MOLECULAR BIOLOGY & PHARMACEUTICAL BIOTECHNOLOGY (30:158:315)
SPRING 2016

No required textbook
iClicker is required

Not Required; on reserve at the Library of Science and Medicine for your reference:
"Lewin's Genes XI" by Krebs, Goldstein & Kilpatrick
"Molecular Biotechnology: Principles & Applications of Recombinant DNA" 2nd ed. by Glick & Pasternak
"Pharmaceutical Biotechnology: Fundamentals & Applications" 3rd ed., edited by Crommelin, Sindelar & Meibohm
"Biochemistry for the Pharmaceutical Sciences" by Woodbury
"Introduction to Biotechnology" 2nd ed., by Thieman and Palladino
"Molecular Biology of the Gene" 7th ed., by Watson et al.

Teaching Assistants:
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LECTURE
Monday 10:20 a.m. – 11:40 a.m., ARC 103
Thursday 10:20 a.m. – 11:40 a.m., ARC 103

Recitation (When Announced)
Wednesday 10:35 a.m. – 11:30 a.m., Pharmacy 111

FACULTY
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Day	Date	Lecturer	Lecture	Topic
Thurs.	1/21	Chen	1	Principles of Molecular Biology and Biotechnology: Recombinant DNA Technology
Mon.	1/25	Molloy	2	Central role of molecular biology in modern pharmacology and drug development: Brief history and introduction
Thurs.	1/28	Chen	3	Principles of Molecular Biology and Biotechnology: Recombinant DNA Technology
Mon.	2/1	Chen	4	Development of Genetically Engineered Pharmaceuticals
Thurs.	2/4	Chen	5	Development of Genetically Engineered Pharmaceuticals
Mon.	2/8	Chen	6	DNA-based Diagnosis of Genetic Diseases and Bioethics
Thurs.	2/11	Suh	7	Transcription and Regulation of Gene Expression
Mon.	2/15	Suh	8	Transcription and Regulation of Gene Expression
Thurs.	2/18	Suh	9	In vitro Mutagenesis
Mon.	2/22	Suh	10	Protein Engineering Protein Interactions
Thurs.	**2/25**			**EXAM 1 (35% of grade) - Lectures 1-9, 10:20 a.m. – 11:40 a.m., ARC 103**
Mon.	2/29	Suh	11	DNA Damage and Repair; Mutations, Genetic Diseases
Thurs.	3/3	Suh	12	DNA Damage and Repair; Mutations, Genetic Diseases
Mon.	3/7	Suh	13	Signal Transduction: Basic Principles
Thurs.	3/10	Suh	14	Signal Transduction: Therapeutic Drug Design
	3/12 – 3/20 SPRING BREAK			
Mon.	3/21	Yang	15	Diet, Nutrition and Disease Prevention
Thurs.	3/24	Minden	16	Embryonic stem cells: Basic principles, use in research and disease treatment
Mon.	3/28	Minden	17	Embryonic stem cells and fetal stem cells in disease treatment
Thurs.	3/31	Minden	18	Personalized treatment of disease using adult stem cells, artificially derived stem cells, and nuclear transfer techniques
Mon.	4/4	Minden	19	Cell Cycle
Thurs.	**4/7**			**EXAM 2 (35% of grade) - Lectures 10-18, 10:20 a.m. – 11:40 a.m., ARC 103**
Mon.	4/11	Furmanski	20	Introduction to the Immune System, and the Use of Immune Components in Treating Disease
Thurs.	4/14	Minden	21	Tumor suppressor genes and the control of the cell cycle and cancer
Mon.	4/18	Minden	22	Transgenic Animals and Their Applications
Thurs.	4/21	Minden	23	Functional Genomics and Personalized Medicine
Mon.	4/25	Minden	24	Rational Treatment of Cancer
Thurs.	4/28	Zong	25	Targeting Cell Death for Cancer Therapy
Mon.	5/2	Zong	26	Autophagy: Friend or Foe?
				FINAL EXAM (30% of grade) – Lectures 19-26, To be announced

Syllabus, Handouts, Exam Grades and other important information will be posted on this web site:
https://sakai.rutgers.edu/portal ←**Register Your iClicker on Sakai (click on the iClicker tool and enter the 8-character remote ID, and activate). Please note: This course does not use iClicker GO.**