



RESP 114 Respiratory Physics/Medical Gas Therapy Section Name Section Credit Hours Credits Syllabus

Course Information

Meeting times and location: section meeting_times section location

Catalog description: This course introduces the basic concepts in the physics and the applications of gas laws in respiratory therapy. It discusses the physical characteristics of medical gasses, production, regulation, storage and distribution, and the therapeutic and diagnostic uses of oxygen. Minimum grade required: "C"

Prerequisites: Take MATH-1155(MATH-114), ENGL-1110(ENGL-111), BIOL-2110/2110L(BIOL-121), CHEM-1120/1120L(CHEM-110) Take RESP-110 and RESP-112

Terms offered: Fall Only

Section-specific Course Description:

Course Level Objectives

Program Learning Outcomes

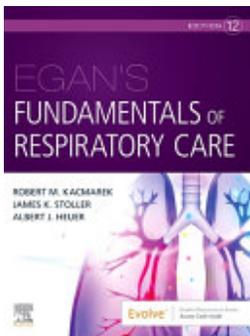
1. NBRC Pass Graduates will be prepared to take and pass the Registered Respiratory Therapist (RRT) Examination administered by the National Board for Respiratory Care (NBRC).
2. Clinical Competency Graduates demonstrate the ability to apply clinical skills and demonstrate clinical competency necessary to meet the needs of the patient and the community as performed by registered respiratory therapists.
3. Critical Thinking Skills Graduates demonstrate the ability to apply critical thinking skills consistent with the NBRC's "Recall, application and analysis" objectives for proficiency at the entry and advanced practitioner levels.
4. Patient Advocacy Graduates are proactive and espouse in the advocacy of patients.

5. Ethical and Professional Behavior Graduates demonstrates ethical and professional behavior that is consistent with professional and community expectations in both the clinical and nonclinical setting.
6. Communication Skills Graduates demonstrate effective skills in verbal and written communication as a healthcare professional.

Course Learning Outcomes

1. Analyze assessment data to prioritize patient care and provide patient education to prevent and treat pulmonary disease and disorders.
2. Discuss the importance and applications of gas physics in respiratory therapy.
3. Define and differentiate gas pressure, gas flow, and movement of gas molecules.
4. Integrate clinical research and evidence-based practice for informed decision-making in the provision of quality patient care.
5. Discuss and differentiate the different gas storage systems, station outlets, gas cylinders, and oxygen regulatory devices.
6. Employ leadership concepts to foster communication and collaboration within the interdisciplinary health care team.
7. Discuss the need for oxygen therapy and how to evaluate a patient's response.
8. Demonstrate the safe use of technology and information management systems.
9. Demonstrate the oxygen therapy procedure and how to check for proper function.
10. Compute the duration of flow for compressed and liquid gas therapy.

Required Texts and/or Materials



Egan's Fundamentals of Respiratory Care

9780323811217

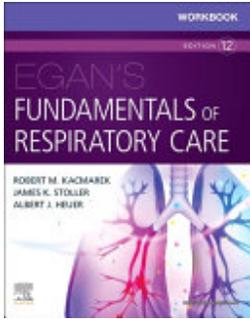
Robert M. Kacmarek, Robert M. Kacmarek, PhD, RRT, FAARC, James K. Stoller, James K. Stoller, MD, MS, Al Heuer

Mosby

2020-03-09

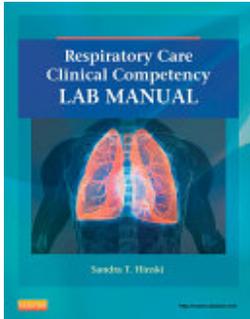
12

PLUS-- Elsevier Adaptive Quizzing for Respiratory Care (eCm) ISBN 9780323637794. This eAccess is required for online quizzing in ALL RT program courses. You can purchase an access key at www.evolve.com using the ISBN # as it is specific to our courses and program.



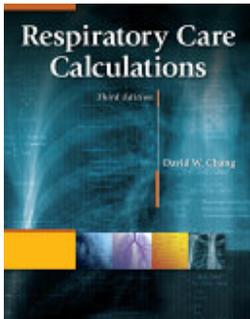
Workbook for Egan's Fundamentals of Respiratory Care

9780323553667
Robert M. Kacmarek
Mosby
2020-03-01
12



Respiratory Care Clinical Competency Lab Manual

978032310057
Sandra T Hinski
Elsevier Health Sciences
2014-09-05



Respiratory Care Calculations

13978111307349
David Chang
Nelson Education
2011-09-23

Required Technology and Software

- Canvas
- Chrome, Safari, or Firefox

Course Requirements

Students will do the following activities:

1. Discuss the importance and applications of gas physics in respiratory therapy.
2. Define and differentiate gas pressure, gas flow, and movement of gas molecules.

3. Discuss and differentiate the different gas storage systems, station outlets, gas cylinders, and oxygen regulatory devices.
4. Discuss the need for oxygen therapy and how to evaluate a patient's response.
5. Demonstrate the oxygen therapy procedure and how to check for proper function.
6. Compute the duration of flow for compressed and liquid gas therapy.

Other Classroom Policies and Expectations

Each student is personally accountable for all respiratory therapy program student responsibilities outlined in the SJC Respiratory Therapy Student Handbook, the SJC Student Handbook, the SJC Respiratory Therapy Student Clinical Practicum Guide as those outlined in the individual course guidelines.

Because each course builds on your foundation for future employment as a respiratory care practitioner, we expect professional behavior and attendance during all classroom sessions. The health care field has serious responsibilities and the need for the highest level of competence, integrity, professionalism, compassion, empathy, and respect in a healthcare provider. For the student to be successful in this course, please review the following guidelines.

For the WEEKLY Homework Assignment, please review the following details:

1. Review Chapters and complete the weekly assignment BEFORE you come to class. It is the student's responsibility to be prepared for every class session. Turn in the weekly homework assignment as directed in this online forum. To receive credit for completing your homework assignment, you must turn them in. You are responsible for turning in assignments on time.
2. Read the assigned chapters and any supplemental reading material provided. Each assignment is crucial to the student's performance and comprehension of course materials.
3. You may be quizzed at the start of each class meeting on the assigned reading, PowerPoint, or informational resources provided in the week's module.
4. PLEASE bring the required textbooks to class every day.
5. Please come to class prepared and ready to learn. Readiness to learn means that you will come to class with questions and insights and be prepared to discuss the relevance and application of course materials. This includes being actively engaged in group discussions and group activities.
6. ALL homework assignments must be completed to pass this course. This is not a course where you can skip an assignment because you are busy or don't feel like doing the assignment. Therefore if you miss a deadline, you will earn a "0" for the assignment, AND you will still be required to submit the assignment. If you have any assignments that are incomplete at the end of the semester, you will receive an "F" in the course.

7. If the student misses more than one homework assignment, the homework grade will be reduced by 1% for each missed or late assignment.
8. If NO assignment is turned in by the assignment deadline, you will receive a ZERO.
9. NO LATE HOMEWORK ASSIGNMENTS will be accepted for credit unless you have made PRIOR arrangements with your instructor.
10. If you are absent from class, you will receive a ZERO for the assignments that are due and any exams and/or quizzes assigned on the day of your absence, unless you have made PRIOR arrangements with your instructor.
11. The student is responsible for making arrangements for any make-up work, quizzes, and/or tests. In the case of an emergency, the student must return to the next class with an official note to explain the incident.
12. There will be competency check-offs on the procedures being reviewed in the course. The student must perform the procedures before the instructor with No Critical Errors Noted to pass the course satisfactorily.
13. Be aware that any student whose actions interfere with regular classroom activities or clinical could be subject to suspension or expulsion from the program. Any sign of rejecting, rude, disrespectful, derogatory, judgmental behaviors towards clients, classmates, agency, staff, and/or faculty is not tolerated and will be subject to suspension or expulsion.
14. The student must pass the midterm exam and the final exam with a minimum score of 75 % to pass the course. If the midterm or final exam grade is below the minimum of 75%, you will receive a grade of "D" or "F" in the course as determined by your instructor.

****Amendments and changes to the course guide are possible and may be altered if circumstances warrant.****

Grading

Final grades are calculated based on the following...

A = 93 % or higher

B = 83%–93%

C = 75%–83%

F = 74% or below.

Note: The student must pass the midterm exam and the final exam with a minimum score of 75 % to pass the course. If the midterm or final exam grade is below the minimum of 75%, you will receive a grade of "D" or "F" in the course as determined by your instructor.

Course Time Commitment

Students will need to read the chapters before attending class, which will allow the course to proceed smoothly. These will require students to read at least 2 hours or more of reading per week, plus 2 to 3 hours to be dedicated to studying, reviewing, and homework for this course. Students are expected to review this canvas course 2 to 3 times a week.

Canvas Participation and Expectations

Students are expected to review this canvas course 2 to 3 times a week. Also, students are required to participate in the class meeting and classroom activities. If you have any questions about the taught material, please contact the instructor or arrange a meeting with the instructor to discuss the questions.

Participation and Attendance Policy

Participation and Attendance Policy

Because this course builds on your foundation for future employment as a respiratory care practitioner we expect professional behavior and attendance. The healthcare field has serious responsibilities and the need for competency.

Attendance Policy: As is stated in the Respiratory Therapy Student Handbook-- The Individual instructors may require more stringent attendance requirements. Please read the following which outlines the Attendance requirements for this course.

- Punctual attendance at all scheduled classes and/or events is expected.
- Because of the course content, lab, and clinical experience, attendance is mandatory. All lab/clinical hours must be completed as scheduled. It is the responsibility of the student to notify the instructor regarding class/lab/clinical absence prior to the scheduled class/lab/clinical.

Absences: In the event of an absence, the student must communicate with the instructor before the scheduled class time.

- Two or more absences and/or three tardy/late arrivals will result in counseling with the instructor.
- More than 2 absences are defined as excessive and will result in a 10% reduction in final grade.
- In regards to tardiness (>10 min late) the final grade will be reduced 1% after the second tardiness and for each subsequent tardy.

- Leaving more than 15 minutes early without prior approval by the instructor will result in tardiness.
- Any absences over six may result in dismissal from the class.
- Three NO CALL/NO SHOW absences may result in immediate dismissal from the class.
- Individual instructors may require more stringent attendance requirements. Please read the appropriate course outlines.

Other Classroom Policies and Expectations

Face-to-Face – Students are expected to attend and participate in class regularly. Any student missing more than 10% of the consecutive class time, (For example, in a regular 15-week class that meets twice a week, this equates to the student missing 3 consecutive classes) without consultation with the instructor may be considered as having abandoned the course.

Online – Students are expected to participate regularly and submit all course assignments, based on the course guide definition. A student who does not submit any assignments during a consecutive 10% of the course (1.5 weeks of a 15 week semester) without consulting the instructor, may be considered as having abandoned the course. Logging in does not meet the attendance standard.

Competency-Based Education Classes – Students are expected to have regular and substantive interactions with their instructor and to actively work on course content. A student who has not submitted coursework, nor had substantive interactions with the instructor over a consecutive 10% of the term, without the instructor's prior approval, will be considered to have abandoned the competency progression. The last date of attendance will be recorded as the last date that coursework was submitted or that the student met with the instructor. For

on-line learners, logging in does not meet the attendance standard.

Cell Phones: All cell phones are to remain OFF or on the vibrate mode during class times, AND PUT AWAY. If you are expecting a phone call during class time you will need to inform the instructor before the class starts. This is a disruption to the class period and to your fellow students. Cell phones are NEVER to be answered in the classroom during class time and no texting, viewing Facebook, etc. during class time.

Use of electronic recording devices during classroom time: You must receive permission from the instructor to use electronic recording devices, the use of tape recorders and other recording devices will be at the instructor's discretion. Any information gleaned from class content is not to be posted on any social media website or other internet sources. Class information is intended for use by respiratory therapy students only.

Homework: Homework must be completed to receive credit. No homework = No Credit. Homework that is NOT received on the day it is due will receive a zero. NO EXCEPTIONS!!

Homework will be returned in a timely manner. Quiz/Exams will be returned in a timely manner.

Student Responsibilities: It is the student's responsibility to be prepared for each and every class session. Read the assigned chapters! You may be quizzed at the start of each class meeting on the assigned reading. Bring the required textbooks to class every day.

Please come to class prepared and ready to learn. Readiness to learn means that you will come to class with questions and insights and be prepared to discuss the relevance and application of course materials. Read the assigned homework material and complete the assignments before class. This includes being actively engaged in group discussions and group activities.

Canvas Participation Expectations

[Let students know how often you expect them to log into Canvas.]

Instructor Response Time

[Let students know what your typical response time is for phone calls and email and how long it typically takes to return work and enter grades in Canvas.]

Course Time Commitment

[Let students know how much time they should expect to spend each week on this course. The standard is 6-9 hours outside of class for a 3-credit face-to-face course and 9-12 hours per week for an online course.]

Instructor Response Times & Regular Interaction Expectations

Please allow up to 24 to 48 hours for response time.

Key Dates to Remember

[Full Academic Calendar](#)

Course Schedule

Mondays from 1 pm to 5 pm (Labs times will be 3p-5p)

Program Handbook

[RT Student Handbook](#)

[RT Student Clinical Practicum Guide](#)

Technical Support

Technical support is available through the San Juan College Help Desk 24/7/365. The help desk can be reached at 505-566-3266 or by creating a ticket at [San Juan College Help Desk](#).

For password reset and Canvas support, visit the [Student Technology Guide](#) website.

Accessibility/Privacy Policies for all Technology Tools Used

[Accessibility/Privacy Policies for all Technology Tools Used](#)

Student Support

At San Juan College, we are committed to supporting your academic success and overall well-being. We recognize that college life can be challenging and stressful, impacting both learning and personal health. We are here to help you succeed.

Academic Support and Resources

We provide a range of academic support services to help you stay on track on your educational journey. Free resources include tutoring, computer loans, life skills workshops, and so much more. Visit the [Academic Support and Resources](#) webpage to learn more about support and resources available through Academic Advising, the Tutoring Center, the Student Resource Center (formerly Student Achievement Center) and the Testing Center.

Student Support and Resources

If you or someone you know could benefit from counseling, accessibility services, career exploration, veteran transitional assistance, or any of our other support services, visit the [Student Support and Resources](#) webpage where you'll find detailed information about various resources available to you as an SJC student.

We encourage you to take advantage of these free resources to enhance your college experience and ensure your success.

College Policies and Resources for Current Students

The [Student Handbook](#) provides information on student support, student organizations, and student conduct policies at San Juan College.

The San Juan College catalog outlines the [Academic Policies](#) students need to know.

Healthy and Safe Practices for Being on Campus

We want a healthy and safe campus for students, faculty, staff, and guests.

Contagious diseases and your responsibility:

If you have COVID-19 symptoms, fever, flu or even the common cold, you should stay home. Do not come to campus if you are feeling sick. Contact your instructor about missing class (and review your instructor's policies on missed or late work). Being sick does not necessarily excuse you from completing your work on time.

Safety on campus and your responsibility:

If you are on campus and experience or witness an emergency, call 9-1-1 first and then the Department of Public Safety at 505-566-3333 (or just 3333 if calling from a campus phone).

When you are on campus, be aware of your surroundings. If you need an escort to your vehicle, call 505-566-4444 (DPS non-emergency line) or 505-215-3091 (officer on duty line).

The College will send information for campus emergencies through SJC AlertAware, email and the webpage. Stay informed and stay safe.

Inclement Weather Information

Students will receive notification of class delays and cancellations due to inclement weather via the SJC AlertAware and SJC student email. Face-to-face classes will not meet in person; however, students are advised to check with instructors about alternative meeting options, as some may choose to meet via zoom. Hybrid classes will meet as scheduled via zoom. For questions regarding your class delay or cancelation, please contact your instructor.

Online Course Fee

Online Courses - San Juan College requires all online courses to include some form of assessment to demonstrate the mastery of course objectives. This could include exams, capstone projects, e-portfolios, presentations, final papers or other appropriate assessments. The use of a proctoring platform, plagiarism detection software or other method to ensure that assessments are completed by the enrolled student is required.

A course fee of \$5.00 is assessed for all online courses at San Juan College to cover the cost of the above services. Students who are required to take a proctored exam and choose to use a physical testing center outside the SJC Testing Center or SJC Disability Services will be responsible for the cost of using that center.