

BIO 480: Biology Seminar (COR III & K Tags)

Edgewood College, Fall 2012

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Office Hours:

Mon 1-2; Thur 11-12

MEETING TIMES AND LOCATION: Wednesdays 11-1 and Fridays 12-1, Sonderegger 104.

IMPORTANT!! PLEASE READ CAREFULLY:

We will only utilize six Fridays this semester as an entire class, which will be the scheduled Fridays of the formal research seminars to be delivered by BIO 480 students to the Biology Department and the College at large. However, **it is very strongly suggested that you KEEP ALL FRIDAYS CLEAR FROM 12-1** on your calendars as we develop the seminar presentation schedule. Even after initial target dates are set, the schedule may—and usually does—change. If that happens, *you will still be required to attend all student seminars regardless of any schedule changes*. We will also not utilize every Wednesday period as an entire class, or even the full two hours when we do meet as a whole class on Wednesdays. However, the balance of Wednesdays and Fridays that are not used for formal class time as a whole group will provide us all with convenient, easy-to-schedule times for smaller peer group meetings, practice talks, and research advisor meetings. *Your best strategy to avoid major headaches for everyone will simply be to keep the course times that you are registered for (W 11-1, F 12-1) free and clear on your calendar all semester.*

PREREQUISITES:

Completion of a COR-II course, completion of or concurrent registration in an O-tagged (oral communication) course, junior status (senior status encouraged), and completion of Biology 251 or consent of instructor.

COURSE DESCRIPTION:

Edgewood's Biology major emphasizes the contributions of broadly-educated biologists to a just and compassionate world. As such, the scientific community here engages a variety of different people in a collaborative effort to advance discovery and its ethical application. Biology Seminar (BIO 480) is a forum in which our advanced students use a scientific talk on undergraduate research to display their expertise in biology, demonstrate their understanding of the scientific process and its application, and articulate a personal philosophy regarding their role in the scientific community. The course models the value of scientific communication. All members of the course also take an active role in the discourse that is a critical part of the scientific community through evaluation and discussion of the work of peers.

COURSE OBJECTIVES:

1. Develop expertise in selected topics in Biology through synthesis of prior coursework with papers from primary literature and independent undergraduate research projects.
2. Demonstrate knowledge and mastery of concepts from prior courses in the Biology Major. This includes scientific content, the methods by which knowledge is generated and communicated in the sciences, and the social / ethical implications of the applications of biological knowledge.

3. Practice the skills necessary to effectively communicate the purpose, methods, results, and conclusions of scientific research in a public research talk.
4. Present the questions and findings from individual undergraduate research projects.
5. Evaluate research as presented by others.
6. Engage with peers and faculty in an open discussion of current topics in scientific research.
7. Explore how your gifts, values, and goals can guide you to assume a role within the community of science.
8. Summarize and appraise the future direction of a chosen field of biological sciences.

BRIEF OVERVIEW OF COURSE REQUIREMENTS:

Biology Seminar is the forum in which advanced students demonstrate their knowledge and understanding of science and the scientific process, their role in the scientific community, and the role of science in today’s world. We will begin with a discussion of the scientific community, its fields of study, and your role within it. You will then take an active role in the discourse that is a critical part of the science through preparation of your own presentation and the preparation, discussion, and evaluation of presentations by others.

There are **EIGHT requirements** for Biology seminar:

- 1) Complete readings and assignments that explore the nature of the scientific community, evaluate a field of specific study, and reflect upon your future role(s) within the scientific community and your field of study (10% of your final grade).
- 2) Prepare to give a public presentation, in which the primary audience is the Edgewood scientific community (10% of your final grade),
- 3) Help your peers prepare their presentations (10% of your final grade),
- 4) Give an effective public presentation that demonstrates your knowledge of a particular subject area, and make a summary of this presentation available outside of the Edgewood community (50% of your final grade),
- 5) Attend seminar on a regular basis to evaluate the work of your peers. **Attending fewer than five (5) seminars will result in a failing grade for this course.**
- 6) Participate in meaningful scientific discussion after student seminars (10% of your final grade).
- 7) Attend and evaluate talks outside of the Edgewood College scientific community (10% of your final grade).
- 8) Majors in Biology will also take a standardized test during finals week that will be used to assess the broad knowledge-base of our students. **These exam scores do not contribute to your course grade, but taking the exam is required to receive a passing grade in the course.**

GRADING:

There are 100 possible points in the course, divided as outlined above.

90-100%	A	70-77%	C	A	A
88-89%	AB	68-69%	CD		
80-87%	B	60-67%	D		
78-79%	BC	< 60%	F		

BLACKBOARD AND EMAIL:

You will be enrolled in the Blackboard site for this class, and I will post a variety of course materials here. Please use only your Edgewood email account to communicate with faculty in this class, this will keep your emails and assignments out of our junk folders. Also, please include "BIO 480" among the content in the subject field of all emails.

DETAILED COURSE ASSIGNMENTS RELATED TO THE EIGHT REQUIREMENTS:

1. Reflections on your scientific community

- a) Complete all assigned readings and be prepared for discussions
- b) Complete peer review assignment for literature summaries.
- c) Position paper:
Describe the current state of your chosen field of biology, where you see this field of research going over the next 10 years, and how you hope to build on your Edgewood experiences to make future contributions to the scientific community (~5 pages [refs NOT included], 1.5 spacing, APA formatting)

2. Prepare a public presentation.

Preparing for your presentation will be a significant proportion of your grade. In addition, it is always the case that preparation is directly reflected in the quality of a student's talk. It is **required** that you meet all due dates and scheduled meetings; you may be dropped from the class or receive a failing grade if repeated delays or absences occur. Any students giving talks early in the semester should make special arrangements with the course instructors and their research mentor to complete the requirements.

Two VERY Important Considerations:

Scheduling the required meetings with your research mentor, BIO 480 Instructor, and peer groups is **YOUR** responsibility--I will not chase you down or do this for you.

You must come to all scheduled meetings **very well prepared** in order to use that time with your scientific community wisely and efficiently.

a) **Submit, as four attachments to a single email to the BIO 480 Instructor, the following materials by the end of the third week of class (that's Sep. 14th for our F12 semester):**

- i) PDF files of three (3) primary research papers related to your project that you have used as references to guide your thinking and research so far.
- ii) A single Word document (.doc) containing the following components:
 - a. A topic or title statement of your research project
 - b. A summary of the three attached references that describes their relationships to your project and to each other. Do this very thoughtfully, focussing on how the information and findings in these references have informed your own thinking, your question(s), your hypothesis(es), your experimental design, your statistical analyses (current or future depending on the stage of your project), and the interpretation of your results (current or future depending on the stage of your project). Invest some good time into this now, as this will ultimately help you to more easily and coherently construct your oral seminar later in the semester. The document should be relatively short (no more than three (3) pages including references, 1.5 spaced, properly referenced in APA format)

**We will do an in-class peer review exercise with these articles and literature summaries on Oct 4, with the goals of evaluating how convincingly you have incorporated the literature into your project so far and providing constructive feedback which will help you assemble your seminar presentation later in the semester.

- b) **Meet with your faculty research mentor three weeks before your scheduled presentation to discuss an outline of your talk and address any lingering questions.**

YOU will be responsible for contacting your research mentor to set up this appointment, during which you will discuss your plans for the presentation and strategies for answering any questions that you have about the content of your presentation. You must come to this meeting with a prepared outline of your talk and questions that you have about format or content.

- c) **Get help from your peers and BIO 480 Instructor two weeks before your presentation.**

You will be assigned to a peer group of 3 students. YOU are responsible for scheduling these meetings to review and practice your talk with both your peer group and your BIO 480 instructor present. Time that is not used on Wednesdays and Fridays for meeting as a whole class (time which you are all already registered and should keep free) are great opportunities to meet since everyone should be available. Peer group practice talks MUST occur before final practice talks are presented to your faculty mentor.

Afterward, complete an assignment which includes 1) a self evaluation & reflection of your peer group practice talk, and 2) an itemized summary of how feedback from your peer group and BIO 480 Instructor will be incorporated into the next version presented to your faculty mentor.

- e) **Present a full practice talk to your faculty mentor one week before your presentation.**

You are required to practice your presentation with your mentor during the week prior to your presentation. As with the “outline” meeting, YOU are responsible for contacting faculty to schedule this practice talk.

3. Help your peers to prepare presentations:

You will be assigned to a peer group of 3 students, and will have scheduled meetings along with the BIO 480 Instructor to review and practice talks among yourselves. Peer group practice talks MUST occur before final practice talks are presented to faculty mentors. Again, most of these meetings could occur during the time periods you are already registered for.

4. Give a polished and effective talk to members of the campus community that clearly demonstrates knowledge of your subject and skills in scientific presentation:

Your public seminar will be formally graded by the Faculty of the Biological Sciences Department, and comprises 50% of your grade in this course. Though many assignments and activities leading up to this day are of little or no point value in your course grade, they are essential for preparing you (both academically and comfortably) for this event.

5. Attend organized classes and student presentations:

Given the format and the General Education goals (COR III and K tags) of this class, attendance is an *essential* component. Attending fewer than five (5) formal seminars will automatically result in a failing grade for this course, as will missing two (2) or more scheduled class or peer group meeting times. In emergency or other absences with highly extenuating circumstances, contact the BIO 480 Instructor ASAP. Documentation may be required for absences to be excused.

6. Participate in discussion of research presentations:

Time is reserved for questions and discussion after the conclusion of each presentation. You are required to ask at least one meaningful question in each of the scheduled seminars that you attend..

7. Attend and evaluate talks outside of the Edgewood Community:

Each student is required to attend a public biology seminar off campus, and then write a summary and critique of the presentation. (Two pages, 1.5 spaced).

8. Take a Finals Week ETS Exam (Biology Students Only):

The Biology faculty and Edgewood College need to assess the knowledge base of our graduating seniors at the end of their program of study here at Edgewood so that we can continue to improve and

update the program to meet the needs of future biology professionals. Part of this assessment is through the ETS (Educational Testing Service) College Biology exam taken during finals week. **Your participation in this exam is required to pass the course, but your “score” on the exam will not affect your grade for seminar or your graduation.** If you fail to show up for this exam or do not take this requirement seriously, your seminar grade will be entered as an F.

SCHEDULE OF DATES & TIMES REQUIRED TO MEET AS AN ENTIRE CLASS, IN ADDITION TO THE SIX TBD BIOLOGY DEPT. SEMINAR DAYS

Wed Aug 29, 11-12	Intros, Policies, Updates
Wed Sep 5, 11-12	Peer Groups, Scheduling, Updates, Reading Discussion
Wed Sep 12, 11-12	Position Paper Readings/Discussion/Assignment
Wed Sep 19, 11-12	Critiquing oral presentations & Off-campus assignment
Wed Sep 26, 11-12	Readings Discussion
Wed Oct 3, 11-1**	Peer review of reference summaries
Wed Oct 10, 11-12	Readings Discussion

**Note full 2 hr. class period

SCHEDULE OF WRITTEN ASSIGNMENT DEADLINES & DUE DATES

Topic/Title, References, and Reference Summary	anytime before Friday Sep 14th 5:00
Peer review of reference summaries	Wed Oct 3 rd start of class
Position Paper	anytime Fri Sep 19 th through Fri Dec 7th 5:00pm
Off-campus research talk critique	anytime Wed Sep 26 th through Fri Dec 14th 5:00pm
Peer talk assessment and response	anytime between peer talk and final mentor meeting

LIST OF POSSIBLE FRIDAY SEMINAR DATES (WITH EST. DATE OF NECESSARY DATA ANALYSIS COMPLETION)

- Fri Oct 12 (9/14)
- Fri Oct 19 (9/21)
- Fri Oct 26 (9/28)
- Fri Nov 2 (10/5)
- Fri Nov 9 (10/12)
- Fri Nov 16 (10/19)
- Fri Nov 30 (11/2)
- Fri Dec 7 (11/9)
- Fri Dec 14 (11/16)

FROM THE COLLEGE:

Learning Support Services: Learning Support Services, located in DeRicci 206 (The Student Resource Center) and in Sonderegger 408, provides academic support for students. Peer tutoring is available for some introductory-level undergraduate courses. Individual assistance in time management, study skills, and test-taking skills is also available. Please contact Learning Support Services at 663-2281 for more information.

Students With Disabilities: If you are a student with approved accommodations through Disability Services please contact me as soon as possible. If you have a documented disability that requires accommodations in this course or want more information regarding disabilities services, please contact Learning Support Services, located in the Student Resource Center in DeRicci 206, 663-2281. They will work with you to provide appropriate accommodations.

Academic Honesty Policy: As members of a scholarly community dedicated to healthy intellectual development, students and faculty at Edgewood College are expected to share the responsibility for maintaining high standards of honesty and integrity in their academic work. Each student should reflect this sense of responsibility toward the community by submitting work that is a product of his or her own effort

in a particular course, unless the instructor has directed otherwise. In order to clarify and emphasize its standards for academic honesty, the College has adopted this policy.

The following are examples of violations of standards for academic honesty and are subject to academic sanctions: Cheating on exams; submitting collaborative work as one's own; falsifying records, achievements, field or laboratory data, or other course work; stealing examinations or course materials; submitting work previously submitted in another course, unless specifically approved by the present instructor; falsifying documents or signing an instructor's or administrator's name to any document or form; plagiarism*; or aiding another student in any of the above actions.

*Plagiarism, which is defined as the deliberate use of another's ideas or words or images as if they were one's own, can take many forms, from the egregious to the mild. Instances most commonly seen in work by students in order from most to least serious are:

1. borrowing, buying or stealing another person's work for one's own use; lending or selling one's own work for another's use as his or her own;
2. getting so much help on a work from someone else, including a college tutor, that the student can no longer legitimately claim to be the author/creator;
3. intentionally using source material** improperly, e.g., neither citing or using quotation marks on borrowed materials; supplying an in-text citation but failing to enclose quoted material within quotation marks; leaving paraphrased material too close to the original version; failing to give credit to the original author/creator as the source of an idea, image, or paraphrased material; failing to provide a list of works cited or misusing borrowed sources through ignorance or carelessness.

**Source material can include ideas, words or images from any source in any format, (including books, newspapers, journals, magazines, pamphlets, interviews, video and internet sites). The student's "work" can include written essays, oral presentations, art work, lab experiments — any ideas, words or images in any format (written, graphic, electronic, etc.)