

Version 4.0
08/20/2019

FUNDAMENTALS OF PHARMACOLOGY 623 2019

Time: Monday, Tuesday, Wednesday, and Thursday, 9:00–10:00 A.M.
(occasional classes on Fridays)

Location: 10-146 (10th Floor), Translational Research Center

Course Directors: Jeffrey Field (jfield@upenn.edu)
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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

Canvas site: <http://www.library.upenn.edu/courseware/canvas/canvaslogin.html>

****please note room change***

Day	Date	Lecture	Lecturer
Thu	8/29	Introduction	Field/Kazanietz/Song
Mon	9/2	NO Class (Labor Day)	
Tue	9/3	The Lay of the Land: 7-TM receptors, G proteins	Kazanietz
Wed	9/4	GPCR-mediated Signaling	Kazanietz
Thurs	9/5	Protein Structure and its role in drug design	Moiseenkova-Bell
*Friday	9/6	Receptor structure readings (in SCTR Auditorium)	Moiseenkova-Bell
Monday	9/9	No class	
Tue	9/10	Receptor tyrosine kinases: Oncogenes and cancer	Field
Wed	9/11	Receptor tyrosine kinases: Signaling pathways	Field
Thu	9/12	Receptor tyrosine kinases: Cytoskeleton and apoptosis	Field
Mon	9/16	Receptor tyrosine kinases: Technologies	Field
Tue	9/17	Translation and Selected reading(s)	Field
Wed	9/18	Receptor tyrosine kinases: Problem set due	Field
Thu	9/19	Lipid signaling: Arachidonic acid metabolites	Ricciotti
Mon	9/23	Lipid signaling: Arachidonic acid metabolites	Ricciotti
Tue	9/24	Lipid signaling: Selected reading (s)	Ricciotti
Wed	9/25	Mechanobiology	Assoian
Thu	9/26	Immune Checkpoints	Posey
Mon	9/30	Review: 7-TM receptors, lipid mediators, and kinases	
*Tue	10/1	Cellular therapies (in 9-146)	June
Wed	10/2	NO CLASS	
Thu	10/3	EXAM: (9:00 am-12:00 pm)	
Mon	10/7	Enzymes: Michaelis-Menton kinetics	Penning
Tue	10/8	Enzymes: Reversible enzyme inhibitors	Penning
Wed	10/9	Bisubstrate reactions	Penning
Thu	10/10	Transition state analogs	Penning
Mon	10/14	Irreversible enzyme inhibitors	Penning
Tue	10/15	Suicide substrates	Penning
Wed	10/16	Nuclear Hormone receptors as drug targets	Penning
Thu	10/17	Problem Set in Class	Penning
Mon	10/21	Ion channels: Voltage-gated ion channels as targets	Lindstrom
Tue	10/22	Ion channels: Ligand-gated ion channels as targets	Lindstrom
Wed	10/23	Transporters	Lindstrom
Thu	10/24	Ion Channels/transporters: Problem set due	Lindstrom

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Mon	10/28	Drug development	Santiago-Walker
Tues	10/29	Review: <i>Ion channels/transporters/enzymes</i>	
Wed	10/30	NO CLASS	
Thurs	10/31	EXAM: (9:00 am-12:00 pm)	
Mon	11/4	Pharmacokinetics: Drug absorption	Makvandi
Tue	11/5	Pharmacokinetics: Drug elimination	Makvandi
Wed	11/6	Pharmacokinetics: Clinical pharmacokinetics	Makvandi
Thu	11/7	Pharmacokinetics: Clinical pharmacokinetics	Makvandi
Mon	11/11	Pharmacokinetics: Variations in response	Makvandi
Tue	11/12	NO CLASS – PGG STUDENT SYMPOSIUM	
Wed	11/13	Drug Metabolism: Phase 1 and Cytochrome P450s	Song
Thu	11/14	Drug Metabolism: Phase II	Song
Mon	11/18	Drug Metabolism: Selected reading(s)	Song
Tue	11/19	Pharmacogenomics	Whitehead
Wed	11/20	Pharmacogenomics	Whitehead
Thurs	11/21	Pharmacogenomics	Whitehead
Mon	11/25	Pharmacogenomics: Selected reading(s)	Whitehead
Tue	11/26	Pharmacogenomics: Problem set due	Whitehead
Wed	11/27	No Class	
Thurs	11/28	No Class (Thanksgiving)	
Mon	12/2	Biotherapeutics and targeted drug delivery	Muzykantov
Thu	12/3	Pk/PD of biologic drugs	Wherry
Wed	12/4	Gene Therapy	Chung
Tue	12/5	Intracellular drug delivery	Muzykantov
Mon	12/9	No class	
Tues	12/10	Review Pharmacokinetics/Pharmacogenomics/Targeted therapy	
Wed	12/11	No Class	
Thu	12/12	EXAM: (9:00 am-12:00 pm)	