Module 0: **Introduction**

Module 1: **Resting Potential**

10/02 Read Hille-Chapter-1 pp 13-17 and Hodgkin-Horowicz-1959. We will review the Nernst equation, derive the constant product rule, and discuss the Hodgkin-Horowicz through Fig. 4.

10/07 Hodgkin-Horowicz-1959 through Fig. 7.


10/08 Complete Worksheet 1.2 for discussion in class 10/9.

Module 2: **Electrical Membrane models**

10/08 Read p1-4 of "Basic Electricity and Solving Circuit Problems." Try solving problems 1-5 in the reading. We will go over the answers in class on 10/9.


We will discuss answers in class.

Problem set 2 assigned: Problem-set-membrane-models-SS.

10/14 Topic: Dynamical membrane models. Worksheet 2.2 will be presented and discussed.

Module 3: **Hodgkin-Huxley Model**

10/15 For class on 10/16 Read Hille Chapter 1 "Introduction," pp17-22. Focus particularly on Fig. 1.6.

10/15 For class on 10/16 Read Hille Chapter 2 "Classical Biophysics of the Squid Giant Axon," Figs. 2.6 - 2.18.

Module 4: **Ion Channel Gating**

Module 5: **Bursting Neurons**

Module 6: **Cable Theory**

Module 7: **Synaptic transmission I - Quantal analysis**

Module 8: **Synaptic transmission II - LTP**