

## BIO 599 *Biology Senior Seminar* Fall 2008

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Disclaimer: The instructor may modify this course and syllabus to accommodate unforeseen circumstances.

### Course description and objectives

Senior Seminar is designed to be the "capstone course" of your college career. During this course you will integrate and synthesize material, present this material effectively in both written and oral communications, explore ethical issues, and work cooperatively with classmates. Upon successful completion of this course, you will be able to:

1. Recognize and demonstrate the use of science methodologies.
2. Discuss ethical issues in biology, using appropriate evidence to support your arguments.
3. Demonstrate the ability to find, use, and critically evaluate primary biological literature.
4. Incorporate researched biological information from primary literature in a written and oral presentation for a scientific audience.
5. Communicate information in a clear, complete, and well-organized manner.

### Course Resources:



- Pechenik, Jan A., *A Short Guide to Writing About Biology*
- 1" or larger three-ring binder for your portfolio.
- A USB "Flash" drive (see image at left) for electronic files. Any size.
- Access to <http://faculty.uscupstate.edu/dkferris> (this site provides the syllabus and a variety of links to information such as on-line literature searches, careers, job searches, and evaluating Internet resources)

### Attendance

Attendance is critical. You are expected you to attend ALL class meetings and participate in ALL activities. Missing 2 classes will reduce your final course grade by 10%, missing 3 classes will reduce final course grades by 20%, and anyone missing 4 or more of the class meetings will fail the course. If you are late, that time will count against attendance. Absences may be allowed with no penalty (excused) for compelling reasons at the instructor's discretion.

### Grading

One of the primary goals of this course is to hone your communication skills. Therefore, most of your grade will be based on your oral and written communications. Your final course grade will be based on the following:

Attendance	May deduct points	Short oral presentation and written abstract(s)	18%
Portfolio	3%	Written review or research paper	25%
Resume	4%	Oral presentation of review or research topic	25%
Discussion	5%	Testing (Major Field Assessment Test)	20%

**NOTE: All components of the grade must be completed. You MUST EARN A GRADE OF "C" or HIGHER ON BOTH THE FINAL ORAL PRESENTATION AND FINAL PAPER TO PASS THE COURSE! Failure to complete and hand in ANY of the components will result in an incomplete or a failing grade for the course. Late assignments WILL NOT be accepted except as specifically noted in this syllabus.**

The grading scale is:

A (90% or greater), B+ (88% - 89.99%), B (80% - 87.99%), C+ (78% - 79.99%), C (70% - 77.99%), D+ (68% - 69.99%) D (60% - 67.99%), F (below 60%)

## Information on Specific Course Requirements

### *Portfolios*

All students must use a 1" or larger three-ring binder for use as their portfolio. The course syllabus, schedule and ALL written assignments must be kept in this binder. The contents will be checked randomly throughout the semester. All assignments must be word-processed, spell checked and grammar checked. Points will be deducted from assignments with incorrect spelling, inaccurate terminology, and improper usage of grammar.

### *Electronic Copies*

ALL WRITTEN ASSIGNMENTS AND YOUR PRESENTATION SLIDES MUST BE SUBMITTED IN ELECTRONIC FORM ALSO. Electronic versions must be in Microsoft Word or PowerPoint format, as appropriate. Submit the electronic version on a USB flash drive. Be sure to back up your work, YOU are responsible for making backup copies!

### *Resume*

Following the information provided in class, you will prepare a current resume. You may visit the Career Services Office in CLC for assistance in completing the resume. The resume is due as noted on the schedule.

### *Discussion*

Each student is expected to complete reading/work assignments before class and to participate in class discussions. Reading and work assignments will be made during the first seven weeks in areas such as researching a topic, scientific writing and editing, ethics, and preparation for other students' journal club presentations. You are expected to participate in class discussions and activities, and to ask pertinent questions during journal club presentations. If you do your assignments, participate in discussions, and ask questions during "journal club", you will earn the full 7% of the final grade.

### *Written Review or Research Paper*

The topic for your review or research paper must deal with a specific introduced species or emerging disease unless approval for a different topic has been obtained. If you have been involved in a research project, you may select that topic for your oral and written presentations. Your topic must receive final approval by the date noted on the class schedule. Obtaining topic approval early will provide you more time to research and prepare your presentations. If you have not conducted a research project as an undergraduate, you must prepare a term paper, following the format given in Chapters 6, 7 and 8 of

Pechenik's text. Your paper should be written using the principles found in chapter 8. Include an introduction and background of the specific issue of interest, a review of selected current articles relating to that area, you must include a critique (see chapter 6) of each of the selected articles, and a summary (including your own hypotheses) of the issue based on your knowledge of the topic. The term paper and/or research paper must be based on the *primary* literature. You must have a minimum of 10 articles from the *primary* literature (journal articles of original research). Review articles, books, newspapers, and magazines are secondary sources and can only be used in addition to the minimum number of primary sources. Complete copies of all sources used must be turned in with the final copy of your paper. All assignments completed for this course must properly cite sources. Use of any sources without proper attribution (citation) constitutes plagiarism will result in the assignment being counted as "not completed" and you will receive an "F" for the course.

Your research paper is due on the designated date (see schedule) at the beginning of class. PAPERS WILL NOT BE ACCEPTED LATE. The instructor will evaluate your paper as either acceptable (grade > 70%) or unacceptable (grade <70%). Acceptable papers may either be rewritten (within one week) or left as is. After one week, acceptable papers will be given a final grade by the instructor. Unacceptable papers must be re-written to an acceptable level to pass the course. Re-writes may earn up to half of the lost points. A course grade of "F" will be assigned if an acceptable copy is not submitted within 1 week. All papers must be word-processed, double spaced, and font no greater than 12 point size. A complete electronic version of the paper prepared as a single file must be turned in on your "flash drive" at the same time as your paper.

#### *Journal Club/Short Oral Presentation and Written Abstract*

You will select an aspect of introduced species (or other approved topic) and research 3 or more *primary* literature articles. You will give a copy of one of the papers to the instructor, who will make copies available to the class. You will prepare a written paper and give an oral presentation that summarizes and critiques the papers for the class. Presentations are to be 15 minutes ( $\pm 2$  minutes) in length, excluding time for questions. Presentations under 13 minutes or over 17 minutes lose 10% of the assigned grade for each minute under/over. Presentations that are read earn a MAXIMUM grade of "C" on Style. Other deficiencies will further reduce the grade. The presentation will be graded by the instructor. The class will then critique the paper you have provided. You will prepare a written analysis of your papers, with copies of all literature cited, turned in to the instructor on the day of your class presentation. Deadline for approval of topic is noted on your schedule.

#### *Oral Presentation of Review or Research Topic*

During the last several weeks of the semester you will give a 45 minute seminar on your research/review topic, based on primary literature. As in the written version, this presentation is based on a minimum of 10 articles from the primary literature. Secondary sources may be used to supplement the primary sources. There should be a strong emphasis on synthesis (critical analysis) and organization of material as well as the mechanics of presentation. You will receive two equally-weighted grades, one for content and one for style. Grading will be done by the instructor and other biology faculty. Criteria will be distributed in class. Please refer to the schedule for the due date on presentations! Electronic copies of your presentation are due as noted on your schedule.

# Schedule

**The instructor may modify this course and syllabus to accommodate unforeseen circumstances.**

The class will be organized into several groups during the class. Each group will work together on editing and correcting written passages, identifying successful and unsuccessful aspects of oral presentations, and exploring ethical issues.

Week of	Topics / Activities	Assignments
Aug. 22	Intro	
Aug. 24	<ul style="list-style-type: none"> <li>• Career Planning &amp; Resume Job Hunting</li> </ul>	Resume – Aug 28th Pechenik Ch1, 2
Aug 31	<ul style="list-style-type: none"> <li>• Researching a Topic (Karen Swetland, meet @ library computer lab)</li> <li>• MFAT preparation</li> <li>• Scientific Method</li> <li>• Primary literature</li> </ul>	Pechenik 2
Sept 7	<ul style="list-style-type: none"> <li>• SEPT 7 – Labor Day, no class meeting</li> <li>• Statistics and Data</li> </ul>	Topic Approval by Sept 11 <sup>th</sup> Pechenik 3, 4, 7
Sept. 14	<ul style="list-style-type: none"> <li>•Scientific Writing/Literature</li> <li>•Citations</li> <li>•Scientific Writing/Literature Group Editing of Writing</li> </ul>	Pechenik Ch 8 Sample manuscript for editing Edits due Sept 18
Sept. 21	CAAP test Journal Club Making Oral Presentations	Papers for Short presentations due
Sept. 28	Journal club Discussion of Honor in Science Science Ethics/Bioethics	Bioethics write-ups
Oct. 5	Short Oral Presentations Oct. 8,9 - <b>Fall Break Holiday</b>	
Oct. 12	General education assessment Short Oral Presentations	Short papers due Oct 14th
Oct. 19	Short Oral Presentations	
Oct. 26	MFAT off-week (paper and presentation prep) No class meetings	
<b>Oct 29</b>	<b>Last day to withdraw without penalty</b>	
Oct 31 <sup>st</sup>	<b>MFAT (SATURDAY Oct 31<sup>st</sup>)</b>	
Nov. 2	Presentation “previews”	<b>Papers Due Nov 6th</b>
Nov. 9	Presentation “previews”	
Nov. 16	Major Presentations	<b>Presentation files due Nov 16<sup>th</sup></b>
Nov. 23	Major Presentations	
Nov. 25-27	<b>Thanksgiving Holiday</b>	
Nov 30	Major Presentations	
Dec 7	<b>FINAL EXAM</b>	<b>used to complete presentations as needed</b>