Course: Molecular Neurobiology

Course Numbers: GS14 1063

Course Director: Neal Waxham; Room 7.254 MSB, 713-500-5621; m.n.waxham@uth.tmc.edu

Basics: 3-credit course

Meets: Tu/Thur 10:30-noon, Room MSB B.612

Textbook: From Molecules to Networks, Byrne, Heidelberger, Waxham eds. 3rd edition; Molecular Cell Biology, Lodish et al., eds. 7th Edition.

Lecturers: Dr. Andy Bean, Dr. Roger Janz, Dr. Eric Swindell, Dr. Andrey Tsvetkov, Dr. Jack Waymire, Dr. Neal Waxham

Evaluation: Three take home examinations will be used to assess the student’s acquisition of presented information. Grades, A, B, C, F will be assigned based on exam performance and student participation in class.

Classes Begin on January 9th and end April 28th. Final Exam week is May 1-5; Spring Break March 13-17.

Lecture outline:

1) Introductory Orientation 1 Lecture  Waxham  Jan 10
2) The conformations of Informational Macromolecules 1 Lectures  Waxham  Jan 12
3) Information Processing in Cells 2 Lectures  Janz  Jan 17/19
4) Molecular Evolution/Genomics 1 Lecture  Janz  Jan 24
5) Biomembranes 2 Lectures  Waxham  Jan 26/31
6) Pumps 1 Lecture  Janz  Feb 2
7) G-protein coupled receptors 2 Lectures  Waymire  Feb 7/9
8) Ligand-gated ion channels 2 Lectures  Waxham  Feb 14/16
9) Voltage-gated Channels 2 Lectures  Waxham  Feb 21/23
10) Sensory transduction 1 Lecture  Janz  Feb 28
11) Neurotransmitters and neuromodulators 3 Lectures  Waymire  March 2/7/9
12) The neuron as a secretory cell 3 Lectures  Bean  March 21/23/28
13) The postsynaptic cell 1 Lectures  Waxham  March 30
14) Developmental of the Brain 3 Lectures  Swindell  April 4/6/11
15) Developmental Genetics of the Brain 2 Lectures  Bean  April 13/18
16) Some Pathologies 2 Lectures  Bean/Tsvetkov  April 20/25

Classes End – April 28th.

Final Exam Week – May 1st-5th.