

# Fundamentals of Molecular Genetics Syllabus and Schedule

Fall Semester 2020

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

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

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

Textbook: Genetics (6<sup>th</sup> edition, 2017) by Benjamin Pierce, publisher WH Freeman, ISBN-13:978-1-319-05096-2

Reflection paper is due by November 20, 2020 by 5 p.m. No classes after Thanksgiving.

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