



Pharmacology II

PHAR 401

Course Description

The basic principles of pharmacology will be continued in this second semester course. There will be three blocks of concentration: 1) chemotherapy of infection and cancer, 2) pain and central nervous system pharmacology, 3) endocrine pharmacology. The course will culminate with a comprehensive exam over both pharmacology courses.

Credit: 3 semester credits

Repeatable: No, unless remediation is required

Course Structure

This course will be presented through online recorded lectures and webinars that will provide opportunities to interact with the instructor. During on-site visit lectures, the instructor will be available days, evenings and weekends to clarify and questions or issues related to material in this course. Lectures will have detailed learning objectives and assigned reading and students should familiarize themselves with the material prior to class. Class will present didactic information (90% of classes) as well as case studies for student interaction (10% of classes).

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, and surgical conditions, and those requiring short and long term rehabilitation.

General Objectives: lecture objectives will be provided with each lecture:

Chemotherapy

Infectious Disease Pharmacology

Describe the mechanisms of action, use, and adverse effects of drugs used for the treatment of bacterial, fungal, parasitic or viral infectious diseases including:

- Tuberculosis therapeutics
- Antifungal drugs
- Anthelmintic & antiprotozoal drugs
- Antiviral drugs
- HIV & retrovirus therapeutics
- Opportunistic infections therapeutics
- Bacterial infection therapeutics
- Antimalarial drugs

Cancer Pharmacology

Describe the mechanisms of action, use, and adverse effects of chemotherapy for the treatment of solid and hematopoietic tumors including:

- Pyrimidine, purine and folate antimetabolites
- Antimitotic Drugs
- DNA damaging drugs
- Targeted therapeutics
- Adjunctive therapeutics

Pain Pharmacology:

Describe the mechanisms of action, use, and adverse effects of drugs used to treat visceral or neuropathic pain including:

- Opioid narcotic analgesics
- Antimigraine drugs and non-narcotic analgesics
- Anti-epilepsy drugs
- Local anesthetics
- Skeletal muscle relaxants
- General anesthetics

CNS Pharmacology:

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

- Sedative hypnotics & anxiolytics
- Antiparkinsonian drugs
- Antipsychotics
- Antidepressants

Endocrine Pharmacology:

- Drugs for treatment and prevention of osteoporosis
- Insulin and Its Analogs for Type 1 Diabetes
- Oral Antidiabetic Drugs for Type 2 Diabetes
- Endocrine Pharmacology 1: Hypothalamic – Pituitary Axis – Adrenal Axis
- Endocrine Pharmacology 2: Hypothalamic – Pituitary Axis – Gonadal Axis
- Thyroid Hormones and Related Agents

Course Schedule

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

Assignments

- Complete reading assignments prior to class, including Kaplan Medical Pharmacology Notes for USMLE
- Complete any practice problems assigned in advance
- Complete a minimum of 250 Kaplan Pharmacology questions by the end of week 13.

Textbook

Trevor, AJ, BG Katzung, SB Masters. 2015. *Katzung & Trevor: Examination & Board Review*. 11th ed., New York: McGraw Hill Medical. [ISBN-13: 978-0071826358]

Kaplan Medical Pharmacology Notes USMLE version

Evaluation

Students will be assessed on the material presented in the semester through two quizzes and a mid-term exam. Students must also complete a self-directed assignment involving completion of 250 Kaplan questions intended to prepare them for the NBME comprehensive exam. The NBME Pharmacology Exam will be 20% of the final grade. The grade for this exam is a conversion of the scaled score to the percent correct for the form of the exam administered. The form is not known in advance. A student score must be at the 14th percentile for all exams taken (US, Canada, and other Countries) to qualify for the Comprehensive Basic Science Exam in Term 5. Course grades will be normalized (curved) and adjusted to a mean of 80% at the end of the term.

Points:

		Total Points*
Quiz 1	(80%)	30
Mid-term		50
Quiz 2		50
Kaplan questions		30
NBME Pharmacology exam (20%)		40
Total Points		200

*Points are approximate and may be adjusted during the term. Students will be notified of changes.

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

Course Failure

Students who fail the course, following review by the Academic Progress Committee, may be offered a remediation exam on the last business day prior to beginning the next term, provided a score of at least sixth percentile is achieved on the NBME Pharmacology Exam. The exam will represent a new and be comprehensive for the course. A minimum of 70% is required on the exam to pass. The student may choose to not take the exam. Failure of the remediation exam or selecting to not take the exam results in a Failing grade recorded on the transcript and the course must be retaken along with the NBME Pharmacology exam at the end of the course.

Any student who does not pass the NBME Pharmacology exam must pass the exam prior to taking the NBME Comprehensive exam in term 5. This applies also to students who pass the course but who fail the NBME Pharmacology exam.

Attendance

Not mandatory, except where indicated. Recorded lectures may be withheld if less than 50 percent of the class is in attendance.

Policies

Professionalism Demeanor. The student should be thoughtful and professional when interacting with faculty, staff, other students, patients and their families. Inappropriate behavior includes the use of offensive language, gestures, or remarks with sexual overtones. During preclinical training in non-clinical settings, students should dress in attire that is not offensive to other students, faculty, or staff. During presentations, in clinical training sessions, and at other occasions as notified, professional attire is appropriate.

During clerkships, students should maintain a neat and clean appearance and dress in attire that is generally accepted as professional by the patient population served. Students must dress according to the dress code of individual departments when on clinical rotations.

Honesty. Students are expected to demonstrate honesty and integrity in all aspects of their education and in their interactions with faculty, administration, physicians, patients, and fellow cohorts. They will not cheat, plagiarize, or assist others in the commission of these acts. The student must assure the accuracy and completeness of his or her part of the medical record and must make every effort to provide the best possible patient care. Students must be willing to accept responsibility for omissions or errors and must never knowingly mislead others or promote themselves at the patient's expense. The student is bound to know, understand, and preserve professional ethics and has a duty to report any breach of these ethics by other students or health care providers through the appropriate channels. Issues of this nature should be presented to the Offices of the Associate Dean of Students for guidance and direction.

Absenteeism. Students are encouraged to attend all classes and clinical rotations for which they have registered. Although attendance may not be taken at every academic activity, attendance may be taken randomly. Individual professors/faculty may choose to take attendance and include attendance in their grading policy. A student's absence may adversely affect their academic status as specified in the course syllabi and the grading policy.

If absence is due to illness or other extenuating circumstances, notification procedures as outlined by the Office of the Dean of Students must be followed to be granted a waiver from the attendance policy. Medical excuses must be submitted to the Office of the Dean of Students prior to the examination or class activity. For non-medical excuses, the Dean of Students will make a determination based upon verifiable, factual information and will notify the Course Instructor as to the validity of the absence. The instructor will be requested to provide remediation of the missed activity.

Faculty:

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