

Cell, Developmental, and Molecular Neurobiology Fall Quarter 2009

Lecture Number	Date	Faculty	Lecture Title	Reading Assignment
1 2	Friday, 25 September	David Williams	Introduction to the cell Membrane structure and asymmetry	Lodish Chapters 9 and 10
3 4	Monday, 28 September	David Williams	Cytoskeleton Microtubules and associated proteins	Lodish Chapter 18
5 6	Wednesday, 30 September	David Williams	Dyneins and kinesins Cilia, flagella and ciliopathies	Lodish Chapters 17 and 18
7 8	Friday, 02 October	David Williams	Actins and myosins Gap junctions, epithelial, neuronal and glial polarity	Lodish Chapter 19
9 10	Monday 05 October	David Krantz	Endoplasmic reticulum and protein synthesis Golgi apparatus and biosynthesis of proteins	Lodish Chapter 13.1-13.3 Lodish Chapter 14
11 12	Wednesday, 07 October	David Krantz	Sorting and routing of proteins within the cell Snaps, snares, and synaptic vesicle targeting	Lodish Chapter 14 Lodish Chapter 14
15 16	Friday, 09 October	Kelsey Martin	Ion channels and G-protein coupled receptors Second messenger pathways	Lodish Chapter 15 Lodish Chapters 16.3-16.4, 16.6
17 18	Monday, 12 October	Kelsey Martin	Transcription and transcriptional regulation RNA processing	Lodish Chapters 4.2, 7.2-7.9 Lodish Chapter 8.1-8.3
19 20	Wednesday, 14 October	Kelsey Martin	Translation Nucleocytoplasmic transport	Lodish Chapter 4.3-4.4, 8.4 Lodish Chapter 8.3, 13.6
13 14	Friday, 23 October	David Krantz	Endocytosis Epithelial, neuronal, and synaptic vesicle targeting	Lodish Chapter 14 Lodish Chapter 14
21 22	Monday, 26 October	Cristina Ghiani	Neural induction and neural tube development Neural patterning: Part 1	Rao Chapter 1 Rao Chapter 3

Exam 1 Tuesday, 27 October Lectures 1-20
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23 24	Wednesday, 28 October	Cristina Ghiani	Neural patterning: Part 2 Cell migration in the nervous system	Rao Chapter 3 Rao Chapters 2 and 8
25 26	Friday, 30 October	Cristina Ghiani	Growth cones and axonal path finding Synapse formation and target recognition	Rao Chapter 9 Rao Chapter 10
27 28	Monday, 02 November	Bennett Novitch	Mechanisms of neuronal differentiation Mechanisms of glial fate determination	Rao 129-147 Rao 151-167; 197-209; 213-217
29 30	Wednesday, 04 November	Bennett Novitch	Neural stem cells in development Neural crest stem cells	Rao 21-25; 31-36; 129-135; 146-147 Rao 151-161; 200-213; 67-101
31 32	Friday, 06 November	Bennett Novitch	Neural stem cells in the adult Stem cells and repair of the nervous system	[Review article] [Review article]
33 34	Monday, 09 November	Jean DeVellis	Neurotrophic hypothesis and programmed cell death Development and functions of Schwann cells	Rao Chapter 11 [Handout]
35 36	Friday, 13 November	Jean DeVellis	Development and function of oligodendrocytes Myelination: neuron-glia interactions	Rao Chapter 6 Rao Chapter 6
37 38	Monday, 16 November	Jean DeVellis	Development and function of astrocytes Development and function of microglia	Rao Chapter 7 [Handout]
39 40	Wednesday, 18 November	Jim Boulter	Neurogenetics and model systems: Part 1 Neurogenetics and model systems: Part 2	Strachan 1-19 Strachan 208-238
Exam 2 Thursday, 19 November Lectures 21 - 38				
41 42	Friday, 20 November	Jim Boulter	Genetic engineering in the mouse: Part 1 Genetic engineering in the mouse: Part 2	Strachan 576-608 [Handout]
43 44	Monday, 23 November	Desmond Smith	Transgenic mice and the genetics of behavior: Part 1 Transgenic mice and the genetics of behavior: Part 2	[Handout] [Handout]

Lecture Number	Date	Faculty	Lecture Title	Reading Assignment
45	Wednesday, 25 November	Desmond Smith	Transgenic mice and neurogenetic disorders: Part 1	[Handout]
46			Transgenic mice and neurogenetic disorders: Part 2	[Handout]
47	Monday, 30 November	Desmond Smith	Transgenic mice and neurogenetic disorders: Part 3	[Handout]
48			Transgenic mice and neurogenetic disorders: Part 4	[Handout]
49	Wednesday, 02 December	William Yang	BAC modification and BAC transgenesis	[Handout]
50			Large-scale mouse genetics	[Handout]
51	Friday, 04 December	William Yang	Modeling polyglutamine disorders in mice: Part 1	[Handout]
52			Modeling polyglutamine disorders in mice: Part 2	[Handout]

Exam 3	Monday, 07 December	Lectures 39 - 52
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