

**BIOLOGICAL SCIENCES 493, 494**  
BIOLOGY HONORS SEMINAR, Spring 2018

Faculty:

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Class meets at Noon 12-1 PM Wednesday in RRI 221 (Ray Irani Hall for Molecular and Computational Biology). If you are unable attend a class for some compelling reason, please be sure to notify the above faculty by e-mail in advance. Course materials (syllabus, readings, etc.) will be available on Blackboard: <https://blackboard.usc.edu/>. Please check this site frequently for course information.

**1. The goal in this class is to gain exposure to experimental biological research and to develop the ability to communicate scientific ideas effectively.** One primary means for achieving this is to get students involved in scientific research seminars. Students enrolled in BISC 493,494 are expected to get in the habit of attending University sponsored research seminars, many of which will be announced at the weekly class meetings. The usual time and places of USC departmental seminars are:

<b>Marine Biology</b>	<b>12 noon Tuesday</b>	<b>AHF Torrey Web Room</b>
<b>Molecular Biology</b>	<b>12 noon Friday</b>	<b>RRI Auditorium</b>
<b>Neuroscience</b>	<b>12:30 p.m. Tuesday</b>	<b>HNB Auditorium</b>

There are also many excellent research seminars in Chemistry, Physics, Gerontology, Biomedical Engineering and in departments on the USC Health Sciences Campus. Neighboring institutions (UCLA, Caltech, City of Hope, UCI) offer a wide selection of research seminars which USC students may also attend. All students enrolled in BISC 493 or 494 should be able to find at least one interesting seminar to attend each week.

- 2. Each 493 student is required to give at least two oral presentations (chalk talks) based on research seminars attended in person during the semester.** In addition the student may present a recent journal article from a leading scientific experimental journal for one of their chalk talks, provided the article is approved by the faculty. A schedule for presentations will be made early in the semester.
- 3. Course grades will be based on quality of 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 by the end of each presentation. While grades lower than B are very rare in this course (after all, you are all honor students!), a solid A is given only for exceptional performance. Don't count on it.
- 4. The final exam period, 11:00 am – 1:00 pm, Friday May 4 will be used for BISC 494 thesis presentations.**
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 BISC 493 Oral Presentations

**Introduce yourself before writing (on the board) an abbreviated title of the research seminar you attended (or paper you read). Also, write the name of the researcher and the institution where the research was done. Plan on speaking for 10-12 min so as to leave plenty of time for questions. Here are some helpful suggestions:**

- 1. Keep your mind on the big picture!** Start with a brief overview, indicating why the question being investigated is interesting and important, and providing some background to help understand the research results and *arouse 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 for 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. **Be selective, since you will not have time to present the results comprehensively.** 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 research description can help your listeners understand the specific results you have chosen for discussion.
4. **Be prepared – if you need to use notes, write a short (< 1 page) summary or outline in advance.** Concentrate on an integrated story line; think about what questions you are hoping to get. *Give at least one practice talk 1-2 days before your class presentation.* Remember, you have only 10 minutes in which to convey your story – concentrate on giving specific information in a user-friendly way (especially regarding experimental results and what they mean).
5. **It is preferable to make your presentation as a “chalk talk” – so use the board!** It’s an excellent way to use the power of simple graphics, and will help to prevent people from falling asleep. Try **not** to read from notes or spend lots of time looking down; people will be a lot more interested if you look up and out into the audience.
6. **Frequently speakers are so closely focused on details that they forget that 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 you are at getting your information across, the better you will be at communicating in general, so this is great practice!
7. **Last but not least: try not to say “um”, “like”, “basically” during your talk.** If you fall into the habit of repeating such words to “fill 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”!
8. **Good luck, and have fun!**

#### **Guidelines for choosing journal articles for an oral presentation in BISC 493**

You should choose an article from a top-rated journal whose articles are refereed before publication. Remember that you need to get your chosen article 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.

What constitutes a "top" 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 is cited subsequently in the literature. 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. A journal with an index much below 10 means that the papers in this journal, on average, will not be of sufficient interest to present to this class. There are, of course, famous exceptions to this rule - but they are rare! 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 refereed journal in your field with an impact factor above 6, 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 Dr. Petruska as early in the semester as possible. DSP is open Monday-Friday, 8:30-5:00. The office is in Rm 120, Grace Ford Salvatori Hall, 2601 Watt Way, phone number (213) 740-0776. FAX (213) 740-8216, E-mail <ability@usc.edu>.

**Statement on Academic Integrity:** 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:

<http://www.usc.edu/dept/publications/SCAMPUS/gov/>. 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: <http://www.usc.edu/student-affairs/SJACS/>.