

Fundamentals of Molecular Genetics Syllabus and Schedule

Fall Semester 2022

Mon, Wed, Fri, 1:30 pm – 2:25 pm, Room 5051

Course Director: Dr. David Wiczorek, co-Director: Dr. Anil Menon

Course Number: MEDS 3021 (3 undergraduate credits), MG 7021 (3 graduate credits)

Textbook: Genetics (7th edition, 2020) by Benjamin Pierce, publisher WH Freeman, ISBN-13:978-1-319-05096-2

Reflection paper is due on December 2, 2022 by 5 p.m. Please submit as a pdf on [Canvascourse site](#).

Session	Da	Date	Topic	Teacher
1	M	8-22-22	Course Guidelines and Introduction DNA, RNA: The Chemical Nature of Life	Schoch, Menon, Ifergan, Wiczorek,
2	W	8-24-22	DNA, RNA, protein: the central dogma	Schoch
3	F	8-26-22	Basic cell biology and sub cellular organelles	Schoch
4	M	8-29-22	Prokaryotic chromosome organization	Schoch
5	W	8-31-22	Eukaryotic chromosome organization	Schoch
6	F	9-2-22	Mendel's laws	Schoch
No Class	M	9-5-22	Labor Day: No class	
7	W	9-7-22	Genetic linkage and test crosses	Schoch
8	F	9-9-22	Cell division: Chromosomes - mitosis	Schoch
9	M	9-12-22	Cell division: Chromosome meiosis	Schoch
10	W	9-14-22	DNA Replication	Schoch
11	F	9-16-22	DNA Recombination	Schoch
12	M	9-19-22	DNA Repair and Gene Mutations	Schoch
13	W	9-21-22	DNA Repair and Gene Mutations	Schoch
14	F	9-23-22	REVIEW	Schoch
16	M	9-26-22	RNA and Transcription in Prokaryotes	Wiczorek
15	W	9-28-22	EXAM 1	Schoch
17	F	9-30-22	RNA and Transcription in Eukaryotes	Wiczorek
18	M	10-3-22	RNA Processing – I	Wiczorek
19	W	10-5-22	RNA Processing – II	Wiczorek
20	F	10-7-22	Genetic code and Translation	Wiczorek
No Class	M	10-10-22	Fall Reading Day	
21	W	10-12-22	Control of Gene Expression in Prokaryotes	Wiczorek
22	F	10-14-22	Control of Gene Expression in Eukaryotes - I	Wiczorek
23	M	10-17-22	Control of Gene Expression in Eukaryotes - II	Wiczorek
24	W	10-19-22	Molecular Genetic Analysis	Wiczorek
25	F	10-21-22	Gene Therapy	Wiczorek
26	M	10-24-22	Genomics and Proteomics	Wiczorek
27	W	10-26-22	The RNA World and Evolutionary Genetics	Wiczorek
28	F	10-28-22	REVIEW	Wiczorek
29	M	10-31-22	EXAM 2	Wiczorek
30	W	11-2-22	Cancer Genetics	Menon
31	F	11-4-22	Cancer Genetics	Menon
32	M	11-7-22	Epigenetics	Menon
33	W	11-9-22	Epigenetics	Menon
No Class	F	11-11-22	Veteran's Day	
34	M	11-14-22	Quantitative and Population Genetics	Menon
35	W	11-16-22	Immunogenetics I	Ifergan
36	F	11-18-22	Immunogenetics II	Ifergan
37	M	11-21-22	Immunogenetics III	Ifergan
No Class	W	11-23-22	Thanksgiving	
No Class	F	11-25-22	Thanksgiving	
38	M	11-28-21	CRISPR and genome editing systems	Menon
39	W	11-30-22	Stem Cells and Regenerative Medicine	Menon
40	F	12-2-22	REVIEW	Menon/Ifergan
41		TBD	EXAM 3	Menon