NSCI 211 Introductory Neuroscience Lab Spring 2013 (Mon, Tue, Wed 1:30-4:20pm)

Mr Simen (M & T)	psimen@oberlin.edu	Office: Sci Cntr, A244
Mr Stevens (W)	cstevens@oberlin.edu	Office: Sci Cntr, K228
Ms Knight, Instructional Assistant (M, T, W)	gknight@oberlin.edu	Office: Sci Cntr, A246

Goals of the course: The purpose of this course is 1) to provide a better understanding of the principles of neuroscience through hands-on experimental procedures and 2) to offer a sampling of commonly used experiments.
Requirements: This is a pass/no pass course. In order to pass this course, you must attend every lab session and submit all required written work in a timely fashion.
Written work: Some assignments are due at the end of the lab period, others at the beginning of class in the following week. If your work is unclear or does not satisfactorily answer the questions in the handout, you will be asked to redo it. You have **one week** to submit a revised version. **Important:** We will allow **only 1 late assignment** - either a missed assignment or a missed redo of a poorly written assignment. You cannot pass this class if there is a second late assignment. Also note, we encourage collaborative work, but **each person must submit his/her own work**.

Lab	Week of	Topic	Notes
1	Feb 4	Introduction to Research Neuron Morphology	-Discuss course requirements, scientific research, description and experimentation. Microscopic examination of neurons stained with a variety of histological stains **-Meet in A258**
2	11	Equipment Tutorial	-Learn about instrumentation used in electrophysiological research **-Meet in A157** (electrophysiology suite)
3	18	Extracellular Recordings of Action Potentials	-Record extracellularly from earthworm neurons **-Meet in A157**
4	25	Computational Modeling of Electrical Recordings of Neurons	-Learn about computational models and the electrical events of neurons **-Meet in A258**
5	March 4	Histology	-Slice brain tissue and stain with a Nissl stain **-Meet in A260**
6	11	Anatomy	-Examine and dissect the sheep brain **-Meet in A260**
7	18	Development or Neurotoxicology	-Quantify the effects of drugs early in life on motor neurons in the spinal cord of rats -or learn about the interaction between environment and gene expression in Huntington's disease **-Meet in A260**
		Spring Break	
8	April 1	Perception	-Learn how the brain interprets sensory information and how it can fool us! **-Meet in A258**
9	8	Mouse Behavior and Drugs	-Observe mouse behavior using the elevated box maze **-Meet in A247**
10	15	Rat Behavior and Reward	-Learn stereotaxic procedures **-Meet in A258**
11	22	Rat Behavior and Reward	-Learn operant conditioning procedures and about intracranial self-stimulation (ICSS) **-Meet in A258**
12	29	Rat Behavior and Reward	-Test pharmacological effects on reward-related behavior **-Meet in A258**
13	May 6	Discussion	-Interpret results and revise the conceptual model and/or the experimental design **-Meet in A247**

Institutional Animal Care and Use Committee (IACUC) Statement: All procedures involving vertebrates have been approved by the Oberlin College Institutional Animal Care and Use Committee. Should you have any concerns about these procedures, please feel free to discuss them with faculty teaching this course, and/or with the Chair of the IACUC, Ms Joyce Babyak, Cox Administration Bldg 101.