SYLLABUS: Biological Sciences 493 NEUROSCIENCE HONORS SEMINAR, Spring 2013

Faculty:			
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Meetings: 12-1 PM, Thursday, HNB 120F (Hedco Neuroscience Building)

If you are unable attend a class for some compelling reason, please be sure to notify IB and SJB by e-mail in advance. Course materials (this syllabus, etc.) will be available on Blackboard: <u>https://blackboard.usc.edu/</u>. Please check this site for course information.

1. The goal of this seminar is for students to gain exposure to experimental neuroscience research, to develop the ability to communicate scientific ideas effectively, and to hone their critical and listening skills. One primary means for achieving this is to get students involved in scientific research seminars. Students enrolled in 493 are expected to get in the habit of attending research seminars, many of which will be announced at our weekly class meetings.

The usual time and places of Neuroscience-related seminars are:

Neuroscience 12:30 p.m. Tuesday HNB Auditorium (some seminars are at noon) Neuroscience seminars are listed at <u>http://www.usc.edu/webapps/events_calendar/custom/106/</u>. Psychology seminars, which are not on a fixed schedule, are listed at

http://dornsife.usc.edu/psyc/departmental-calendar/. Not all the Psychology talks are neuroscience related. PIBBS maintains a seminar listing at http://web-app.usc.edu/ws/eo2/calendar/228. You may also find some Neuroscience-related research seminars in Chemistry, Biomedical Engineering and in departments on the USC Medical Sciences Campus, e.g.,

Zilkha Neurogenetics Institute:

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http://keck.usc.edu/Research/Research_Institutes/Zilkha_Neurogenetic_Institute/Events/ZNI_Seminar_S eries.aspx

Broad Center for Regenerative Medicine and Stem Cell Research:

http://keck.usc.edu/Research/Research_Institutes/Eli_and_Edythe_Broad_Center_for_Regenerative_Me dicine and Stem Cell Research at USC/Events/Broad_Center_Seminar_Series.aspx

Seminars throughout Southern California are listed at BiologyWest (<u>http://www.usc.edu/biowest/</u>). All 493 students should be able to find at least one interesting seminar to attend (or view) each week.

2. Each 493 student is required to give two oral presentations ("chalk talks" rather than Powerpoints) during the semester with at least three weeks intervening between presentations. Presentations are to be based on research seminars attended or viewed on line. With permission, students may instead present a recent journal article from a leading scientific journal for one of their chalk talks; the article should be related to their research and must be approved by one of the course faculty in advance (see Guidelines below, p. 3). However, at least one of the presentations given by each student must be based on a research seminar (and related paper, if appropriate). Students will schedule their presentations in the first meeting of the semester.

Course grades will be based both on presentations and class participation. Students are expected to learn to ask questions and exchange ideas freely. Students should be prepared to ask at least one question or contribute a relevant comment by the end of each presentation. While grades lower than B+ are very rare in this course (after all, you are all honor students!), an A is definitely not automatic.
The final exam period will be used for 494 thesis presentations, if necessary.

5. Students requesting academic accommodations based on a disability are required to register with Disabilities Services and Programs (DSP) each semester (see below, p. 3). 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 one of the course faculty as early in the semester as possible.

Helpful Hints for Oral Presentations in 493

Start: Introduce yourself and write an abbreviated title of the seminar you attended (or paper you read) on the board. Be sure to note the name of the speaker and his or her institution. Plan on speaking for \sim 10-12 min so as to leave plenty of time for questions/critiques. Some guidelines:

- 1. Keep your mind on the big picture! Remember to give an overview at the beginning; explain the rationale or hypothesis and background (briefly) for the results you are going to describe, and say why the question being investigated is interesting and important. *START* by *peaking the interest of your listeners!*
- 2. Aim for a well-organized, succinct presentation. It is **not** necessary to give a blow-by-blow description (usually it's preferable not to give too much detail, but instead concentrate on specific results and what they mean). *Prioritize* in terms of deciding what information is critical, and think about tailoring it to the specific audience you will be addressing (in this case, the audience is broad). Give a brief, clear exposition of the results and what they mean. You want to develop a coherent story that engages the interest of your audience.
- 3. As indicated above, you will not have time to present the results comprehensively--you will need to be selective. It is a good idea to start organizing your presentation by focusing on which results you want to cover (i.e., those that you think are most interesting or important). Then back up and think about how your introduction and description of what they did can lead your listeners to the specific results on which you have chosen to focus. Think of this as "reverse engineering" your talk, so that your introduction leads your listeners to the results you will describe.
- 4. Be prepared write a short (<1 page) outline in advance if you want some notes (but don't expect to use them during your talk). Concentrate on an integrated story line; think about what questions you are hoping to get. *Give at least one practice talk at least 1-2 days before your class presentation*. Remember, you have only 10 minutes in which to convey your story concentrate on giving specific information (especially experimental results and what they mean) in a user-friendly way.
- 5. Remember your 493 presentation is a "chalk talk" so use the board! It's an excellent way to use the power of graphics, and will help to keep people awake. Do not to read from notes. Look up; people will be a lot more interested if you look up and out into the audience.
- 6. Remember to take a giant (metaphorical) step BACK at the end of your presentation (as at the beginning) *FINISH by fulfilling the interest of your listeners*! Frequently speakers are so closely focused on the details that they forget that people in the audience may not know much about the topic in general. Remember you are usually trying to explain something that people in the audience know little about. Ask yourself: what is the main take-home message I want to convey? The better
 - 7. you are at getting your information across, the better you will be at communicating in general, so this is great practice!

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- 8. Last but not least: try not to say "um", "like", "basically" during your talk. If you fall into the habit of repeating such words as a crutch to "fill the empty space", it can be difficult to break this habit (although it is possible!). It is very distracting to the audience to hear multiple repetitions of a single word (and one that has little or no informational content). Listeners are never bothered by short silences in a talk but they tend to be driven crazy by lots of "ums"!
- 9. Good luck, and have fun!

Guidelines for choosing journal articles for an oral presentation in BISC 493 (Neuroscience)

Remember that you need to get the article you wish to present approved in advance (by at least one week). Please email the full reference (authors, title, and journal publication info) to one of the faculty members in this course at least one week before your presentation. You should choose an article from a highly-rated journal. What constitutes a "highly" rated journal? For the purposes of this class, we use something called the "citation index" to judge whether a journal is "significant" or not (also known as the journal's "impact factor"). The citation index can be found on the ISI Web of Knowledge found at http://www.usc.edu/libraries/ under the tab "Additional Resources" (you have to be logged into the USC network to access this resource). It measures the number of times, on average, a paper published in this journal in the two preceding years is cited in the literature in the current year. Nature/Science/Cell (commonly considered the most prestigious journals) have an index of above 30. If you pick a paper from one of these journals, you should be fine – although you still need to have it approved in advance by one of the faculty.

However, we don't want you to be limited to these journals since there are many great papers in the tier immediately below these three. In Neuroscience these are journals like Neuron, Nature Neuroscience, Nature Cell Biology, Genes and Development, Development, Journal of Neuroscience, Cerebral Cortex, - the citation indexes of these journals vary, but are usually above 6-7 (Neuron and Nature Neuroscience have impact factors of \sim 14). A journal with an index much below 6 means that the papers in this journal, on average, are less likely to be having a large impact but there are, of course, famous exceptions to this rule. In addition, even Science and Nature make mistakes on occasion, so not all papers published in those journals are of the best quality.

Whatever your interests, please choose a paper from a journal that is related to your own research with a reasonable impact factor and remember to submit it for approval at least a week in advance. As ever, if you have any questions, ask!

Disabilities. 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 the instructor as early in the semester as possible. DSP is open Monday-Friday, 8:30-5:00. The office is in Student Union 301 and their phone number is (213) 740-0776.

<u>Statement on Academic Integrity:</u> USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the

recommended sanctions are located in Appendix A:

<u>http://www.usc.edu/dept/publications/SCAMPUS/gov/</u>. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <u>http://www.usc.edu/student-affairs/SJACS/</u>.