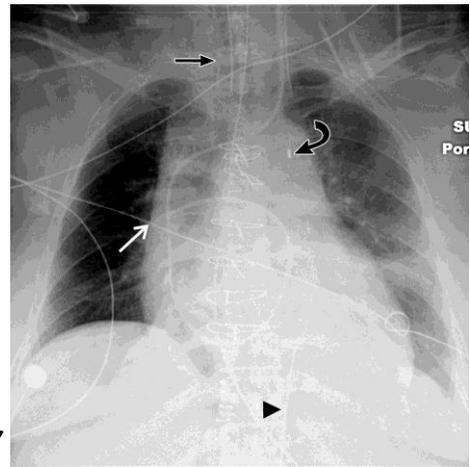
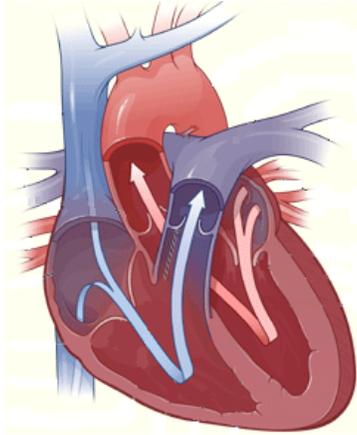
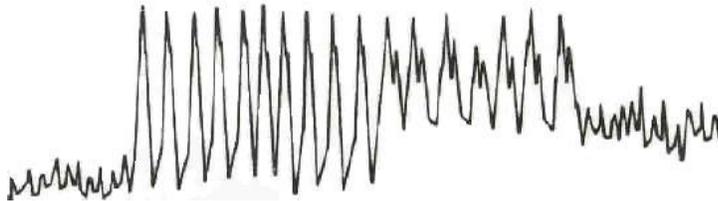


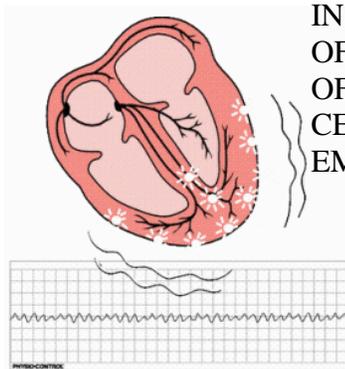
JACKSON COLLEGE
RESPIRATORY CARE PROGRAM



RES 207
ADVANCED CARDIOPULMONARY
ANATOMY and PHYSIOLOGY

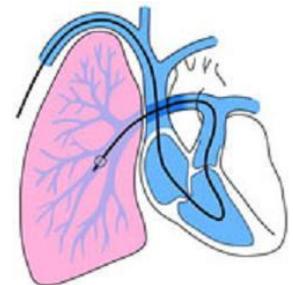


LECTURE SYLLABUS
Winter 2017



INSTRUCTOR:
OFFICE:
OFFICE PHONE:
CELL PHONE:
EMAIL:

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Outline of Instruction

Division: Allied Health

Area: Respiratory Care

Course Number: RES 207

Course Name: Advanced Cardiopulmonary Anatomy and Physiology

Prerequisite: RES 120 Respiratory Care Techniques III
RES 125 Clinical Practice II
RES 126 Cardiopulmonary Pathophysiology II

Credits: 3

Course Description/Purpose

This course advances the student's knowledge of cardiopulmonary physiology. The cardiac sections cover gross and histologic cardiovascular anatomy, neural/endocrinologic control of cardiac function, hemodynamics, microcirculatory disorders, and a review of common cardiac arrhythmias. The pulmonary section covers bronchopulmonary anatomy, gas diffusion, blood flow, ventilation/perfusion relationships, gas transport, mechanics and control of ventilation, and lung responses to changing environments and conditions.

Major Units

1. Cardiovascular Anatomy and Physiology
2. Cardiac Conduction and Basic ECG Interpretation
3. Advanced ECG Interpretation
4. Clinical Cardiac Devices, MI, and Cardiovascular Pharmacology
5. Hemodynamic Monitoring
6. Cardiac Output, Thermodilution and IABP

Educational/Course Outcomes

The course goals and objectives incorporate specific Associate Degree Outcomes (ADOs) established by the JC Board of Trustees, administration, and faculty. These goals are in concert with four-year colleges, universities, and reflect input from the professional communities we serve. ADOs guarantee students achieve goals necessary for graduation credit, transferability, and professional skills needed in many certification programs. The ADOs and course objectives addressed in this class include the following:

Cognitive Each student will be expected to:

- State normal values for common clinical hemodynamic parameters and identify common cardiovascular disorders using assessment of hemodynamic data. **ADO 7**
- **Academic Honesty Policy:** If there is any suspicion of academic dishonesty, JC's Academic Honesty Policy will be followed and appropriate action will be taken, up to and including assigning a **failing grade** for the paper, project, report, exam, or the course itself (whichever is deemed necessary). To see the policy, visit: <https://www.jcme.edu/wp-content/uploads/StudentCodeOfConduct.pdf>.
- **Incompletes Policy:** (Excerpt from JC Policy) "A student may request an incomplete from the instructor. The incomplete will be granted only if the student can provide documentation that his or her work up to that point is sufficient in quality, but lacking in quantity, due to circumstances beyond the student's control. Furthermore, a written plan for making up the missing work within one semester must be completed by the student. Final determination of whether an incomplete will be given is the instructor's decision."
- **Class Conduct:** Please recognize that all students have an equal right to a quality classroom experience. Behavior that would adversely affect the rights of another student (i.e. side conversations, disruptive actions, etc.) will result in those responsible being asked to leave for the remainder of the period and losing credit for any work that is missed.

Classroom expectations: There are three expectations that will be enforced in the classroom:

1. First, attendance is very important to successfully learn and retain lecture information. Therefore attendance in class all day, every day is expected and encouraged. According to the **JC Respiratory Care Program Student Handbook**, student responsibilities include “taking an active role in the learning process”, and one cannot do this if you are not there and participating in discussion and class activities. The student will be responsible for contacting the instructor to obtain any make up material needed as a result of the absence. In order to facilitate preparation of such materials, the student will probably best contact the instructor as much in advance as possible via email or phone prior to class time if there is any expected absence or any makeup material needed. Then the student will need to contact the instructor after the absence to obtain any missing materials. As for notes or other content covered during class, it is the student’s responsibility to gather such material, so going to the instructor and asking for any handouts or materials is the student’s responsibility. Also, having a fellow student from whom the student can get such notes is vital in the event of an absence.
2. In addition, the **JC Respiratory Care Program Student Handbook** will be followed closely pertaining to classroom behavior. As stated in the Handbook, “Responsibilities borne by the student in maintaining an optimal learning environment include treating other students, instructors, respiratory therapists, and co-workers (e.g. nurses) with the respect afforded to fellow health care professionals.” Mutual respect between the instructor and all students is expected at all times. Disrespect and other disruptive behaviors which inhibit the teaching and learning to which the entire class is entitled will not be tolerated. Any incidents will be handled in keeping with the disciplinary policy spelled out beginning on p. 16 of the **JC Respiratory Care Program Student Handbook**, and appropriate action taken up to and including **class expulsion**.
3. Thirdly, assignments or take home quizzes are expected to be handed in on the appropriate due date (which shall be **one week** from when they are given out in class). They may be handed in any time on the due date up to 4 pm with no penalty. In general, assignments that are late will be subject to a late penalty (5 pts/day deducted from the final grade for that assignment, for up to 8 days late to give a maximum of -40 pts for turn-ins late by one week; assignments turned in later than 8 days will lose an additional 10 pts/week).

Getting Extra Help (Besides visiting the instructor during office hours):

It can be very frustrating when one does not understand concepts and is unable to complete homework assignments. However, there are many resources available to help with the study of respiratory care.

- **CENTER FOR STUDENT SUCCESS:** Tutors (plus additional services for academic success) can be accessed by calling **796-8415** or by stopping by the **Center for Student Success Bert Walker Hall, Room 138**. Arrange to get regular assistance from a tutor. Students requiring special assistance (including those affected by the Americans with Disabilities Act) should contact the Center for Student Success. This is the first step in acquiring the appropriate accommodations to facilitate your learning.
- **STUDY GROUP:** Find a study partner or a study group. Sometimes it helps to work through problems with another person.
- **JETNET:** There will be material posted there to help students and allow them to ask questions of the instructor and/or the group.
- **EMAIL:** The best and quickest way to get a hold of me, besides attending class, of course.
- **Redo problems** from tests and homework assignments, particularly ones that you got wrong or have trouble understanding. Remember that you must crawl before you can walk. Similarly, you must have a good handle on the basics of respiratory care before you can master the advanced concepts.

WEEKLY SCHEDULE -- TENTATIVE!!!

Lecture	Office hours
Mon 9:30am to 12:30 pm	Mon 4 to 6 pm T 11am to 5 pm Th 12 to 2 pm others by appt.

REFERENCE MATERIAL: **Textbook Zero:** All texts are available in digital format from the book store / many online sources.

Required Texts:

1. Clinical Electrocardiography, 8th edition, Goldberger, Elsevier, 2013. (**Goldberger**)
2. Egan's Fundamentals of Resp. Care, 10th ed., Kacmarek et. al., Elsevier, 2013, ISBN 978-0-323-08203-7. (**Egan**)
3. Respiratory Care: Patient Assessment and Care Plan Development, 1st ed., Shelledy and Peters, Jones and Bartlett, 2016, ISBN 978-1-4496-7244-7. (**Shelledy**)
4. Clinical Manifestations and Assessment of Respiratory Disease, 6th ed., Des Jardins et. al., Elsevier, 2011, ISBN 978-0-323-05727-1. (**Des Jardins**)
5. Syllabus, Calculator, Straight-edge, minimum of 15 cm long, marked in millimeters and centimeters.

Other/Optional Reference Sources (used by program faculty)

1. Pilbeam's Mechanical Ventilation, 5th ed., Cairo., Elsevier, 2012, ISBN 978-0-323-07207-6. (**Pilbeam**).
2. The Essentials of Respiratory Therapy, 4th ed., Kacmarek, et. al., Elsevier, 2005, ISBN 978-0-3230-2700-7. (**Kacmarek**).
3. Clinical Blood Gases, 2nd ed., Malley, Elsevier, 2005, ISBN 978-0-7216-8422-2. (**Malley**)

NOTE: (**Bold Name**) represents how this text will be referred to when cited in unit outlines

EVALUATION

If an accommodation is needed due to a documented disability—physical, learning, or otherwise—contact the **Center for Student Success** in **Bert Walker Hall, Room 138** (796-8415). Accommodations may be provided depending on the disability.

Course points are derived from unit exams, quizzes and assignments, a lab score, and a comprehensive final exam. Most testable material for unit and final exams is listed in unit objectives, but can also be based on relevant material from other classes in this term, and may include additional material as covered in class outlines and lecture. Additional quizzes, assignments, case studies or exams may be assigned in addition to those scheduled.

The system for evaluation will consist of:

Exams:	70%
Quizzes:	10%
Final:	20%

A no show/no call for any scheduled or announced exam/quiz may result in a test grade of zero. Notification of a desire to schedule a make-up test is to be received prior to the time of the original exam in order to be routinely eligible for a makeup exam. **If taken the same day as decided by the instructor, there is no penalty, as long as there has been prior notice given.** This must be arranged with the instructor in advance. I may be notified directly by phone or via voice-mail message at (517) 796-8640. **By course policy, all first make-up exams lose 8 points from the final grade, a subsequent make-up exam loses 16 points, and a third requested make-up loses 24 points.**

Cell phones are to be set so as not to disrupt normal classroom communications; i.e., no cell phone ringing should be detectable to faculty or students. **For each incidence of detectable cell phone activation, 5 points will be deducted from the student's final total points earned.** You may excuse yourself if an urgent call is expected or you feel that it needs to be taken immediately, but your phone should be set on vibrate or with the ringer lowered in such an extreme case. Please do not abuse this privilege.

GRADING

To pass RES 207 the final course average score must be $\geq 76\%$.

Grading Scale for All Respiratory Care Courses:

4.0 = 93 - 100	2.5 = 80 - 83	1.0 = 68 - 72
3.5 = 89 - 92	2.0 = 76 - 79	0.5 = 64 - 67
3.0 = 84 - 88	1.5 = 73 - 75	0.0 = Below 64

SEMESTER CALENDER		
LECTURE TOPIC	DATE	
Cardiac Anatomy and Physiology Review	Jan. 16	
Cardiac Anatomy and Physiology Review	Jan. 23	
Cardiac Conduction Exam 1	Jan. 30	
Basic ECG	Feb. 6	
EKG I Computer Quiz Due	Feb. 9	
Basic ECG	Feb. 13	
Advanced ECG Exam 2	Feb. 20	
Spring Break—No Class!	Feb. 27	
Advanced ECG	Mar. 6	
Hemodynamic Monitoring Exam 3	Mar. 13	
EKG II Computer Quiz Due	Mar. 16	
Hemodynamic Monitoring	Mar. 20	
Cardiac Output and IABP	Mar. 27	
Hemodynamic Monitoring I Quiz Due	Mar. 30	
Cardiovascular Pharmacology Exam 4: PRACTICAL EXAM!	Apr. 3	
Conference W-F this year	Apr. 5	MSRC Sputum Bowl in Kalamazoo
Clinical Cardiac Devices; ACLS Mock Exercises Research Project	Apr. 10	
Final Exam	Apr. 17	
Hemodynamic Monitoring II Quiz Due	Apr. 20	
Clinical Cardiopulmonary Cases; CSE and CRT Discussion	Apr. 24	

