



North Central State College

MASTER SYLLABUS

2026-2027

- A. Academic Division: Health Sciences
- B. Discipline: Respiratory Care
- C. Course Number and Title: RESP1140 Pharmacology
- D. Assistant Dean: Dr. Jason Tucker, Ph.D.
- E. Credit Hours: 2
- F. Prerequisites: MATH0074 (minimum grade of C- required) or COMPASS math score of ≥ 61 and algebra score of ≥ 31 or ACT Math score of ≥ 21

Co-requisite(s): RESP1110, CHEM1030

- G. Last Course/Curriculum Revision Date: Spring 2025 Origin date: 1/13/2016

- H. Textbook(s) Title:

Principals of Pharmacology for Respiratory Care

- Author: Georgine Bills; Christina Rose
- Copyright Year: 2019
- Edition: 3rd
- ISBN: 9781284139792

References: Anatomy and Physiology Text and Selected Handouts

- I. Workbook(s) and/or Lab Manual: None
- J. Course Description: This course is a study of those drugs directly and indirectly affecting therapeutic management of cardiopulmonary patients and includes pharmacologic principles, administration of drugs, drug mixing calculations, and major cardiopulmonary drug therapy used by the respiratory therapy technician and therapist. Additional systemically administered drugs are discussed in reference to their effect on the cardiopulmonary system. In order to successfully complete the course, the student will be required to pass a written examination (Drug Proficiency Exam) on Respiratory Care pharmacologic agents with a 77%.
- K. College-Wide Learning Outcomes:

College-Wide Learning Outcome	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	Master Drug List, Drug Flash Cards during first half of the term. 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. Recommend modification in the respiratory care plan based on the patient's response to respiratory care pharmacological agents a. The student will be able to identify adverse reactions of aerosolized respiratory care, (sympathomimetic, anticholinergic, mucolytic agents, corticosteroids, surface acting agents, anti-infective, and anti-asthmatic) agents	Case study, group discussion week 4-14. Quiz week 1-15 on specific drug category. Drug Proficiency Exam week 10, Final week 16
2. Modify treatment techniques independently based on patient's responses to respiratory care pharmacological agents a. Calculate drug dosages from prepared -strength liquids, unit dose vials, tablets, capsules, and percentage strength solutions	Case study, group discussion week 4-14 Drug Calculation Homework assignment week 2
3. Determine the appropriateness of the prescribed respiratory care plan and recommend modifications when indicated a. Identify aerosol delivery modalities and describe factors affecting the administration of aerosolized medications b. Describe the pharmacodynamics, indication, precautions, contraindication, and drug compatibility of all aerosolized respiratory care pharmacological agents c. List indications and use of specialized inhaled gases, cardiovascular agents, and neuromuscular blocking agents d. Know the manufacturer's recommended adult dosages of respiratory care pharmacological agents	Case study with group discussion, weeks 4-14 Quiz week 1-15 on specific drug category, Drug proficiency Exam week 10, final Exam week 16
4. Complete successfully (77%), a written examination documenting competency of all respiratory care pharmacological agents to include, adult dosage, trade name, generic name, adverse reactions, contraindications, precautions, drug compatibility and drug calculations	Drug Proficiency Exam week 10

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	Average
67–69	D+	1.33	Below Average
63–66	D	1.00	Below Average
60–62	D-	0.67	Below Average
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

<https://ncstatecollege.edu/documents/President/PoliciesProcedures/PolicyManual/Final%20PDFs/14-081b.pdf>



North Central State College
SYLLABUS ADDENDUM

Academic Division:	Health Sciences	Discipline:	Respiratory Care
Course Coordinator:	Randee Frangella		
Course Number:	RESP 1140-01	Course Title:	Pharmacology
Semester / Session:	Fall 2026	Start / End Date:	08/17/2026 – 12/11/2026

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:	Tuesday 11:30 – 1:30 & Thursday 9 to 12

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

Weeks	Topics	Assignment	Due Date
1	Introduction to Pharmacology	Read Ch 1, 2, & 3	
2	Ch1- Introduction to Medication information, drug development, and drug regulation Ch2- General pharmacology concepts Ch3- Introduction to the pharmacology of the autonomic nervous system		08/24
3	Review ch 1-3	Read Ch 4 Quiz Ch 1 & 2	08/31
4	Ch4- Drug calculations and problem solving	Read Ch 5 Quiz Ch 3 Quiz Common Abbreviations	09/07
5	Ch5- Administration of aerosolized and instilled medications	Drug calculation review/practice homework	09/14
6	Review for exam #1	Read Ch 6	09/21
7	Ch6- Bronchodilator therapy	Drug cards due, read Ch7 Exam #1	09/28
8	Ch7- Anti-inflammatory Drugs	Read Ch 8 & 9	10/05
9	Ch8- Mucolytics and wetting agents Ch9- Surfactants	Read Ch 10 & 11	10/19
10	Ch10- Aerosolized antimicrobial therapy Ch11- Agents used in special procedures and pulmonary importance	Study for drug proficiency review	10/26
11	Drug proficiency review	Quiz Ch 10 & 11	11/02
12	Drug proficiency exam	Read Ch 12	11/09
13	Ch12- Critical care and advanced cardiac life support pharmacology		11/09
14	Ch13- Cardiovascular and renal pharmacology Ch14- Pharmacology of the CNS	Read Ch 13 & 14	11/16
15	Ch15- Endocrine system Ch16- Antimicrobial pharmacology	Quiz Ch 12, 13, & 14	11/23
16	Online final exam		12/08

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Course Title: Pharmacology
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II. Grading and Testing Guidelines:

Final Grade Calculation

Activity	Qty	Points	Percentage
Quizzes, homework, & Drug Cards	22	422	25%
Drug Proficiency Exam (second attempt if necessary, 93 points averaged with 1 st attempt	1	97	25%
Exam #1, Attendance	2	156	25%
Final Exam	1	78	25%

III. Examination Policy:

1. The reasons for which a student will be excused from taking an examination
 - a. Hospitalization (with documented verification)
 - b. Death in the immediate family (with documented verification)
 - c. Personal illness or illness in immediate family - (doctor's excuse required).
2. Each student will have 2 attempts at passing the Drug Proficiency Exam. Material evaluated for this examination is specific to respiratory therapy and is imperative for the student to understand the content: therefore, if you do not achieve a score of 77% on this midterm after 2 attempts you will receive a 0% for this exam and fail the class.
3. Each student will be expected on time on exam days. If you are not able to attend, I must have prior notification and arrangements will be made with the testing center. If I am not notified prior to the exam, an automatic 10% will be deducted from your final score. All make up exams must be made up within one week of the scheduled exam date.
4. Quizzes will be taken online prior to the next week's class, if quiz is not completed by due date a 0 will be given for the quiz. Quizzes will be timed and only one attempt will be available

IV. Class Attendance and Homework Make-Up Policy:

Attendance to all lecture 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, 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