

RSPT 53A: INTRODUCTION TO RESPIRATORY THERAPY PHARMACOLOGY

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2025
Units:	2
Hours:	2 lecture per week (24 total per quarter)
Prerequisite:	RSPT 50A.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Describe the mechanism of bronchospasm and differentiate the pharmacologic effects of sympathomimetic bronchodilators, parasympatholytics, xanthine bronchodilators, mucus-controlling agents, surface-active agents, cold and cough agents, corticosteroids, and mediator antagonists.
- Describe the principles of drug action.

Description

An in-depth study of drug groups commonly used in the treatment of respiratory diseases. Intended for students in the Respiratory Therapy Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

- Calculate drug dosages from prepared-strength liquids.
- Solve percentage and solution problems.
- Describe the principles of drug action.
- Compare and contrast the autonomic effects in the cardiopulmonary system.
- Describe the mechanism of bronchospasm.
- Differentiate the pharmacologic effects of various respiratory medications.
- Based upon patient's condition, select the appropriate respiratory pharmacologic agent.

Course Content

- Drug dosage calculations
 - Concentrations
 - Volumes
 - Nebulization duration
- Percentage and solution problems

- By body weight
 - By duration
 - For reconstituted drugs
- Principles of drug action
 - General principles
 - Principles related to respiratory therapy drugs, especially nebulized drugs
 - Autonomic effects in the cardiopulmonary system
 - Sympathetic nervous system
 - Parasympathetic nervous system
 - The mechanism of bronchospasm
 - Mechanism of bronchospasm
 - Constriction of the smooth bronchial muscles
 - Airway inflammation
 - Pharmacologic effects of various respiratory medications
 - Sympathomimetics
 - Parasympatholytics
 - Xanthines
 - Mucus controlling agents
 - Surface active agents
 - Cold and cough agents
 - Corticosteroids
 - Mediator antagonists
 - Appropriate respiratory pharmacologic agents
 - Rescue drugs
 - Maintenance drugs

Lab Content

Not applicable.

Special Facilities and/or Equipment

For all offerings, in-person or online/hybrid: Mac/PC computer or mobile device; internet access.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Assessments
Problem solving exercises

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture
Demonstrations
Group exercises

Representative Text(s) and Other Materials

Gardenhire. Rau's Respiratory Care Pharmacology. 2020.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Assigned reading from textbook, approximately one chapter per week
2. Oral presentations
3. Written case studies

Discipline(s)

Respiratory Technologies