

Entering Research

BIOL:4898:0001, 002:189, Fall 2013

Instructor

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Course time and location: Monday, 3:30-4:20 PM in 401 BBE.

Office Hours: Tuesday 9-11 AM, Wednesday 9-10 AM in 108 BB; or by appointment.

Seminar Description

This 1 credit seminar course for undergraduate students is designed to **complement the independent scientific research experience**. This course is taken concurrently with research credits. Students meet weekly to share their research experiences and to get feedback on the progress of their research projects.

Student Learning Objectives

The main objective of the seminar is to help students develop research process and communication skills and to further their professional development. Specific learning objectives include:

Research Process Skills

Students will:

- define a research question or hypothesis for their project.
- find and evaluate relevant primary literature and background information related to their project.
- learn and follow appropriate protocols for documenting their research.
- use logic and evidence to build arguments and draw conclusions about their data.
- define future research questions.

Communication

Students will:

- explain the focus of their group's research, how individual research group members and projects are connected, and how the research in their group contributes new knowledge in their discipline.
- connect their research to issues relevant to society at large.
- effectively communicate their research findings in oral and written scientific formats.

Professional Development

Students will:

- establish and maintain a positive relationship with their mentor by agreeing on common goals and expectations for the research experience, and revisit those goals and expectations regularly.
- define their roles and responsibilities as a member of their research group.
- define and contribute to discussions about the forms and consequences of scientific misconduct.
- contribute to peer review in the learning community and explain the role of peer review in science.

Grading

Attendance is required. If you are more than 10 minutes late to class, you will only receive ½ credit for attendance so please show up to class on time. As your attendance is directly tied in to your participation grade, an unexcused absence will result in 0 attendance and 0 participation points. Please notify Lori Adams as soon as possible if you cannot attend class due to sudden illness, family emergencies, etc. If you are sick, you will be required to submit an Absence From Class form that can be found on the Office of the Registrar's website (<http://www.registrar.uiowa.edu/Student/FormsforStudents/tabid/79/Default.aspx>). A "free pass" is given once in the semester.

Points allocated for handing in assignments after the due date will be reduced by 10% for every day the assignment is turned in late, unless approval to hand in a late assignment is granted ahead of time.

30% - Attendance and In-Class Discussion Participation

50% - Final General Public Paragraph (10%), Final Presentation (20%), Final Paper (20%)

20% - S/U assignments (10 assignments @ 2% each)

100%

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Date	Topics	Track A* – Assignments Due	Track B* – Assignments Due
Session 1 8/26	Introductions and Overview Scientific Communication		
Session 2 9/2	NO CLASS	<ul style="list-style-type: none"> • Research experience expectations (S/U) 	<ul style="list-style-type: none"> • Research experience expectations (S/U)
Session 3 9/9	Reading Scientific Articles	<ul style="list-style-type: none"> • Bring in Primary Scientific Research Article, Secondary (Review) Article and Popular Press Article 	<ul style="list-style-type: none"> • Bring in Primary Scientific Research Article, Secondary (Review) Article and Popular Press Article
Session 4 9/16	Your Research Group's Focus	<ul style="list-style-type: none"> • Scientific Article Worksheet (S/U) • Research Group Focus and Diagram (S/U) 	<ul style="list-style-type: none"> • Scientific Article Worksheet (S/U) • Research Group Focus and Diagram (S/U)
Session 5 9/23	Mentoring Styles	<ul style="list-style-type: none"> • Mentor-Mentee Expectations (S/U) 	<ul style="list-style-type: none"> • Research Paper Outline (S/U)
Session 6 9/30	Defining Your Hypothesis or Research Question	<ul style="list-style-type: none"> • Background and Significance (S/U) 	<ul style="list-style-type: none"> • Introduction section (S/U)
Session 7 10/7	Designing Your Experiments	<ul style="list-style-type: none"> • Experimental Design (S/U) 	<ul style="list-style-type: none"> • Materials and Methods section (S/U)
Session 8 10/14	Documenting Your Research	<ul style="list-style-type: none"> • Potential Results (S/U) 	<ul style="list-style-type: none"> • Results and Discussion of Figure 1 (S/U)
Session 9 10/21	Research Ethics		
Session 10 10/28	Science and Society	<ul style="list-style-type: none"> • General Public Paragraph Draft (S/U) 	<ul style="list-style-type: none"> • General Public Paragraph Draft (S/U)
Session 11 11/4	Designing Effective Oral Presentations	<ul style="list-style-type: none"> • Research proposal draft #1 (S/U) 	<ul style="list-style-type: none"> • Research proposal draft #1 (S/U)
Session 12 11/11	Paper/Proposal In-Class Peer Review	<ul style="list-style-type: none"> • Final General Public Paragraph (G) 	<ul style="list-style-type: none"> • Final General Public Paragraph (G)
Session 13 11/18	NO CLASS Individual Meetings	<ul style="list-style-type: none"> • Research proposal draft #2 (S/U) 	<ul style="list-style-type: none"> • Research paper draft #2 (S/U)
Session 14 12/2	Final Presentations	<ul style="list-style-type: none"> • Research presentation (G) 	<ul style="list-style-type: none"> • Research presentation (G)
Session 15 12/9	Final Presentations	<ul style="list-style-type: none"> • Research presentation (G) • Final Research Proposal (G) 	<ul style="list-style-type: none"> • Research presentation (G) • Final Research Paper (G)

(S/U) Assignment is graded on a satisfactory/unsatisfactory basis; **(G)** assignment is graded A-F .

* **Track A** – Student just beginning a research project.

* **Track B** – Student with considerable (2 or more semesters) research experience.

Department of Biology
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Instructor(s): Lori Adams 108 Biology Building 319-335-1322 lori-adams@uiowa.edu
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Office Hours: Tuesday 9-11 AM, Wednesday 9-10 AM in 108 BB; or by appointment.

Department Chair (DEO): Bernd Fritsch, 143 Biology Building, 319-335-1054

Statement Regarding Student Collaboration:

The assignments in this course are not collaborative and should be a representation of the student's own work. Feedback from your student peers and outside faculty is welcomed as long as the final product is a reflection of the student's own thoughts and ideas.

Academic Misconduct:

The College of Liberal Arts and Sciences considers academic fraud, dishonesty, and cheating serious academic misconduct. All students suffer when academic misconduct takes place. Academic fraud, dishonesty, and cheating disturb the mutual respect that should exist between instructors and students and among students, and can poison the atmosphere of a classroom. Perhaps most seriously, those who commit academic fraud, dishonesty, or cheating are robbed of the educational experiences that are the primary purpose of course work in the College of Liberal Arts and Sciences. We expect instructors to help students understand and avoid all academic fraud.

If you are unclear about the proper use and citation of sources, or the details and guidelines for any assignment, you should discuss the assignment and your questions with the instructor. All forms of plagiarism and any other activities that result in a student presenting work that is not really his or her own are considered academic fraud. Academic fraud includes these and other misrepresentations:

- presentation of ideas from any sources you do not credit;
- the use of direct quotations without quotation marks and without credit to the source;
- paraphrasing information and ideas from sources without credit to the source;
- failure to provide adequate citations for material obtained through electronic research
- downloading and submitting work from electronic databases without citation;
- participation in a group project which presents plagiarized materials;
- taking credit as part of a group without participating as required in the work of the group;
- submitting material created/written by someone else as one's own, including purchased term/research papers;

Cheating on examinations and other work also interferes with your own education as well as the education of others in your classes. If you are unclear about the guidelines for any testing situation or assignment, you should discuss your questions with the instructor. Academic cheating includes all of the following, and any other activities that give a student an unfair advantage in course work.

- copying from someone else's exam, homework, or laboratory work;
- allowing someone to copy or submit your work as his/her own;
- accepting credit for a group project without doing your share;
- submitting the same paper in more than one course without the knowledge and approval of the instructors involved;
- using notes, text messaging, cell phone calls, pre-programmed formulae in calculators, or other materials during a test or exam without authorization;

- not following the guidelines specified by the instructor for a "take home" test or exam.

When an instructor in the College of Liberal Arts and Sciences suspects a student of academic fraud or cheating these procedures will be followed:

- The instructor (or supervisor, if the instructor is a teaching assistant) must inform the student--in a printed letter--as soon as possible after the incident has been observed or discovered.
- If the instructor comes to the conclusion that the student academic fraud or cheating has occurred, he or she (in consultation with the supervisor if the instructor is a teaching assistant) will determine what action to take. The instructor may decide to reduce the student's grade on the assignment or activity, or in the course, or even to assign an F for the assignment or activity or for the course
- The instructor will send a written report of the case to the Associate Dean for Academic Programs and send copies of the report to the DEO and to the student(s) involved
- The associate dean for academic programs will impose the following or other penalties: disciplinary warning until graduation (usually for a first offense); suspension from the college for a calendar year or longer (usually for a second offense); or recommendation of expulsion from the University by the president (usually for a third offense).

If a student believes that the finding of academic fraud or cheating is in error or the penalty unjust, he or she may request information on appeal procedures from CLAS Academic Programs & Services, 120 Schaeffer Hall.

IMPORTANT POLICIES OF THE COLLEGE OF LIBERAL ARTS AND SCIENCES

Academic Fraud

Plagiarism and any other activities when students present work that is not their own are academic fraud. Academic fraud is a serious matter and is reported to the departmental DEO and to the Associate Dean for Undergraduate Programs and Curriculum. Instructors and DEOs decide on appropriate consequences at the departmental level while the Associate Dean enforces additional consequences at the collegiate level. See the CLAS Academic Fraud section of the [Student Academic Handbook](#).

CLAS Final Examination Policies

Final exams may be offered only during finals week. No exams of any kind are allowed during the last week of classes. Students should not ask their instructor to reschedule a final exam since the College does not permit rescheduling of a final exam once the semester has begun. Questions should be addressed to the Associate Dean for Undergraduate Programs and Curriculum.

Electronic Communication

University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences. (*Operations Manual*, [III.15.2](#). Scroll down to k.11.)

Making a Suggestion or a Complaint

Students with a suggestion or complaint should first visit the instructor, then the course supervisor, and then the departmental DEO. Complaints must be made within six months of the incident. See the CLAS [Student Academic Handbook](#).

Accommodations for Disabilities

A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information.

Understanding Sexual Harassment

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI [Comprehensive Guide on Sexual Harassment](#) for assistance, definitions, and the full University policy.

Administrative Home

The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS [Student Academic Handbook](#).

Reacting Safely to Severe Weather

In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Public Safety [web site](#).