



North Central State College

MASTER SYLLABUS

2025-2026

- A. Academic Division: Health Sciences
- B. Discipline: Respiratory Care
- C. Course Number and Title: RESP2410 Respiratory Care Equipment/Procedures IV
- D. Assistant Dean: Heidi Kreglow, PT
- E. Credit Hours: 3
Lecture: 2 hours
Laboratory: 3 hours
- F. Prerequisites: RESP2310, RESP2390
Co-requisite(s): RESP2450, RESP2470, RESP2490
- G. Last Course/Curriculum Revision Date: Fall 2023 Origin date: 12/22/2010
- H. Textbook(s) Title:
Ruppels Manual of Pulmonary Function Testing
 - Author: Mottram, Carl
 - Copyright Year: 2017
 - Edition: 11th
 - ISBN #: 9780323811217*Egan's Fundamentals of Respiratory Care*
 - Authors: Kacmarek, Stoller, and Heuer
 - Copyright Year: 2024
 - Edition: 13th
 - ISBN #: 9780323931991
- I. Workbook(s) and/or Lab Manual: None
- J. Course Description: In this course, students will learn about advanced pulmonary function testing techniques and equipment, electrocardiograms, breathing exercises, pulmonary and cardiac exercise testing, bronchoscopy, polysomnography, indirect calorimetry, pulmonary rehabilitation, and home care.

K. College-Wide Learning Outcomes:

| College-Wide Learning Outcome | Assessments - - How it is met & When it is met |
|--|---|
| Communication – Written | Report Paper on Pulmonary Rehabilitation Communication Written VALUE Rubric Week 12 |
| Communication – Speech | |
| Intercultural Knowledge and Competence | |
| Critical Thinking | |
| Information Literacy | Class presentations on Pulmonary Rehabilitation and Home Care, completed week 10 & 12 Information – Literacy VALUE Rubric |
| Quantitative Literacy | |

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

| Outcomes | Assessments – How it is met & When it is met |
|---|--|
| 1. Interpret the results of the following: a. Cardiology Testing: Electrocardiography, Holter Monitoring, Stress Testing b. Pulmonary Testing: Six Minute Walk Test, Metabolic Assessment, Stress Testing, Adult Sleep Studies c. Pulmonary Function Testing: Spirometry, Methacholine Challenge, Nitrogen Washout/Helium Dilution, Diffusion Study, Plethysmography, Pulmonary Function Test Quality Assurance | Procedure Check-offs weeks 2, 4, 6, & 14 |
| 2. Act as an Assistant to the Physician Performing Special Procedure including: a. Pulmonary Testing: Bronchoscopy Assisting, Metabolic Assessment, Stress Testing, Holter Monitoring b. Endotracheal Tube/Tracheostomy Care: Securing Artificial Airway, Tracheostomy Care, Cuff Management, Heat/Moisture Exchanger, Intubation, Extubation c. Cardiology Testing: Holter monitoring, Cardiac Stress Testing d. | Examination Week 8 lab check-off weeks 2, 4, 6, 8, 10, 12, 14, 16 |
| 3. Prescribe pulmonary rehabilitation and home care explain planned therapy and goals to patient in understandable terms to achieve optimal therapeutic outcome. Explain and assess patient and family need for disease management and smoking cessation. Summarize the Medicare laws pertaining to Home Care | Project portfolio, Rubric week 14 Examination week 8 |

| Outcomes | Assessments – How it is met & When it is met |
|--|--|
| 4. Perform procedures including: <ul style="list-style-type: none"> a. Cardiology Testing: Electrocardiography, Holter Monitoring, Cardia Stress Testing b. Endotracheal/Tracheostomy Care: Tracheostomy Care, Tracheal Suctioning c. Pulmonary Function Testing: Spirometry, Methacholine Challenge, Nitrogen Washout/Helium Dilution, Diffusion Study, Plethysmography, Pulmonary Function Test Quality Assurance | Laboratory Check-offs weeks 2, 4, 12 Examination week 8 |

M. Recommended Grading Scale:

| NUMERIC | GRADE | POINTS | DEFINITION |
|---------|-------|--------|---------------|
| 93–100 | A | 4.00 | Superior |
| 90–92 | A- | 3.67 | Superior |
| 87–89 | B+ | 3.33 | Above Average |
| 83–86 | B | 3.00 | Above Average |
| 80–82 | B- | 2.67 | Above Average |
| 77–79 | C+ | 2.33 | Average |
| 73–76 | C | 2.00 | Average |
| 70–72 | C- | 1.67 | Below Average |
| 67–69 | D+ | 1.33 | Below Average |
| 63–66 | D | 1.00 | Below Average |
| 60–62 | D- | 0.67 | Poor |
| 00–59 | F | 0.00 | Failure |

N. College Procedures/Policies:

North Central State College believes that every student is a valued and equal member of the community.* Every student brings different experiences to the College, and all are important in enriching academic life and developing greater understanding and appreciation of one another. Therefore, NC State College creates an inclusive culture in which students feel comfortable sharing their experiences. Discrimination and prejudice have no place on the campus, and the College takes any complaint in this regard seriously. Students encountering aspects of the instruction that result in barriers to their sense of being included and respected should contact the instructor, assistant dean, or dean without fear of reprisal.

* *Inclusive of race, color, religion, gender, gender identity or expression, national origin (ancestry), military status (past, present or future), disability, age (40 years or older), status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, genetic information, or sexual orientation*

Important information regarding College Procedures and Policies can be found on the [syllabus supplement](#) located at

<http://catalog.ncstatecollege.edu/mime/download.pdf?catoid=5&ftype=2&foid=3>



North Central State College
SYLLABUS ADDENDUM

Academic Division: Health Sciences **Discipline:** Respiratory Care
Course Coordinator: Randee Frangella
Course Number: RESP 2410-01 **Course Title:** Respiratory Care Equipment & Procedures IV
Semester / Session: Fall 2025 **Start / End Date:** 08/11/2025 thru 12/12/2025

Instructor Information

Name: Randee Frangella **Credentials:** BSRT, RRT/RCP
Phone Number: 419-755-4849 **E-Mail Address:** rfrangella@ncstatecollege.edu
Office Location: HS-324 **Office Hours:** Monday 9-12 & Thursday 9-11

I. Topical Timeline / Course Calendar (Subject to Change):

| Weeks | Topics | Assignment | Due Date |
|-------|---|---|----------|
| 1 | Introduction to Course, EKG review | Egan's Workbook, Ch 18 | 8/18/25 |
| 2 | OR sterile procedure, A-line sampling, ABG review | ABG worksheet Quiz 1 | 8/25/25 |
| 3 | Tracheostomy care, humidification | Egan's Workbook, Ch 36 Quiz 2 | 9/1/25 |
| 4 | Breathing exercises, 6-minute walk | Quiz 3 | |
| 5 | Bronchoscopy | Egan's Workbook, Ch 33 Bronchoscopy worksheet | 9/8/25 |
| 6 | Sleep assessment, CPAP/BIPAP | Egan's Workbook, Ch 33 Sleep worksheet Quiz 5 Community service project proposal | 9/15/25 |
| 7 | Midterm review | | |
| 8 | Midterm exam | | |
| 9 | Alternative care settings, patient education | Egan's Workbook, Ch 55 & 57 | 10/20/25 |
| 10 | Pulmonary rehabilitation | Egan's Workbook, Ch 56 Quiz 6 | 10/27/25 |
| 11 | Pulmonary rehabilitation projects presentations | | |
| 12 | Pulmonary function testing | Egan's Workbook, Ch 20, pulmonary rehabilitation summary | 11/10/25 |
| 13 | No class, veteran's day | | |
| 14 | Pulmonary function testing | PFT worksheet | 11/24/25 |
| 15 | Cardiopulmonary stress testing | Stress testing worksheet Community service project | 12/1/25 |
| 16 | Final review | | |
| 17 | Final exam | | |

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II. Grading and Testing Guidelines:

Final Grade Calculation

| Activity | Qty | Points | Percentage |
|-------------------------|-----|--------|------------|
| Special Projects | 3 | 120 | |
| Worksheets and workbook | 15 | 360 | |
| Exams and Quiz | 6 | 408 | |
| Attendance | 1 | 100 | |
| Lab assignments | | | |

III. Examination Policy:

- The reasons for which a student will be excused from taking an examination
 - Hospitalization (with documented verification)
 - Death in the immediate family (with documented verification)
 - Personal illness or illness in immediate family - (doctor's excuse required).
- Exams will be scheduled and taken in person. If you cannot attend your scheduled exam time, you must notify me prior to the exam so that accommodations can be made. Failure to do so will result in an automatic 10% deduction of the exam grade. Make-up exams MUST be taken within one week of original exam date.
- Exams will be scheduled and taken in person. If you cannot attend your scheduled exam time, you must notify me prior to the exam so that accommodations can be made. Failure to do so will result in an automatic 10% deduction of the exam grade. Make-up exams MUST be taken within one week of original exam date.

IV. Class Attendance and Homework Make-Up Policy:

- Attendance to all lecture sessions and lab sessions are mandatory as understanding of the topics covered are essential to your success this semester in class and next semester in clinical.
- Attendance will be counted for students who are present for the duration of the session and who participate in discussions/answer questions. If special accommodations must be made, the student must contact the instructor at least 30 minutes before the class is scheduled to begin.
- Homework is due by the date/time posted in Canvas. Assignments that cannot be submitted by the posted due date will be accepted for 3 calendar days following the due date with a 20% reduction in grade earned. Following the 3-day grace period, work submitted late will receive 0 points.
- Students who do not attend classes may be administratively withdrawn from those classes. However, failure to attend classes does not constitute withdrawal, and students are expected to process a formal withdrawal through the Student Records Office.

V. Classroom Expectations:

- All students are expected to conduct themselves in a professional and respectful manner with any interaction between student and staff/instructor. This applies to interaction in the classroom, lab, clinical, and online environment as well as your interactions outside of a formal setting while performing work and discussions