Northern Essex Community College
Division of Health Professions
MASTER SYLLABUS RSC102 Fundamentals of Respiratory Care II Spring 2017
Time and Location: Mondays: 1:00-2:50pm (LC216) and Wednesdays: 11:00am- 12:50pm (LC218)
Instructor: ***Professor Jennifer Jackson-Stevens, RRT, BA*** Office: ***LC 314***
Office Hours: ***Mondays 10:00am-11:00am, Fridays 9:00am-10:00am***
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COURSE DESCRIPTION: This course builds on the principles of basic respiratory care by presenting more complex diagnostic and therapeutic procedures. Course content includes pulmonary function testing, clinical laboratory data, airway management, and an introduction to mechanical ventilation.

Prerequisite: Anatomy & Physiology I (BIO121); Physiologic Chemistry (BIO115); Cardiopulmonary Physiology (RSC100); Fundamentals of Respiratory Care I (RSC101), Respiratory Modalities I (RSC111) and Clinical I (RSC191), all with a grade of C or higher.
Corequisite: Anatomy & Physiology II (BIO122), Respiratory Pharmacology (RSC103), Respiratory Modalities II (RSC112), Clinical II (RSC192), and Introduction to Respiratory Disease (RSC104).

Required Text(s): Egan's Fundamentals of Respiratory Care, 11th ed. (2017) Kacmarek, Stoller, and Heur. Elsevier, St. Louis, MO. ISBN-13:978-0-323-34136-3
Workbook for Egan's Fundamentals of Respiratory Care (Paperback) 11th ed. (2017) Sandra T. Hinski
ISBN: 978-0-323-35852-1

Critical Thinking: Cases in Respiratory Care (1998) Kathleen J. Wood . F.A. Davis Company, Philadelphia, PA. ISBN 0803601530

Recommended Texts/Journals/Resources:

Respiratory Care, the official journal of the American Association for Respiratory Care (AARC).
AARC Clinical Practice Guidelines

COURSE OUTCOMES:
Upon completion of this course, the student will:

1. Discuss hypoxia and hypoxemia, including the clinical considerations of each.
2. Describe the mechanism of carbon dioxide production and elimination.
3. Interpret arterial blood gases.
4. Discuss the Indications/Contraindications/Objectives of Bronchopulmonary Hygiene Therapy and apply the findings within the context of a case study.
5. Identify the significance of selected clinical laboratory studies.
6. Define respiratory failure.
7. Differentiate between acute and chronic respiratory failure (COPD).
8. Discuss the indications, contraindications, and monitoring of a patient who requires an artificial airway.
9. Define terms commonly used to describe ventilation.

10. Explain the physiology of ventilatory support.
11. Select initial ventilator settings and modes.
12. Discuss the monitoring and management of patients who require mechanical support of oxygenation and ventilation.
13. Discuss the indications, contraindications, initiation, and monitoring of non-invasive positive pressure ventilation.

Specific learning objectives for each unit of instruction are presented on the Detailed Content Outline.
Best use of these objectives: use the objectives on the Detailed Content Outline as the study guide for the exams.

TEACHING METHODS:
Teaching and learning methods included in this course may include any or all of the following: lecture, explanation; small group discussion; audio-visual learning aids, computer based projects, and case studies. This is a Web Companion course, which means that there will be traditional class meetings with supplemental web assignments.

POLICY REGARDING THE GIVING OR RECEIVING OF ASSISTANCE DURING EXAMINATIONS:
Each student is expected to complete each examination independently. Should the instructor have cause to suspect that any student is either giving or receiving assistance during an examination both the giver and the recipient of such assistance will have the examination removed immediately. Each student will then receive a grade of "0" for that examination.

POLICY ON ACCOMMODATIONS: If you require any accommodations, either with the presentation of course materials or with testing, please see me at your earliest convenience**.** In addition, if there is a student in this class who has needs because of a disability or is Deaf or Hard of Hearing, please feel free to come to discuss this with me and/or directly contact the appropriate office below:

"Please feel free to discuss this resource with me or contact the appropriate office below."

"Northern Essex Community College is committed to providing equal access to students with documented disabilities. To ensure equal access to this class (and your program) please contact the Learning Accommodations Center or Deaf and Hard of Hearing Services to engage in a confidential discussion about accommodations for the classroom and clinical/practicum settings. Accommodations are not provided retroactively. Students are encouraged to register with this office at the start of their program.

The Learning Accommodations Center serving students with documented disabilities, such as learning disabilities, attention deficit disorders, autism spectrum disorders, brain injuries, chronic illness, low vision/blind, physical disabilities, psychiatric disabilities and seizure disorders. Behrakis One-Stop Student Center SC111, call 978 556-3654, or email lacenter@necc.mass.edu.

Deaf and Hard of Hearing Services: Behrakis One-Stop Student Center SC110, call 978-241-7045 (VP/Voice), or email deafservices@necc.mass.edu."

- ***Students please note:*** *if you have been approved for testing accommodations through the Learning Accommodations Center, remember to discuss with instructor in advance.*

ACADEMIC ETHICS AND PLAGIARISM:
The college expects all students to maintain high standards of academic honesty and integrity. Plagiarism is clearly an example of a violation of academic ethics and is a major offense. Plagiarism is defined by the college to be the use of any other person's work or ideas as though the work or ideas were your own, without giving the appropriate credit. Instances of plagiarism will be dealt with first by the instructor who discovers or is made aware of the incident. There shall be a range of penalties at the discretion of the instructor, which may extend to a recommendation to the Dean of Students for expulsion from the college.

ATTENDANCE: It is extremely important that the student come to class, and be prepared to participate in all classroom activities. All assigned readings must be completed before class. If the student is absent, **it is his/her responsibility to obtain any material discussed and any assignments from classmates before the next class meeting.** Specific questions concerning the material should be addressed to the instructor during office hours; however, the office hours will not be used to present a missed class in its entirety. The College's administrative withdrawal policy will not be operationalized in this course; however, it is highly unlikely that the student will be successful in this course is s/he does not attend class regularly.

Attendance policy will be in accordance with the Respiratory Care Program Handbook. Students will receive a verbal warning after 2 absences, and upon the 3rd absence, the student will be in violation of the attendance policy.
Students will be allowed 2 unexcused absences.
An unexcused absence is defined as: any absence that is NOT accompanied by legal documentation (i.e. Doctor's note, Jury duty slip, etc.). NOTE: Documentation must be provided on the immediate class period following the absence in order for it to be deemed an "excused" absence.
NOTE: Violation of the Attendance Policy will warrant an "Action Plan" to be devised by the Instructor, and may result in the student being "NP'd" for non-participation.

Tardiness: Since lateness is disruptive to the learning process, if any student is late **3 times**, it will automatically count as **one unexcused absence**.

COURSE REQUIREMENTS:

C**ourse Evaluation:** In order to successfully complete this course the student must:

1. Attend class.
2. Abide by all College and program policies/procedures.
3. Demonstrate professional attitudes and conduct consistently.
4. Complete all assignments in a timely manner.

The final grade for this course is determined as follows:
Written Assignments: Each chapter in the textbook is accompanied by diagrams and problems in the ***Companion Workbook***. Students are expected to complete the chapter in the workbook that corresponds to the chapter in the textbook that is being discussed in class. These homework assignments will be collected at the **beginning** of the Exam from each unit. **No late homework will be accepted**.
Please note: all test questions and materials will be taken from the most recent edition. Students who do not have the current text version will be responsible for getting the material on their own.
Workbook homework material must be first generation from most recent edition. NO COPIED MATERIAL

WILL BE ACCEPTED.

Service Learning: What is Service Learning?
Service Learning: a teaching and learning strategy that incorporates meaningful service with our community partners, enhances the learning of course objectives, offers ongoing opportunities for reflection, and is reciprocal in nature.

The service in Service Learning directly relates to and enhances the learning of course objectives. According to the National Commission on Service Learning, service-learning is equally as valuable as community service (volunteering) but different in that service-learning is "a teaching and learning approach that integrates community service with academic study to enrich learning, teach civic responsibility, and strengthen communities."

Why Service Learning Benefits Students: Service Learning is a structured learning experience that combines community service with specific learning objectives, preparation, and reflection. Students involved in service-learning are expected not only to provide direct community service, but also to learn about the context in which the service is provided. This helps to make a connection between the service and their academic coursework and their roles as citizens.

Service Learning is a form of experiential education that:

- is developed, implemented and evaluated in collaboration with the community
- responds to community-identified concerns
- attempts to balance the service that is provided and the learning that takes place
- enhances the curriculum by extending learning beyond the classroom
- allows students to apply what they've learned to real-world situations
- provides opportunities for critical reflection

Quizzes: Announced quizzes covering current lecture material and reading assignments will be given at the **beginning of class every Monday.** No make-up quizzes will be given and the **lowest grade will be dropped.**

Examinations and Grades:

A.) During the semester there will be **4 major examinations.** These will be given in the lecture period. Only the 3 highest scores of the four exams will be used in determining your final grade. **The lowest score will not be counted.** For this reason, **No make-up exams will be given**. A missed exam will be counted as the lowest score.

B.) A cumulative final exam will be given during examination week, with the most emphasis being

on the final unit. The four scheduled exams, as well as the weekly quizzes, constitute the study guide for the final exam. The final exam grade **cannot be dropped.**

Approximate grading distribution:

Unit examinations (3 of 4)	45% (15% each)
Final Examination	30%
Service Learning Reflective Assignments /Homework Assignments	10%
Quizzes	15%
Total:	100%

COURSE SCHEDULE: Please see Detailed Content Outline (attached) for reading assignments, which are advised to be completed prior to the lecture series for each Unit.

WEEK/DATE	TOPIC	ASSIGNMENT
Unit 1: Weeks One and Two 1/18 1/23, 1/25	Artificial airways: Indications, contraindications, and monitoring Arterial blood gas interpretation	Egan's: Chapter 36 pp. 746- 783 (Start at "Establishing an Artificial Airway" and stop at "Bronchoscopy") Egan's Ch. 14 pp.290-307 Egan's Ch. 19 pp.369-376 Critical Thinking: Ch.1
Unit 2: Weeks Three Four and Five 1/30, 2/1 2/6, 2/8 2/13 (Review) **2/15 Exam #1**	Bronchopulmonary Hygiene	Egan's: Chapter 42 Chapter 43 Critical Thinking: Ch.7
Unit 3: Weeks Six, Seven and Eight 2/20 No School 2/22 (Ch.11) 2/27, 3/1 (Ch.12)	Mechanics of Ventilation Gas Exchange and Transport Carbon dioxide production and elimination Arterial blood gas interpretation Hypoxia and hypoxemia	Egan's: Chapter 11 Egan's: Chapter 12 Critical Thinking: Ch.3

3/6 (Review), **3/8Exam #2**		
SPRING BREAK: (Week Nine) **3/12- 3/18**		
Unit 4: Weeks Ten and Eleven 3/20 (Ch.17), 3/22 (Ch.44) 3/27 (Review), **3/29 Exam #3**	Interpretation of clinical laboratory data Respiratory failure and intubation • Acute • Chronic • Indications for mechanical ventilation • Invasive vs. noninvasive	Egan's: Chapter 17 Egan's: Chapter 44 Critical Thinking: Ch.4
Unit 5: Weeks Twelve and Thirteen 4/3 , 4/5 4/10 (Review), **4/12 Exam #4**	Noninvasive Positive Pressure Ventilation	Egan's: Chapter 49 Critical Thinking: Ch.5
Unit 6: Weeks Fourteen and Fifteen 4/17 No School, 4/19 4/24, 4/26	Mechanical ventilation • Positive pressure • Negative pressure	Egan's: Chapter 48 Critical Thinking: Ch.6
	Mechanical ventilation • Modes of ventilation • A/C; SIMV; CPAP/PS • Volume targeted ventilation: Selecting initial parameters Mechanical ventilation • Pressure targeted ventilation: Selecting initial parameters	
Week Sixteen: 5/1 "Wrap-up" and Review **5/3 (online)** 5/8 "Wrap-up" and Review (last day of classes) **5/9 Finals Begin: TBA**		