

MICROBIOLOGY 495
Senior Seminar
Spring, 2012
W 3:00 - 5:00 p.m.
Life Science III Auditorium

Instructor: Dr. Laurie Achenbach
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Office hours: W 2:00-3:00 p.m. or by appointment

Objective: This course will train students to analyze and present research in microbiology and related fields. This courses will also develop professional interview and communication skills.

Format:

- I. Students will attend and critique life science (Microbiology, Physiology, Plant Biology, Zoology or Ecology) research seminars on campus and will prepare written evaluations of these seminars.
- II. Students will prepare an employment career resume and cover letter. Students will be evaluated by Career Services in a mock interview.
- III. Students will prepare and present two oral presentations on a current research topic.

I. Students will attend and critique life science (Microbiology, Physiology, Plant Biology, Zoology or Ecology) research seminars on campus and will prepare written evaluations of these seminars.

During weeks 2 - 15 of the semester, MICR 495 students must attend at least four (4) sponsored seminars in the Molecular Biology, Microbiology, and Biochemistry (MBMB 597) seminar series or any life science research seminar on campus and submit a written critique of any four (4) of the seminars attended. Unsatisfactory critiques will be returned for revision. The critique must be two to three pages in length (double spaced, 12 pt font) and answer the following questions:

1. What was the name of the speaker and the sponsoring unit on campus?
2. What was the topic of the seminar?
3. Did the speaker adequately introduce the material?
4. What was the speaker's hypothesis/goal concerning his or her research?
5. What were the important experimental results?
6. Did the speaker summarize and draw clear conclusions?
7. What was your overall opinion of the seminar?
8. How could the speaker have improved the seminar?
9. Taking into account that these are professional seminars and are directed to a specialized, trained audience rather than to the general public, what grade (A, B, C, D, or F) would you give the seminar speaker and why?

Critiques must be submitted via email to Dr. Achenbach (laurie@micro.siu.edu). Each critique must be received by 4:30 pm on the following assigned dates:

Critique #1: **Wednesday, February 1**

Critique #2: **Wednesday, March 7**

Critique #3: **Wednesday, April 4**

Critique #4: **Wednesday, May 2**

Failure to submit all written critiques will result in an unsatisfactory (U) grade.

II. Students will prepare an employment career resume' and cover letter. Students will be evaluated by Career Services in a mock interview.

Students will prepare a one-page resume/curriculum vitae with a short cover letter. Students will contact Career Services (453-2391; <http://www.siu.edu/~ucs/>) and arrange for a mock interview. The interview will be geared toward filling a technical, entry-level life sciences position. The position advertisement can be found at the end of the syllabus. The interview critique will be transmitted to the student as well as to Dr. Achenbach.

The one-page resume and cover letter must be turned in to Dr. Achenbach at the class meeting on **Wednesday, January 25**. You must also have scheduled your mock interview at this time; write your appointment time in the top left-hand corner of your resume. Your mock interview must be completed before **Friday, March 9**.

I recommend that you take advantage of InterviewStream through Career Services (<http://careerservices.siu.edu/>) which allows you to digitally record a practice interview. In addition, Career Services holds a number of workshops to perfect your resume writing or interview skills. A calendar of events can be found online at <http://careerservices.siu.edu/events/events.html>.

Failure to complete a satisfactory mock interview in a timely manner will result in an unsatisfactory (U) grade.

III. Students will prepare and present two oral presentations on a current microbiology research topic.

Each student must make two presentations. You will deliver one short 8-10 minute overview seminar early in the semester and expand upon this in a longer 20-25 minute seminar later in the semester. Your seminars must be based on a single research topic. Your undergraduate research would be an appropriate topic. If you are not doing microbiology-related research or would rather give a seminar on another topic, you must choose a recently published primary research paper in the field of microbiology and develop your seminar around this paper (see List of Suggested Journals below). **A pdf of the research paper on which you will base your presentations MUST be submitted by email to Dr. Achenbach by 4:30 pm Wednesday, February 1.** You will, of course, need to find related papers to supplement the original paper.

Your short seminar will be an introduction to the topic. No data, materials and methods, or results should be presented during this talk. It should include the most relevant introductory information on the topic you have chosen. Dr. Achenbach will provide short verbal and written critiques of your seminar. These critiques are to be used to improve your presentation style for your longer 20-25 minute seminar that should include data (results), discussion, conclusions, and significance. The 8-10 minute presentations will be given on February 22 and February 29 at the class meetings. The 20-25 minute seminars will be given from April 4-May 2 at the class meetings.

Failure to present both seminars in a satisfactory manner will result in an unsatisfactory (U) grade.

HINTS FOR PRESENTATIONS:

1. **Seminars should be presented with Powerpoint.** The LSIII auditorium has multiple computer capabilities. Keep in mind that for your 20-25 minute seminar, only a certain number of Powerpoint slides can be digested by the audience. The exact number of slides depends on how much material you have on each. As a general rule, you need no more than one slide per minute of your presentation. If slides are complex, even fewer are necessary.
2. **Practice your talks so you know that the timing is correct.** Practice makes perfect. The more familiar you are with your topic and your Powerpoint, the better your seminar will be. If you practice your seminar alone, recording or videorecording your talk may be helpful. Alternatively, practice your talk in front of other students. They can provide direct input to improve your talk.

CLASS SCHEDULE: Class will meet on the UNDERLINED dates only.

<u>Date</u>	<u>Item</u>
<u>Jan 18</u>	Class introduction
<u>Jan 25</u>	Resume and cover letter due at the class meeting. Deadline for arranging mock interview (write your appointment time in the top left-hand corner of your resume).
Feb 1	Seminar critique #1 is due. Digital copy of research paper is due.
<u>Feb 22</u>	8-10 minute student seminars (8 students)
<u>Feb 29</u>	8-10 minute student seminars (9 students)
Mar 7	Seminar critique #2 is due
March 9	Deadline for completed mock interview
<u>Apr 4</u>	20-25 minute student seminars (4 students) Seminar critique #3 is due
<u>April 11</u>	20-25 minute student seminars (4 students)
<u>April 18</u>	20-25 minute student seminars (4 students)
<u>April 25</u>	20-25 minute student seminars (4 students)
<u>May 2</u>	20-25 minute student seminars (1 student) Seminar critique #4 is due

GRADES:

Grades in this course are Satisfactory/ Unsatisfactory (S/U) and will be based on these factors:

- (1) Attendance (10%).** YOU MUST ATTEND ALL CLASSES ON THE UNDERLINED DATES. Failure to attend all student seminars will result in an unsatisfactory (U) grade.
- (2) Seminar Critiques (20%).** The quantity and quality of your written seminar critiques must be satisfactory. Unsatisfactory critiques will be returned for revision, with a deadline. Failure to revise critiques satisfactorily will result in an unsatisfactory (U) grade.
- (3) Resume/ mock interview (15%).** YOU MUST SATISFACTORILY COMPLETE THE RESUME, COVER LETTER, AND MOCK INTERVIEW PROCESS. Failure to satisfactorily complete the process will result in an unsatisfactory (U) grade.
- (4) Your Seminars (short-15%; long-40%).** Dr. Achenbach will judge the quality of your presentations, including the amount of *effort* you have put into this project. In addition, unusually short or long seminars will be penalized. Failure to satisfactorily present both seminars will result in an unsatisfactory (U) grade.

To receive a "Satisfactory", you must complete ALL assignments and earn at least 70%.

LIST OF SUGGESTED JOURNALS:

Journal of Bacteriology
Current Opinion in Microbiology
Applied and Environmental Microbiology
Environmental Microbiology
Molecular Microbiology
Nature Reviews, Microbiology
Microbiology and Molecular Biology Reviews
Journal of Clinical Microbiology
Systematic and Applied Microbiology

RESEARCHER I: The Department of Microbiology has a term (100%) Researcher I position available beginning June 1, 2012. Minimum qualifications are a BA/BS degree in microbiology, biochemistry, molecular biology, or a related science. Experience in culturing bacteria, RNA isolation, PCR, cloning, and hybridizations is desired as is familiarity with word processing programs and spreadsheet applications. Qualified candidates should send two letters of reference, curriculum vitae/resume, and transcripts to: Dr. Laurie Achenbach, Department of Microbiology, Mailcode 6508, Southern Illinois University Carbondale, Carbondale, IL 62901 (laurie@micro.siu.edu). Applications will be accepted until the position has been filled. **SIUC is an equal opportunity /affirmative action employer that strives to enhance its ability to develop diverse faculty and staff and to increase its potential to serve a diverse student population. All applications are welcomed and encouraged and will receive consideration.**