

Syllabus for BIOL 490

What is my role in Seminar? In BIOL 490, your role is to present your own research as well as to be a participant and evaluator for other presenters.

What should I present? Doing research is one of the graduation requirements for Biology majors. You should plan this out way in advance—in freshman or sophomore year, you should already know how you want to meet this requirement. There are four ways to do a research project suitable for your seminar presentation:

- **A project completed for a research course.** Biology majors take the BIOL 400 capstone course, which runs every semester and offers a choice between two lab sections: one involving research in a cellular or molecular area and one involving research in an organismal or ecological area. Biochemistry majors take BCHM 400, which is the same as BIOL 400 with the cellular/molecular lab section. This course will involve you in an authentic research in a faculty member's research area but is smaller-scale research than can be done in the summer or during the academic year.
- **Summer research in collaboration with a Biology or Chemistry professor at NCC.** Find out more about our summer research program on the [Research](#) page.
- **Collaborative research with a Biology or Chemistry professor during the academic year.** If you choose this option (also a way to extend your summer research), discuss with your research mentor how to register for Directed Research (BIOL 395) for an appropriate number of credits (usually one credit).
- **A project completed in a summer research program at another university.** There are many summer research programs that accept applications from students all over the country; often, these are funded by the National Science Foundation and referred to as "REUs" (because of NSF's Research Experiences for Undergraduates program). Some programs are listed on the Biology [Opportunities](#) page, and more programs and search engines can be found on the [Resources](#) page.

Note that an off-campus program must be a research program to be appropriate for seminar, not something like a pre-medical information program. If you are interested in presenting a project that does not fit one of the above categories, you will need specific approval from the department chair. Generally speaking, projects done in other courses or internship or employment activities lack the depth and independence needed to qualify as a research experience.

Who is my research mentor? Each student has a research mentor to help guide him/her in developing research directions, designing experiments, learning techniques and analyzing results. Your mentor will also help you prepare your presentation.

- If your research was done in BIOL/BCHM 400, then your mentor is your lab instructor.
- If your research was done in collaboration with a North Central faculty member, that faculty member is your research mentor.
- If your research was done off-campus, then even though your primary research mentor was the person you worked with at a different institution, you will need to ask

one of the North Central faculty to serve as a local mentor to help in putting your presentation together

What are the expectations for Seminar?

- **Expectations for attendance, evaluation, and participation** are the same as for BIOL 290. Be sure to review the BIOL 290 syllabus to be sure you know what's expected.
- **E-mail your title and abstract** (200 words or less) to the seminar coordinator at least **one full week** before your presentation for posting on the seminar Web site. Be sure that your abstract includes the significance of the project, the research question you asked and a summary of the results. If your title and abstract are not submitted a week in advance, your presentation grade will be lowered by one half-step (A to A-, B- to B+, etc.).
- **Rehearse your presentation with your research mentor** at least one week before your presentation. This is a rehearsal, not just a meeting to talk about the presentation. You may want to meet with your mentor much earlier to talk about the structure of the presentation and start planning it! By the one-week deadline, you are expected to have your presentation ready for a full run-through with visual aids. This gives time for you to get suggestions from your mentor and make needed adjustments. If you fail to meet this requirement, your presentation grade will be lowered by one letter grade.
- **Bring your slides as a PowerPoint file on a flash drive** so that logging in and out (which can be slow) is not required. If you need to use your own laptop for some reason, it needs a full-sized HDMI port to connect to the projection system.
- **If you will require any audio-visual equipment** other than what is normally available in the classroom, it is your responsibility to request that from the seminar coordinator one week before your seminar.
- **You will have 25 minutes** to make your presentation, plus an additional five minutes for questions and discussion.
- **Please send a copy of your PowerPoint slides** as a PDF to the seminar coordinator within 24 hours after your presentation. This allows the seminar coordinator to review anything s/he might have a question about and also serves as a copy for our archives.

How will my presentation be graded? Your presentation grade is based on critiques from biology faculty and students as well as your mentor's comments about your preparation. Faculty and students fill out [critique forms](#). The seminar coordinator will summarize the comments and assign your final grade. As shown on the critique form, there are four major areas in which your presentation will be graded:

- Your understanding of the literature in your area and the context for your work and how well you communicate the background and objectives of your research
- How well you understand and communicate your experimental design, your results and their analysis
- The quality and professionalism of the presentation itself

- Your preparation with your mentor and your responsiveness to his/her suggestions

You will primarily be graded on how well you communicate your research, not on the quality of the research itself. However, if your audience thinks, for example, that you didn't do the right controls, didn't design the experiments well or didn't do the right statistical tests (and didn't effectively explain why the work was done in a particular way), their comments and your grade will reflect that. Note that your grade can be reduced as described above if you fail to meet deadlines.

How do I register? BIOL 240 is offered every semester. Register as you would for any class. Remember that BIOL 290 is for participants (non-presenters) and BIOL 490 is for presenters.

How can I get help with my presentation? Help is available from many sources. Your mentor is your primary source for discussions of the research itself, the background, and how best to present it. Tips to improve your presentation, sample feedback letters, and frequently seen comments from student and faculty critiques are available on this site. Remember that other faculty who may have expertise in statistical analysis or in a particular technique will also be happy to help you with parts of your presentation. And, don't hesitate to ask other students to watch and critique your presentation.

What course policies should I know?

- **Recording attendance:** The seminar coordinator will circulate an attendance sheet and will also indicate who has asked questions. Please pay attention to how the attendance sheet is moving through the class and help it circulate in a rational way (e.g., all the way up one side and down the other).

If the attendance sheet does not get to you, it is your responsibility to record your attendance at the end of class. If the seminar coordinator misses a question, it is your responsibility to remind him or her ("Last week, I asked about the statistical analysis...").

- **Respect:** Seminar presenters have worked hard to develop and present their work and deserve your respect. Please be attentive and respectful during seminars. Don't "pack up" until the seminar *and* questions are over, as this is noisy and communicates disrespect to the presenter. If some truly unavoidable circumstance requires you to come late or leave early, do so as discretely as possible.
- **Electronic devices:** Using laptops, tablets, or phones during seminar for personal business or entertainment during a seminar is also disrespectful to the speaker. Please keep electronic devices silenced (preferably powered off) and out of sight during seminar.
- **Video and audio recording:** Only students with specific accommodations are permitted to record seminars. Such recordings may not be posted to the Web, social media sites, file-sharing sites, etc. No one else, *including friends or family members who may attend your seminar*, should make video or audio recordings of any kind. Research data are the intellectual property of the laboratory where they were created and are not to be shared without explicit permission.