



Pharmacology I

PHAR 400

Course Description

The basic principles of pharmacology will be taught in this first semester course. There will be three blocks of concentration: basic pharmacology, autonomic nervous system pharmacology, renal, cardiovascular and blood pharmacology, pain and inflammation pharmacology, gastrointestinal pharmacology and respiratory pharmacology.

Credit: 3 semester credits

Repeatable: No

Course Structure

This course will be presented through didactic interactive lectures. Relevant case studies will be discussed in the lectures. Each lecture contains detailed learning objectives. Students are encouraged to go through the lecture materials prior to the lecture which helps facilitate the understanding of the subject matter and have more interactive lecture sessions. Students will also be provided with practice questions in each topic so that they can recapitulate the subject knowledge and may construe the important concepts in different ways.

Competencies: At the end of Pharmacology I and II, the student will have had the opportunity to practice the following competencies through meeting the objectives of the course:

Medical Knowledge

- MK2 Identify the pathology and pathophysiology of various diseases and correlate them with clinical signs and symptoms.
- MK3 Demonstrate knowledge of common or significant, acute and chronic clinical problems.
- MK5 Demonstrate comprehension of clinical interventions and agents including pharmaceutical, surgical, genetic, complementary and alternative medicines, and other therapies.
- MK6 Demonstrate knowledge and ability to interpret epidemiological and public health contributions to understanding health and disease.

Patient Care

- PC7 Construct appropriate and efficient therapeutic management and prevention strategies for patients with common conditions, both acute and chronic, including medical, psychiatric,

Objectives: Lecture objectives will be provided with beginning of each lecture.

Basic Pharmacology:

Demonstrate the proper understanding of the following with main focus on pharmacokinetics and pharmacodynamics:

- Introduction
- Route of administration
- Pharmacokinetics
- Pharmacodynamics
- New drug development
- Adverse drug reactions
- Factors modifying drug therapy
- Autacoids

Autonomic Nervous System Pharmacology:

Describe the mechanisms of action, uses, and adverse effects of drugs including:

- Cholinergic drugs
- Anticholinergic drugs
- Adrenergic drugs
- Antiadrenergic drugs
- Anti-migraine drugs

Renal, Cardiovascular & Blood Pharmacology:

Describe the mechanisms of action, use and adverse effects of drugs used to treat disorders of the renal, cardiovascular and hemopoetic system including:

- Diuretics
- Antidiuretics
- Antihypertensive drugs
- Drugs used in congestive heart failure
- Antiarrhythmic drugs
- Antianginal drugs
- Hemopoetic agents
- Hypolipidemic drugs
- Anticoagulants

Pain and inflammation pharmacology:

Describe the mechanisms of action, uses and adverse effects of drugs used to treat pain and inflammatory conditions including:

- Nonsteroidal anti-inflammatory drugs
- Corticosteroids
- Drugs used in gout
- Drugs used rheumatoid arthritis

Gastrointestinal pharmacology:

Describe the mechanisms of action, uses and adverse effects of drugs used to treat following gastrointestinal conditions:

- Peptic ulcer
- Nausea and vomiting
- Constipation
- Diarrhea

- Inflammatory bowel disease
- Irritable bowel syndrome

Respiratory pharmacology:

Describe the mechanisms of action, uses and adverse effects of drugs used to treat following respiratory conditions:

- Bronchial Asthma
- Chronic obstructive pulmonary disease
- Nasal congestion
- Cough

Schedule:

The lecture schedule for dates and times is posted to the Trinity Calendar.

Assignments:

- Complete the lecture materials in advance to a lecture
- Complete USMLE Kaplan Pharmacology notes including the multiple choice questions
- Complete the practice questions provided by a lecturer
- Complete multiple choice questions for each topic taught on Katzung & Trevor: Examination & Board Review. 11th ed., 2015 New York: McGraw Hill Medical.
- Complete multiple choice questions for each topic taught on Lippincott Illustrated Reviews: Pharmacology 6th edition (Lippincott Illustrated Reviews Series)

Textbooks and Reference Materials

- Trevor, AJ, BG Katzung, SB Masters. 2015. Katzung & Trevor: Examination & Board Review. 11th ed., New York: McGraw Hill Medical.
- Lippincott Illustrated Reviews: Pharmacology 6th edition (Lippincott Illustrated Reviews Series), 2015, Wolters Kluwer.
- Basic & Clinical Pharmacology, Bertram G. Katzung, Anthony J. Trevor. 2015. 13th ed. New York: McGraw Hill Medical.

Evaluation:

Students will be assessed on the material presented in the semester through 2 quizzes, a midterm and a final exam. 10 points will be given to credit for regular attendance. Exams and quizzes will be adjusted to a class mean of 80%.

Grade:

| Percent of Points | Letter Grade |
|-------------------|--------------|
| 95-100% | A(h) |
| 90-94% | A |
| 85-89% | B+ |
| 80-84% | B |
| 75-79% | C+ |
| 70-74% | C |
| <70% | F |

Attendance:

10 points will be given to credit for regular attendance. Details of specific attendance requirements per course are as follows; $\geq 90\%$ attendance- 10 points $\geq 80\% < 90\%$ attendance- 9 points $\geq 70\% < 80\%$ attendance- 8 points $\geq 60\% < 70\%$ attendance- 7 points $\geq 50\% < 60\%$ attendance- 6 points $\geq 40\% < 50\%$ attendance- 5 points $< 40\%$ attendance- 4 points.

Policies

Absenteeism:

A student's absence may adversely affect their academic status as specified in the course syllabi and the grading policy. Any absenteeism due to illness or any other valid and justifiable reasons will be considered. Students should notify the concerned course director at proper time.

Faculty:

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