

PSYCHOLOGY 701: Biological Bases of Behavior I
Fall, 2009

Instructors: Charlotte Boettiger, Assistant Professor of Psychology; Mark Hollins, Professor of Psychology; Mitchell Picker, Professor of Psychology

Class will be a mixture of lecture and discussion formats. Students will take turns leading discussion of articles from the list below. Grades will be determined on the basis of (1) overall class participation, (2) effectiveness in leading discussion, and (3) three papers. Papers should be structured as an NIH-style grant proposal, consisting of the following components: (1) Specific Aim(s) (½ page), Background and Significance (1½ pages), Research Design & Methods (5 pages), and References. The Design & Methods should include the following subsections: a brief overview, General Methods, Specific Methods Regarding Proposed Experiments, and a General Summary of Predicted Findings. The specific methods sections (for each proposed experiment) should include the following subsections: Rationale, Hypotheses, Experimental Design, Predictions/Interpretation of Results, and Potential Pitfalls/Alternative Approaches. Your proposed experiment(s) should address an important question related to a topic explored in the course. Papers should be no longer than 8 double-spaced typed pages (References not included). The first paper (Hollins) is due on Sept. 29, the second (Picker) on Nov. 3, and the final paper (Boettiger) on Dec. 15. Paper topics should be approved in advance.

August 26: Pain—Basic terms and concepts (Hollins)

September 2: Sensitization of Pain Pathways (Hollins)

September 9: Pain Modulation (Hollins)

September 16: Pain, Cognition, & Emotion (Hollins)

September 23: The Biopsychosocial Perspective (Hollins)

September 30: Influence of sex and genetics on pain sensitivity: An Overview (Picker)

October 7: Sex and pain sensitivity: Neurobiological factors (Picker)

October 14: Sex and pain sensitivity: Psychological factors (Picker)

October 21: Genetic determinants of pain sensitivity (Picker) (Neuroscience Meeting)

October 28: Animal studies of pain: What can they tell us? (Picker)

November 4: Neuroimaging methods (Boettiger)

November 11: Neural mechanisms of pain and placebo analgesia (Boettiger)

November 18: Motivated behaviors: role of dopamine (Boettiger)

December 2: Cortical versus subcortical dopamine (Boettiger)

December 9: Dopamine and compulsive behaviors: PET evidence (Boettiger)