



**BIOL 1260 PYSIOLOGICAL PHARMACOLOGY, Section 02
BROWN / PFIZER MASTERS PROGRAM
FALL 2021**

Director: Dr. Marshall (John_Marshall@Brown.edu).

Presents drugs in the context of the diseases they treat. A group of the most commonly prescribed drugs is discussed in terms of their fundamental modes of action and clinical importance.

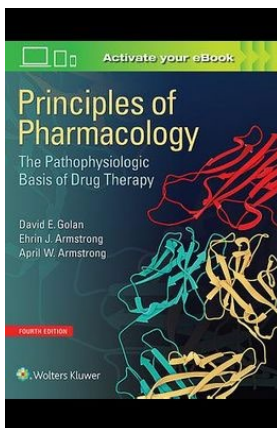
Previous course work or knowledge of physiology helpful but not required.

This course satisfies a Core Requirement within the Brown-Pfizer Master of Arts in Biology curriculum

Course Objectives:

- 1) To become familiar with the basic principles related to the use of drugs for treating human disorders.
- 2) To understand the mechanism of action of therapeutically useful drugs.
- 3) To appreciate the limitations of drug therapy and the possibilities for future drug development.

Course Text:



Principles of Pharmacology: The Pathophysiologic Basis of Drug Therapy, David E. Golan, Armen H. Tashjian, Jr., Ehrin J. Armstrong and April W. Armstrong, 2nd or 4th Edition, Lippincott Williams & Wilkins, 2017 . ISBN 1451191006. It offers an integrated mechanism, and systems-based approach that incorporates the cell biology, biochemistry, physiology, and pathophysiology of organ systems. These texts can be purchased used.

Grade Determinants: the most important determinants of the grade for undergraduates are the midterms and final. There will be three exams:

Weekly Quiz	75%
Term paper	25%

Quizzes: There will be a total of 13 quizzes, with each quiz given at the beginning of the class, starting with the second session. These quizzes will be 20 minutes in length and will be based on the lecture material from the preceding week. The lowest quiz score will be dropped so that each student quiz grade will be based on 12 quizzes each worth 6.25%, totaling 75% of the final grade.

Term Paper: Here is your chance to become an expert on a pharmacology-related topic! Papers should be 8-10 pages (double spaced) in length including figures (excluding references) and should make use of at least 5 original scientific journal articles (as opposed to review articles). You should have your topic approved by one of the instructors before initiating the paper. You must complete the term paper assignment in order to get credit for the course.

Syllabus (Fall 2021)

Lecture 1 (Sept 8)	Pharmacodynamics- Drug-Receptor Interactions
Lecture 2 (Sept 15)	Pharmacokinetics
Lecture 3 (Sept 22)	Cellular excitability and Local anesthetics
Lecture 4 (Sept 29)	Autonomic Nervous System Adrenergic and Cholinergic Pharmacology

Cardiovascular Pharmacology

Lecture 5 (Oct. 6)	Lipid Metabolism and Coronary artery disease Hypertension and congestive heart failure
Lecture 6 (Oct. 13)	Congestive heart failure Arrhythmias

Endocrine Pharmacology

Lecture 7 (Oct. 20)	Treatment of Diabetes Reproduction and Contraception
Lecture 8 (Oct. 27)	Physiology & Pharmacology of Endocrine Disorders I Physiology & Pharmacology of Endocrine Disorders II.

CNS Pharmacology

Lecture 9 (Nov. 3)	Epilepsy Schizophrenia
Lecture 10 (Nov. 10)	Alzheimer's disease Parkinson's Disease
Lecture 11 (Nov. 17)	Depression Addiction

Principles of Chemotherapy

Lecture 12 (Nov. 24)	Oncogenes
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Lecture 13 (Dec. 1)

Chemotherapy

Term paper due Dec 1.