

Syllabus for MMBB422/522: Cellular and Molecular Basis of Disease

Instructor: Jill Johnson

Course Outline

Week of	Tuesday	Thursday
August 26	Overview and implications of DNA age Chapters 1 and 20	Chromosomes, Cell Cycle and Tools of Molecular Genetics and DNA analysis Chapters 2, 3 and 4
Sept. 2	Alleles, types of mutations and how to detect them Chapter 6 and 9	Gene mapping and linkage, Chapter 8 (Portions of Chapter 7)
September 9	Sex chromosomes and mitochondrial DNA Chapter 10.	Paper that demonstrates gene mapping, identification of disease causing mutation
September 16	Readings, Discussion of implications of the DNA age	Epigenetics movie
September 23	Exam 1	Chapter 11 Hemoglobinopathies
September 30	Ch 12 Mitochondrial Diseases	Genetics and Cancer Movie
October 7	Ch 16 Genetics and Cancer	Ch. 16 genetics and cancer
October 14	Chapter 12 Receptor proteins, LDL receptors	Chapter 12, Structural protein defects DMD, collagen, cystic fibrosis
October 21	More on cystic fibrosis, discuss PAPER	Chapter 12 enzyme defects, mitochondrial diseases
October 28	Review and/or another paper	Exam 2
November 4	Chapter 12 Alzheimer's disease	Chapter 12 Alzheimer's disease
November 11	Prion diseases	Prion diseases
November 18	Chapter 12 Huntington's disease	Huntington's disease
November 25	THANKSGIVING BREAK	THANKSGIVING BREAK
December 2	Chapter 12 Other triplet repeat diseases	Paper/Presentation
December 9	Student Presentations	Student Presentations
December 16	FINAL	

Required Textbook: Thompson and Thompson Genetics in Medicine. 6th Edition, Revised.

Time and Place: TR 11-12:15 in TLC 246

Graduate Students must give a 30-40 minute oral presentation on a genetic disease of their choice.

Undergraduate Students must either write a 3 page paper about a genetic disease of their choice,

Or give an oral presentaion (student's choice). Details to Follow.

Course grade based on Three Exams (100 pts each), and Presentation (50 pts), 3 quizzes or assignments (15 pts each), Class participation (5 points). 400 points total.