

FUNDAMENTALS OF PHARMACOLOGY 623 2023

Time: Monday, Wednesday, and Thursday, **8:30–9:30 A.M.**
(Occasional classes on Tuesdays and Fridays)

Location: 10-146 Smilow

In the event that a virtual link is needed, please use the below Zoom link -

<https://us06web.zoom.us/j/85447068723?pwd=TWdmRlVxTOVZVWUJHTk00WHd4OUtTdz09>

All 2022 recorded lectures are available on Mediasite –

<https://mediasite.med.upenn.edu/Mediasite/Channel/bcaaf0fbc98a4f02abdc82d760877fef5f/browse/null/oldest/null/0/fd471534543e4aa28dd4bdcaae21744514>

Canvas site: <https://canvas.upenn.edu/courses/1679570/files>

Course Directors: Jeffrey Field (jfield@upenn.edu)
Marcelo Kazanietz (marcelog@penncmedicine.upenn.edu)
Wenchao Song (songwe@penncmedicine.upenn.edu)

Grading/Exams: Grades are based on the average of the 3 exams. Some professors grade problem sets, but they will contribute to no more than 10% of the final grade

Day	Date	Lecture	Lecturer
Wed	8/30	Introduction & History (Frazer)	Field/Kazanietz/Song
Thurs	8/31	ligand receptor interactions 1	Kazanietz
Mon	9/4	No class Labor day	xxxxx
Wed	9/6	ligand receptor interactions 2	Kazanietz
Thurs	9/7	Pharmacology of GPCRs	Kazanietz
Mon	9/11	Lipid signaling: Arachidonic acid metabolites	Ricciotti
Wed	9/13	Lipid signaling: Arachidonic acid metabolites	Ricciotti
Thurs	9/14	Lipid signaling: Selected reading (s) & review	Ricciotti
Mon	9/18	Protein Structure and its role in drug design	Moiseenkova-Bell
Tues	9/19	Ion channels 1	Moiseenkova-Bell
Wed	9/20	Receptor Structure readings	Moiseenkova-Bell
Thurs	9/21	No class faculty retreat	
Mon	9/25	Receptor tyrosine kinases: Oncogenes and cancer	Field
Wed	9/27	Receptor tyrosine kinases: Signaling pathways	Field
Thurs	9/28	Receptor tyrosine kinases: Cytoskeleton and apoptosis	Field
Mon	10/2	Receptor tyrosine kinases: Technologies	Field
Tues	10/3	Receptor tyrosine kinases: Translation	Field
Wed	10/4	Selected reading(s)	Field
Thurs	10/5	Receptor tyrosine kinases: Problem set due	Field
Mon	10/9	Review: <i>7-TM receptors, RTKs lipid mediators, channels</i>	lectures to date
Wed	10/11	no class PGG student symposium	
Thurs	10/12	EXAM: (8:30 am-11:30 am)	

Fundamentals of Pharmacology 623

Mon	10/16	Drug Metabolism: Phase 1 and Cytochrome P450s	Song
Tuesday	10/17	Drug Metabolism: Phase II	Song
Wed	10/18	Drug Metabolism: Selected reading(s)	Song
Thurs	10/19	Introduction to kinetics	Field
Mon	10/23	Enzymes: Michaelis-Menton kinetics	Penning
Wed	10/25	Enzymes: Reversible enzyme inhibitors	Penning
Thurs	10/26	Bisubstrate reactions	Penning
Mon	10/30	Transition state analogs	Penning
Tues	10/31	Irreversible enzyme inhibitors	Penning
Wed	11/1	Nuclear Hormone receptors as drug targets	Penning
Mon	11/6	Nuclear Hormone receptors as drug targets	Penning
Tues	11/7	Problem Set in Class	Penning
Wed	11/8	Non-traditional therapeutic modalities of in drug development	Amatullah
Thurs	11/9	Cellular Therapies	June
Mon	11/13	Pharmacogenetics and Pharmacoepigenetics	Amatullah
Tues	11/14	Review: <i>enzymes and metabolism</i>	Song/Penning
Wed	11/15	no class	
Thurs	11/16	EXAM: (8:30 am-11:30 am)	Penning/Song
Mon	11/20	Drug development	Santiago-Walker
Wed	11/22	No class Thanksgiving	
Thurs	11/23	No class Thanksgiving	
Mon	11/27	Pharmacokinetics: Volume of Distribution, Clearance, Half-life	Robinson
Tues	11/28	Pharmacokinetics: Absorption, Bioavailability	Robinson
Wed	11/29	Pharmacokinetics: Clinical Pharmacokinetics and Variability	Robinson
Thurs	11/30	Pharmacokinetics: problem session	Robinson
Mon	12/4	Immune Checkpoints	Posey
Tues	12/5	Pk/PD of biologic drugs	Wherry
Wed	12/6	Immune systems	Song
Thurs	12/7	Antibody engineering	Song
Mon	12/11	Biotherapeutics and targeted drug delivery	Muzykantov
Tues	12/12	Intracellular delivery	Muzykantov
Wed	12/13	Gene Therapy 9:30 Review Pharmacokinetics /Targeted therapy	Chung
Thurs	12/14	EXAM: (8:30 am-11:30 am)	