



INSTRUCTOR CONTACT INFORMATION

Instructor: Stacy Taylor
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Office Phone: 409-247-5248
Office Location: Gateway Room 106
Office Hours: Posted on Door

CREDIT

2 Semester Credit Hours (2 hours lecture, 1 hours lab)

MODE OF INSTRUCTION

Face to Face

PREREQUISITE/CO-REQUISITE:

Pre-requisites: BIOL 2301, BIOL 2101, BIOL 2302, BIOL 2102, MATH 1332

Co-requisites: RSPT 1201

COURSE DESCRIPTION

A study of basic pharmacological principles/practices of cardiopulmonary drugs. Emphasis on classification, routes of administration, dosages/calculations, and physiological interaction.

COURSE OBJECTIVES

Upon completion of this course, the student will be able to
Explain the mode of action, clinical indications, dosages, hazards, and side effects of cardiopulmonary drugs; calculate drug dosages; and select optimal drugs used in the practice of respiratory care.

The student will be able to:

1. Select appropriate medication and dosage to produce a desired patient outcome
2. Identify indications/ hazards/side effects for various cardiopulmonary medication
3. Calculate proper drug dosage for various cardiopulmonary medications
4. Identify/select/modify delivery device for various cardiopulmonary medications

Course Outline

Approved 11/2009

Updated 09/22

- I. Pharmacologic Principles
 - A. Basic terms
 - B. Interpreting drug information
 - C. Indications and usage
 - D. Contraindications
 - E. Drug interactions
 - F. Drug reactions
 - G. Dosage and administration
 - H. Routes of administration
 - I. Pharmacokinetics
 - J. Pharmacokinetics
 - K. Prescription orders
- II. Metric system and drug dosage calculations
 - A. Systems of measurements
 - B. Drug dosage calculations
- III. The Pharmacology of the Autonomic Nervous System
 - A. Nervous system divisions
 - B. Parasympathmimetics
 - C. Parasympatholytics
 - D. Sympathomimetics
 - E. Sympatolytics
- IV. Bronchodilators
 - A. Bronchoconstriction/bronchospasms
 - B. Neural control of smooth muscle
 - C. Sympathetic nervous system
 - D. Parasympathetic nervous system
 - E. Mechanism of action
 - F. Side effects
 - G. Classification of drugs by action/ duration
 - H. Sympathomimetics
 - 1. Generic and trade names
 - 2. Dosage and frequency
 - 3. Duration of action
 - I. Parasympatholytics
 - 1. Generic and trade names
 - 2. Dosage and frequency
 - 3. Duration of action
 - J. Xanthines
 - 1. Generic and trade names
 - 2. Dosage and frequency
 - 3. Duration of action
 - 4. Therapeutic levels
- V. The Mucokinetic and Surfactants
 - A. The mucociliary system
 - B. Structure and composition
 - C. Agents
 - 1. Bland aerosols
 - a. Solution %

- b. Response
 - 2. Mucolytics
 - a. Generic and trade names
 - b. Dosage and frequency
 - c. Actions
 - 3. Surface active agents
 - a. Function
 - b. Indications
 - c. Generic and trade names
 - d. Dosage and frequency
 - e. Delivery
- VI. The Anti-inflammatory and antiasthmatic agents
 - A. Inflammatory process
 - B. Physiology
 - C. Routes of administration
 - D. Corticosteroids
 - 1. Generic and trade names
 - 2. Dosage and frequency
 - 3. Actions
 - E. Antiasthmatics
 - 1. Generic and trade names
 - 2. Dosage and frequency
 - 3. Actions
 - F. Leukotriene Modifiers
 - 1. Actions
 - 2. Generic and trade names
 - 3. Dosage and frequency
 - G. Upper airway edema
 - 1. Drugs used to treat
- VII. Infectious Respiratory Disease
 - A. Bacteriostatic vs. Bactericidal
 - B. Upper vs lower airway infections
 - C. Antivirals
 - 1. Influenza
 - 2. Respiratory Syncytial
 - D. Antibacterial
 - E. Antifungal
 - F. Antiprotozian
- VIII. Cardiac agents
 - A. Drugs used to treat
 - 1. Arrhythmias
 - 2. Heart failure
 - 3. Shock
 - 4. Angina
 - 5. Hypertension
 - 6. Hypotension
 - 7. Coagulation
- IX. Neuromuscular agents

- A. Nerve transmission
- B. Blocking drugs
 - 1. Depolarizing
 - 2. Non depolarizing
- C. Muscle relaxants
- D. Sedatives
- E. Stimulants
- F. Analgesics
- X. Medical gases
 - A. Uses of
 - B. Oxygen
 - C. Carbon dioxide
 - D. Helium
 - E. Nitric Oxide

REQUIRED TEXTBOOK AND MATERIALS

1. **Egans Fundamentals of Respiratory Care 12th Ed (ISBN 978-0-323-51112-4)**
2. **“Colbert” Integrated Cardiopulmonary Pharmacology- by Colbert and Gonzalez- 6th Edition (ISBN# 978-1-5178-1390-1)**
3. **Web based: www.aarc.org**

Clinical Practice guidelines:

Assessing Response to Bronchodilator Therapy at point of care

Selection of Device for Delivery of aerosol to the Lung Parenchyma

Delivery of Aerosol to upper airway

A package of #882 Scantrons and #2 pencil

ATTENDANCE POLICY

Attendance – If you do not attend class you are missing some very valuable information. Test will include both textbook material and anything mentioned in class.

Homework Assignments –Please turn in homework assignments at the start of the next class meeting. NO LATE WORK ACCEPTED!!!! If you have an excused absence you may e-mail your work to me before the class starts. If the absence is not excused you will receive a zero.

Absences – According to LIT policy students with approved absences shall be allowed to make up examinations and written assignments without penalty. This privilege does not extend to unapproved absences. The determination of whether an absence is excused or approved is the responsibility of the instructor, except in the case of approved absence for an Institute-sponsored activity. If absences seriously interfere with performance the instructor may recommend to the Department Chair that the student be dropped from the course. You may be asked to present documentation to the instructor as to why the absence was necessary for the next class meeting that you attend, (i.e. doctor excuse, funeral pamphlet, note from child’s doctor, etc.).

Make-up Exam - You may make-up an exam only if the absence is excused by the instructor. The make-up exam will be taken on the next class day that you return.

Class Roll – will be taken on the first and fourth class days. If your name is not on the class roster on the fourth class day, you will be asked to leave class until this matter is taken care of.

NO EATING, NO DRINKING, TURN OFF BEEPERS, TURN OFF CELL PHONES, NO DISRUPTIVE BEHAVIOUR, AND NO CHILDREN ALLOWED IN CLASS PLEASE!

Remediation – Refer to the Respiratory Care Student Handbook

Cellphone Policy

- Cell phones must be silenced or turned off during class time.
- Cell phones will be placed in the appointed cell phone pocket hanger.
- Attendance will be taken from the cell phone hanger with assigned names.
- Any cell phone use in class will result in your dismissal from class.
- If cell phones are used during an exam, you will be dismissed from the Respiratory Care Program.
- Computer usage not relating to course content is prohibited and will result in your dismissal from the Respiratory Care Program.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process by the specified drop date as listed on the [Academic Calendar](#). If you stop coming to class and fail to drop the course, you will earn an “F” in the course.

STUDENT EXPECTED TIME REQUIREMENT

For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16-week session OR approximately twelve to eighteen hours in an 8-week session. Online/Hybrid students should expect to spend at least as much time in this course as in the traditional, face-to-face class.

COURSE CALENDAR

DATE	TOPIC	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

3-5 exams	80%
Homework	5%
Quizzes	15%

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GRADING SCALE

90 – 100	A
80 – 89	B
77 – 79	C
68 – 76	D
0 – 67	F

LIT does not use +/- grading scales

ACADEMIC DISHONESTY

Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students need to familiarize themselves with the institution's Academic Dishonesty Policy available in the Student Catalog & Handbook at <http://catalog.lit.edu/content.php?catoid=3&navoid=80#academic-dishonesty>.

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at <https://lit.edu/online-learning/online-learning-minimum-computer-requirements>. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at [Special Populations - Lamar Institute of Technology \(lit.edu\)](https://www.lit.edu/specialpopulations).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

Late work will not be accepted.