Integrity:** the work you submit/present must be your own. The Skyline College Catalog has a complete statement defining cheating and plagiarism. If you are caught cheating or plagiarizing another person's work, you may be disciplined in one or more of the following ways:

- You may receive a failing grade on the test, paper or assignment,
- Under the standards of academic sanctions, you may be subject to a warning, temporary exclusion from an activity or class, censure, disciplinary probation, suspension or expulsion

**Course Evaluation:** This course may be taken for a letter grade. Your grade will be determined by (approximation):

|                             |     |
|-----------------------------|-----|
| Participation and Homework: | 30% |
| Quizzes and Tests:          | 40% |
| Final Exam:                 | 30% |

**The grading scale is as follows:**

|   |         |
|---|---------|
| A | 90-100% |
| B | 80-89%  |
| C | 75-79%  |
| D | 60-74%  |
| F | <60%    |

**Disability:** In coordination with the DSPS office, reasonable accommodation will be provided for eligible students with disabilities. If you do not have an accommodation letter, please contact the DSPS Office at (650) 738-4280

**Smoking Policy:**

Smoking is now only permitted in designated areas in parking lots around campus. Areas are clearly marked and equipped with ashtrays. The active participation and cooperation of all students, faculty, staff and guests in promoting a healthy and safe environment at Skyline College and guests are expected to observe the smoking policy. Tobacco-free resources are available in the Student Health Center, located in Building 2, room 2209, (650) 738-4270, and on the Skyline College website.

**Fall 2009  
RPTH 420  
Syllabus**

|       |         |   |
|-------|---------|---|
| Thurs | Aug 20  | Introduction, expectations and registration   |
| Tues  | Aug 25  | Module 1: Function of the respiratory system<br>Module 1: Objectives 2 – 6  |
| Thurs | Aug 27  | Respiratory development during fetal growth – Egan 139-155  |
| Tues  | Sept 1  | Module 2: Objectives 1 & 2<br>Gross anatomy of the lungs and chest wall - Egan 155-159, 165-168   |
| Thurs | Sept 3  | <b>Paper Due: The Respiratory System</b><br>Module 2: Objectives 1 & 2<br>Gross anatomy of the lungs and chest wall                       |
| Tues  | Sept 8  | Module 2: Objectives 1, 2 & 3<br>Muscles of ventilation – Egan 159-165  |
| Thurs | Sept 10 | Module 2: Objectives 1, 2 & 3<br>The conducting airways – Egan 174-184  |
| Tues  | Sept 15 | Module 2: Objectives 1, 2 & 3<br>Airway mucosa & respiratory gas Exchange zones – Egan – 184-194  |
| Thurs | Sept 17 | Module 2: Objectives 1, 2 & 3<br>Circulation, Lymphatics and Innervation - Egan – 166-174<br>Review                                       |
| Tues  | Sept 22 | <b>Quiz: Module 1 and 2</b>   |
| Thurs | Sept 24 | Review quiz<br>Module 3: Objectives 1 & 2<br>Mechanics of breathing and lung volumes – Egan – 215-217, 415-419                            |
| Tues  | Sept 29 | Module 3: Objectives 3<br>Lung volume calculations and dead space – Egan – 231-235<br>Practical Math for RC – Lung Volumes and Capacities |
| Thurs | Oct 1   | Module 3: Objectives 4 & 7<br>Forces opposing inspiration: compliance - Egan – 217-222  |
| Tues  | Oct 6   | Module 3: objectives 4 - 8<br>Forces opposing inspiration: compliance/surface tension   |
| Thurs | Oct 8   | Module 3: Objectives 4-8<br>Airway Resistance – Egan – 222-226  |
| Tues  | Oct 13  | Module 3: Objectives 9 & 10<br>Work of Breathing – Egan 226-231   |

|       |         |   |
|-------|---------|---|
| Thurs | Oct. 15 | Module 4: Anatomy of the heart and heart muscle – Egan – 197-203  |
| Tues  | Oct. 20 | Module 4: Vascular system and cardiac Output – Egan – 203-209   |
| Thurs | Oct. 22 | Module 4: Control of the heart – Egan – 209-212   |
| Tues  | Oct 27  | <b>Quiz Module 3 and 4</b><br>Module 5: Objectives 1-7<br>Diffusion and V/Q – Egan – 237-244                                    |
| Thurs | Oct 29  | Module 5: Objectives 8-11<br>Transport of Oxygen - Egan – 244-251<br>Practical Math for Respiratory Care – Oxygen Content       |
| Tues  | Nov 3   | Module 5: Objectives 8-11<br>Oxygen dissociation curve<br>Practical Math for Respiratory Care – Alveolar-Air Equation           |
| Thurs | Nov 5   | Module 5: Objectives 12-14<br>Hypoxia & Hypoxemia - Egan – 254-260  |
| Tues  | Nov 10  | Module 5: Objective 12-15<br>CO <sub>2</sub> transport, Hypoxia - Egan – 251-254  |
| Thurs | Nov 12  | No Class  |
| Tues  | Nov 17  | Module 6: Objective 1<br>Control of Breathing Egan 305-315  |
| Thurs | Nov 19  | <b>Quiz, Module 5 and 6</b>   |
| Tues  | Nov 24  | Module 7: Objective 1<br>Definitions and respiratory component – CD ROM use<br>Acid-base chemistry and excretion – Egan 279-284 |
| Thurs | Nov 26  | Holiday   |
| Tues  | Dec 1   | Module 7: Objectives 3-4<br>Acid excretion and disturbances<br>Metabolic Component – Egan 284-291                               |
| Thurs | Dec 3   | Module 7: Objectives 5-8<br>ABG Interpretation (Respiratory causes)– Egan 291-295   |
| Tues  | Dec 8   | <b>Quiz, Module 7</b><br>ABG Interpretation (Metabolic causes/mixed)- Egan 295-303  |
| Thurs | Dec 10  | Review  |

**Final Exam:** \_\_\_\_\_