



## **COLLEGE OF HEALTH SCIENCES RESPIRATORY CARE PROGRAM COURSE SYLLABUS**

### **COURSE TITLE**

Respiratory Pharmacology

### **COURSE NUMBER**

RESP 3523

### **COURSE DESCRIPTION**

The focus of this lecture class is a comprehensive review of the major medications used to: promote bronchodilation and pulmonary hygiene, control airway inflammation, affect skeletal muscle tone and central nervous system activity, and support the failing cardiovascular system.

### **WEEKLY MEETING PATTERN**

Tuesday/Thursday 08:00-10:20 a.m. Centennial Hall 334

### **ATTENDANCE**

Regular class attendance is required. No distinction is made between excused and unexcused absences unless the absence has been cleared through the office of the Dean of Students, Athletic Department or Academic Affairs. If a student misses a lecture, it is the student's responsibility to work with other class members to determine what material was missed. Please refer to the MSU Student Handbook for more information.

### **COURSE INSTRUCTOR**

Mary Sue Owen MS, RRT-NPS, RRT-ACCS, RPFT, AE-C  
Office: 397-4654  
Mary.owen@msutexas.edu

### **OFFICE HOURS**

Office hours available by appointment.

### **AUDIENCE**

Junior Respiratory Care Students

### **OBJECTIVES**

1. Students can identify the principles of drug action
2. When presented with an order for aerosolized medication delivery the student can select the appropriate methodology for delivery of the medication.
3. Student can correctly calculate drug dosages based on commonly prescribed respiratory care medications.
4. The student will correctly identify adrenergic bronchodilators and list mechanism of action,

- indications, side effects and hazards.
5. The student will correctly identify anticholinergic medications and list mechanisms of action, indications, side effects and hazards.
  6. The student will correctly identify methylxanthine drugs and list mechanisms of action, indications, side effects and hazards.
  7. The student will explain the proper use of mucous controlling drugs, list mechanisms of action side effects and hazards.
  8. The student will explain the proper use of steroidal and non-steroidal drugs, list mechanisms of action side effects and hazards.
  9. The student will explain the proper use of anti-infective and anti-microbial drugs, list mechanisms of action side effects and hazards.
  10. The student will explain the proper use of skeletal muscle relaxants, list mechanisms of action side effects and hazards.
  11. The student will correctly identify cardio-vascular drugs, list mechanisms of action side effects and hazards.
  12. The student will correctly identify diuretic drugs, list mechanisms of action side effects and hazards.
  13. The student will correctly identify drugs affecting the central nervous system, list mechanisms of action side effects and hazards.
  14. Students can identify medications commonly used with patients suffering from asthma, COPD, pneumonia and congestive heart failure.

## LEARNING RESOURCES

### REQUIRED TEXTS

1. Rau, Joseph L., Jr. Respiratory Care Pharmacology, 11th Ed., Mosby 2024.

## GRADED ITEMS AND GRADE DETERMINATION

### Drug Card File

Each student will put together a 4x6 card file. The card file will be divided into the following sections;

Index card at the beginning, listing all categories and drug names

- A. Sympathomimetic **Bronchodilators**
- B. Parasympatholytic **Bronchodilators**
- C. Xanthines
- D. Mucus Controlling Agents
- E. Surfactant Agents
- F. Anti-inflammatory Agents
- G. Anti-asthmatic Agents
- H. Anti-infective Agents
- I. Neuromuscular Blocking Agents
- J. Sedatives and Hypnotics
- K. Cardiovascular Agents
- L. Diuretics.

Each section is to be clearly identifiable. Within each section place a card that contains the following information: Trade Name, Generic or Official Name, Mechanism of Action, Indications, and Precautions. Your name must be on each card: Use one card per drug. You must have at minimum 25 drug cards and **at least one for each section**. an **In the very front you need to**

**include an Index.** The index should list the drugs in each section. The Drug Card File is due by September 26th, **2024.**

### Case analysis in pharmacology

Each student will put together a portfolio of the following cases selected from clinical experience.

Asthma – COPD – Pneumonia - Congestive Heart Failure

The cases will be organized as follows:

- A. Patient data – Age, gender, diagnosis
- B. Medication list – list of all medications ordered on the patient
- C. Classification of medications – antibiotic, bronchodilator, etc.
- D. Indications – for each medication ordered
- E. Mode of action – for each medication ordered
- F. Possible side effects \_ for each medication ordered

Each section is to be clearly identifiable for each case. Submit assignment with a cover-sheet and neatly typed or word-processed. The assignment is due on or before

**November 23, 2024.**

### **LECTURE EXAMINATIONS**

There will be six in-depth lecture examinations. These examinations may consist of multiple choice, short answer, definitions, listing, true/false, and/or essay.

### **GRADE DETERMINATION**

Lecture examinations (7)	55%
Drug card file	10%
Final Exam	20%
Top Hat	5%
Case Analysis	10%

### **MISSED EXAM POLICY**

If a student is going to miss an examination/assignment, it is the student's responsibility to contact the instructor prior to the exam to arrange with the instructor to make up the missed exam. A 15% reduction will be taken for each day after the scheduled exam/due date. The professor reserves the right to make unscheduled exams essay in nature and considerably more challenging.

### **APPROXIMATE GRADING SCALE**

90-100%	A
80-89%	B
75-79%	C
61-74%	D
<60%	F

**\*\*A minimum grade of 75 (C) is required in all respiratory courses. Failure to attain a minimum of a C will prevent the student from progressing in the program.**

### **CONCEALED CARRY LAW**

Senate Bill 11 passed by the 84<sup>th</sup> Texas Legislature allows licensed handgun holders to carry concealed handguns on campus. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to the University's webpage at [\*\*campus carry policies\*\*](#).

## LECTURE AND EXAM SCHEDULE 2023

DATE	TOPIC	TEXT ASSIGNMENT
Aug. 27	Orientation and Intro /principles of drug action	Chapters 1, 2, 3
Aug. 29	Administration/Calculating Drug Dosages	Chapter 3 & 4
Sept. 3	<b>Exam 1/</b> Nervous System/adrenergic bronchodilators	Chapter 5 & 6
Sept. 5	Anticholinergics/Xanthines Mucus controlling drug therapy	Chap 7,8, &9
Sept. 10	<b>Exam 2</b>	
Sept. 12	Surfactant agents, Corticosteroids Nonsteroidal antiasthma agents/biologics	Chapter 10, 11,12
Sept 17	<b>Exam 3</b>	
Sept 19	Aerosolized anti-infective, antimicrobials <b>Work on Drug cards</b>	Chapter 13 & 14
Sept 24	<b>Exam 4</b>	
Sept 26	Cough and Cold Agents/ Agents of Pulmonary Value Neonatal/Pedi Aerosolized drugs <b>Drug card files due</b>	Chapter 15,16, &17
Oct 29	<b>Exam 5</b>	
Oct 31	Skeletal Muscle Relaxants/Diuretics/Drugs Affecting CNS	Chapter 18,19, &20
Nov 5	<b>Exam 6</b>	
Nov 7	Cardiac Drugs <b>Case Analysis Due November 23rd</b>	Chapter 21
Nov 26	Circulation	Chapter 22

Dec 3                      **Exam 7/Final Review**

Dec 5                      Case Studies for Clinic

Dec 12                    **Finals 09:00**

Top Hat

We will be using the Top Hat ( [www.tophat.com](http://www.tophat.com) ) classroom response system in class. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. Additionally, we will be using the custom-built interactive material within Top Hat for this class. An email invitation will be sent to you by email closer to the first day of class, but if don't receive this email, you can register by simply visiting our course website: <https://app.tophat.com/e/326800>

Note: our Course Join Code is 326800. Top Hat will require a paid subscription, and a full breakdown of all subscription options available can be found here: [www.tophat.com/pricing](http://www.tophat.com/pricing) .Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email ( [support@tophat.com](mailto:support@tophat.com) ),the in-app support button, or by calling 1-888-663-5491.