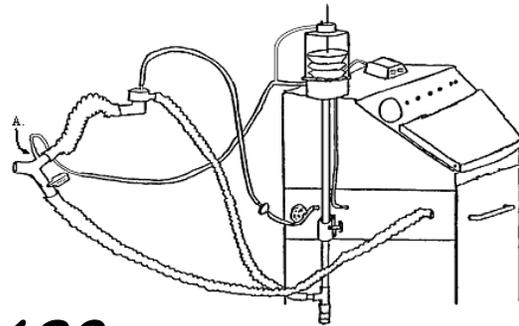
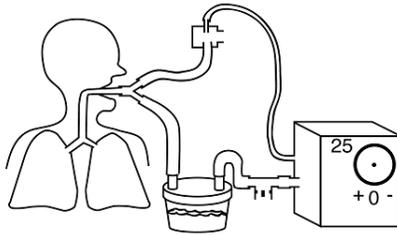


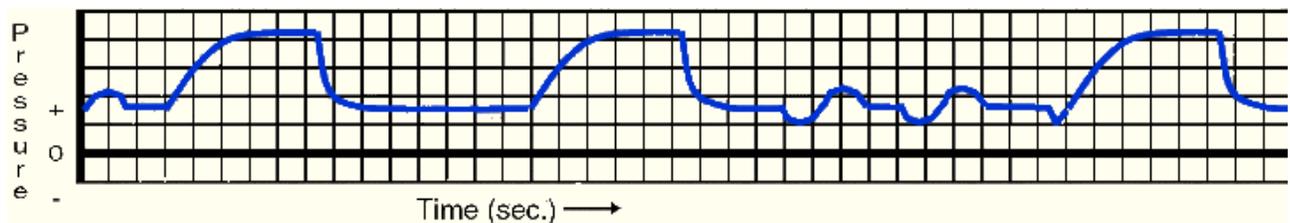
**JACKSON COLLEGE
RESPIRATORY CARE PROGRAM**



RES 120
Respiratory Care Techniques III

LECTURE SYLLABUS
Fall SEMESTER 2016

INSTRUCTOR:	Ann Flint, EdD, RRT
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Outline of Instruction

Division:	Health Sciences	Area:	Respiratory Care
Course Number:	RES 120	Course Name:	Respiratory Care Techniques III
Prerequisite:	RES: 110: Respiratory Care Techniques II RES 114 Cardiopulmonary Pathophysiology I		
Credits:	6		

Course Description/Purpose

Mechanical ventilation topics are continued in this classroom and laboratory course. Topics presented include volume pre-set and pressure pre-set ventilator equipment and basic ventilator application and management techniques for adult patients.

Major Units

1. Review Of Mechanics And Physiology Of Ventilation
2. Introduction to Volume Control Ventilation.
3. Gas Exchange, Oxygenation And Ventilation
4. Introduction to Ventilator Management and Ventilator Initiation
5. Monitoring The Ventilator Patient
6. Basic Distending Pressure Therapy and Ventilator Discontinuance.
7. Introduction to Pressure Control Ventilation

Laboratory Assignments

1. Relationships Between P, V, T, and Flow in Basic Volume Control Ventilators
2. Control and Assist/Control Operational Modes and C_{LT} studies
3. Intermittent Mandatory Ventilation Mode
4. CPAP, PEEP, and other forms of Continuous Distending Pressure (CDP) Therapy
5. Pressure Cycled Modes of Ventilation
6. Pressure Limited Modes of Ventilation
7. Modes for Alleviating Work of Breathing via a Mechanical Ventilator
8. Introduction to Modern Adult Ventilator Scalar and Loop Graphics Interpretation
9. Transport Ventilator Management
10. Simulated ICU

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:

Performance

Each student will be expected to:

- Perform calculations including prediction of minute ventilation changes and FIO₂ changes needed to achieve desired ventilatory outcomes, calculations of compliance, resistance, and corrected tidal volumes, and demonstrate ventilatory changes that would achieve the desired outcomes for simulated ventilator patients **ADO7**
- Demonstrate mastery of concepts of patient and professional intercommunication skills while engaged in multiple patient scenarios in all lab practice activities. **ADO9**

Academic Honesty Policy: If I suspect you of academic dishonesty, I will follow JC's Academic Honesty Policy and take appropriate action up to and including assigning a **failing grade** for the paper, project, report, exam, or the course itself (whichever I deem necessary). To see the policy, visit: <https://www.jccmi.edu/wp-content/uploads/2015/11/1004.pdf> and <https://www.jccmi.edu/wp-content/uploads/2015/12/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).
4. **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.

Getting Extra Help: (Besides visiting me during office hours)

It can be very frustrating when you do not understand concepts and are unable to complete homework assignments. However, there are many resources available to help you with your 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, George Potter (Federer Room C)**. 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.

- **All lectures cancelled, regardless of reason, will be made up at a later time to be determined by course instructor.**

WEEKLY SCHEDULE

Lecture		Lab		Office hours	
Mon.	3- 5PM	Wed	9:30AM - 1:30PM	Mon	5-6 PM
Wed	2- 4PM	OR	4- 8PM	Tues	11-4 PM (during non-clinical weeks)
				Extra four hours by appointment and varied	

REFERENCE MATERIAL

Required Texts:

1. Pilbeam's Mechanical Ventilation, 5th ed., Cairo., Elsevier, 2012, ISBN 978-0-323-07207-6. (**Pilbeam**).
2. Egan's Fundamentals of Resp. Care, 10th ed., Kacmarek et. al., Elsevier, 2013, ISBN 978-0-323-08203-7. (**Egan**)
3. Equipment for Respiratory Care, 1st ed., Volsko, et. al., Jones and Bartlett, 2016, ISBN 978-1-4496-5283-8. (**Equip**)
4. Respiratory Care: Patient Assessment and Care Plan Development, 1st ed., Shelledy and Peters, Jones and Bartlett, 2016, ISBN 978-1-4496-7244-7. (**Shelledy**)
5. Clinical Manifestations and Assessment of Respiratory Disease, 6th ed., Des Jardins et. al., Elsevier, 2011, ISBN 978-0-323-05727-1. (**Des Jardins**)

Other/Optional Reference Sources (used by program faculty)

1. The Essentials of Respiratory Therapy, 4th ed., Kacmarek, et. al., Mosby, Inc., 2005. (**Kacmarek**).
2. Rau's Respiratory Care Pharmacology, 8th ed., Gardenhire, Elsevier, 2012, ISBN 978-0-323-07528-2. (**Rau**).

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 **Potter Center, Federer Room C** (796-8415). Accommodations may be provided depending on the disability.

Course points are derived from unit exams, a lab score, quizzes and assignments, 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 review questions from the previous term as well as 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.

Computerized quizzes for **Acid-Base Interpretation**, **Oxygenation Interpretation**, and all but C.O. & \dot{Q}_S/\dot{Q}_T in **Pulmonary Physiology Math** must be completed and turned in with 100% scores by the **12th week of the term**. Computerized **clinical simulations** must be completed with **passing scores** by the **14th week of the term**. Additional quizzes, as available, may also be assigned.

The system for evaluation will consist of:

Exams:	70%
Quizzes:	10%
Lab:	10%
Final:	10%

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) 796-8684. **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 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.

Computerized RT Quizzes:

1. ABG: Acid-Base Evaluation - **100%** score required.
2. ABG: PaO₂ Evaluation (Oxygenation) - **100%** score required.
3. Pulmonary Physiology Math - **100%** score required for all but \dot{Q}_S/\dot{Q}_T and C.O. calculations (these are extra credit).

ALL RT computer testing is mastery testing. A student may **repeat a test as many times as needed** until the student achieves a desired score. If multiple printouts are generated, only the **most recent** score need be turned in.

Students should also **successfully complete SEVEN computerized clinical simulation quizzes**. Details on this process and the list of patients to be done will be presented later.

GRADING

To pass RES 120 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

Students will be expected to complete an **evaluation of the course on-line** in JetNet at the conclusion of the semester.

SEMESTER READINGS

TOPIC	TEXT REFERENCES
#1 Review of Mechanics and Physiology of Ventilation	Pilbeam: Ch. 1.
#2 Introduction to Mechanical Ventilators	Pilbeam: Ch. 2, 3, 5.
#3 Gas Exchange, Oxygenation and Ventilation	Pilbeam: Ch. 10, 13.
#4 Introduction to Ventilator Management	Pilbeam: Ch. 4, 6, 7, 15.
#5 Monitoring the Ventilator Patient	Pilbeam: Ch. 8, 9, 12, 16, 17, 18.
#6 CDP and Ventilator Discontinuance	Pilbeam: Ch. 20.
#7 Pressure Control Ventilation	Pilbeam: Ch. 5, 19.

There are **seven required clinical simulations** to complete for this term. You can complete them in any order. They are:

		#	NJ Description
		2	60 YO Man with Wheezing, Hypoxemia
		4	28 YO Man in Respiratory Distress
		8	63 YO Man Found Unresponsive
		12	19 YO College Student Found Unconscious
		17	18-YO with Severe Asthma Exacerbation
		19	27 YO Male Trauma Patient
		20	68 YO Man Transitioning to Home Care