Instructor: Dave Beeman (ECEE 124; (303) 492-2852; dbeeman@dogstar.colorado.edu)
Course Web page: http://ece.colorado.edu/~ecn4831/
Readings are from:

Kandel: "Principles of Neural Science" by Kandel, Schwartz, and Jessel

Lectures on CNS: Lectures on Computational Neuroscience through the course web page, or at http://www.genesis-sim.org/GENESIS/cnsweb/cnslecs.html.


Oct. 18 Introduction to Computational Neuroscience and Realistic Neural Modeling
Reading assignment: CNS Lectures "Introduction to Computational Neuroscience" (up to "The Hodgkin-Huxley Model"); BoG Chapters 2 and 3.

Oct. 20 Hodgkin-Huxley Models of Action Potentials
Reading assignment: Review pp. 150 – 162 of Kandel Chapter 9; CNS Lectures "The Hodgkin-Huxley Model", including the link to the "optional material on Details of the Hodgkin-Huxley Model"; BoG Chapter 4 through Section 4.7. Also bring the "Summary of the Hodgkin-Huxley model" handout to class.

Oct. 25 Modeling Dendritic Structure and Synapses
Reading assignment: CNS Lectures "Modeling Dendrites and Synapses" and the link to the "optional material on Cable Theory of Passive Propagation in Dendrites"; BoG Chapters 5 through Section 5.5, and 6 through Section 6.4.

Oct. 27 Modeling Complex Cells and Networks
Reading assignment: BoG Chapters 7 through Section 7.4, and 9 through Section 9.4.

Nov. 1 EXAM II