SYLLABUS: INTRODUCTION TO COGNITIVE NEUROSCIENCE

IB’s Office: HNB 316, Best way to contact me: bieder@usc.edu
Contact hours: By appointment. Email me. You will find me quite responsive.
**Time:** Class meets: Mon, Wed 2:00-3:50 PM. **Room:** HNB 100 (Hedco Auditorium)
We will have a 10-min break at 3 PM.


**Journal Articles.** Articles are for background edification and will not be explicitly tested.

**Evaluation:** Evaluation will be based on three midterms (20% each) and a cumulative final examination (40%). All the exams will be multiple choice and will tend to assess conceptual understanding rather than rote memorization. However, there are specific facts and terms that are the intellectual currency in all sciences so those will be tested as well. Approximately 60-70% of the exam will be composed of questions from class lectures. We will try to have an early evening review session prior to each exam. I will also distribute a study guide about a week or two prior to each exam.

**If you miss an exam:** There is no definite penalty but a probabilistic one: If you have taken all three midterms and you are near a grade cutoff (e.g., by 3 or 4 points in your average grade), you will get the higher grade. If you miss a midterm, you will get the lower grade. (You have to take the final.) Unless you are running a high A, there is a fair chance that missing an exam will cost you a grade, e.g., from an A- to a B+. We cannot evaluate the adequacy of excuses.

**Extra credit (Class Participation):** (up to 3%) will be awarded for class comments or questions that serve to illuminate the discussion or informed criticism (but not mere attendance). Good answers on those rare occasions when someone is called upon randomly also qualify but poor class decorum, e.g., Irrelevant or distracting behavior (e.g., social networking; texting; viewing non-class related material; talking, etc.) will result in negative participation credit.

**Extra Credit (Experimental Participation):** 2%. About an hour of testing of your face recognition proficiency and you are to submit a brief (less than a page) reflection on your experience taking the tests. Don’t simply describe the tests or how well you did but something insightful about the experience of face recognition, hopefully related to course concepts.

**Final Exam:** Friday, Dec. 7, 2018, 2-4 PM, in HNB 100 (Regular classroom).
**Topics:** Roughly corresponding to weeks. *There will be some reordering/rescheduling of topics and possibilities of additions/subtractions of readings.*

   *GIM Chapters 1 Brief History. (Skim.)
*GIM Chapter 2 Structure and Function of the Nervous System. (You will not be tested on the specifics of the molecular biology, e.g., of the cell membrane, ion channels, and neurotransmitters on pp. 28-36).


2. **Aug. 22nd, 27th: Sensation and Perception. Early sensory processing.**
   - Subcortical perceptual processing. How to get the world into the head. V1 and Gabor Filtering. Methodologies. Dorsal vs. Ventral Cortical Visual Pathways. Subject DF.
   - *GIM Chapter 3. Methods of Cognitive Neuroscience. Rather than discuss methods as a separate topic we will consider them as they arise in particular studies over the course of the semester.*
   - *GIM Chapter 5. Sensation and Perception.*

3. **Aug. 29th, Sept 5th. (No class on Sept. 3, Labor Day)**
   - *GIM Object Recognition. Chapter 6.*

4. **Sept 10 & 12: Higher Level Vision II: Gabor Filtering; Faces, Prosopagnosia, Subordinate-Level Recognition, Scenes.**

5. **Sept 17 & 19. Higher Level Vision II:**
   - Review: Wed 4-7 PM (After class)

6. **Sept 24 First Midterm (20%).**

   - *GIM. Chapter 7. Attention*

8. **Oct 3. Action**
   - *GIM. Chapter 8. Action*
   *GIM Chapter 9. Memory.

   Review after class Oct. 17th, 4-? PM  
   *GIM. Chapter 10. Emotion.  

10. Oct. 22: 2nd Midterm (20%).

   *GIM. Chapter 11. Language.  

   *GIM. Chapter 12. Cognitive Control.  

   Review after class  

14. Nov. 12: 3rd Midterm (20%).


No class on Wed, Nov. 21: Thanksgiving

Friday, December 7th, 2-4 PM, CUMULATIVE FINAL EXAM (40%)

Students requesting academic accommodations based on a disability are required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP when adequate documentation is filed. Please be sure the letter is delivered to me as early in the semester as possible. Their phone number is (213) 740-0776.