

BIOL 493 – SENIOR BIOLOGY SEMINAR
Colorado State University - Pueblo
Instructor: Dr. Moussa M. Diawara
Fall Semester 2007

Office: Rm 246 LS Bldg
Office Hours: M 9-11, T 9-10, W 9-11, or by appointment
Tel/ E-mail: 549-2813 / moussa.diawara@colostate-pueblo.edu
Meeting Time/Place: Thursdays Noon / Room 214 LS Bldg
Text: None – Research/Discussion topics picked in class

COURSE OUTLINE / SEMINAR PRESENTATION SCHEDULE

August 30 Introduction and course overview
Selection of Discussion Themes
Selection of the dates for group and individual presentations
Formation of Discussion groups:
- Group 1 Discussion Leaders: Nasheda, Julie, Kayleigh, Ann, Alan, Nicole, Arati

- Group 2 Discussion Leaders: Katrina, Devanshi, Jamie, Jamaal, Sammi, Hom

September 6 Discussion groups meet during Biology BBQ
Start working on your group review of primary and secondary journal articles
Select your individual seminar topic

September 13 Lecture: How to give a research seminar

September 20 Lecture: How to write a scientific paper/research proposal

September 27 Lecture: How to write a scientific paper/research proposal
Select your individual seminar topic – Start working on your research proposal
See the instructor and consult with faculty members in the department to develop your proposal.

October 4 Guest presentation

October 11 How to use electronic resources in research
(Meet in Library Rm 214A; Guest Presenter: Ms. Courtney Bruch x2363)
Title of each individual research proposal/seminar presentation due

October 18 Guest 12-minute seminar presentations:
1. Speaker #1: TBA
2. Speaker #2: TBA
Discussion groups meet
Open discussion

October 25 Critical group review of *primary and secondary journal articles*
Group 1 – 20 min
Group 2 – 20 min
Note: Two research papers will be given to each group in class:
- One review article (Biology of Reproduction 73: 586-590)
- One primary source article (Biology of Reproduction 73: 798-806)

Each group will thoroughly discuss each article in class and compare the two papers. Understanding the basic concept of these two types of research paper is important in conducting a good review of literature and writing a good research proposal. For the primary source, the critical discussions must include the research justification, methods, analysis and interpretation of findings, contribution to the field, and conclusions of the paper. The review article will be similarly evaluated on the basis of content and form. The members of the two groups will evaluate each other (0-25 pts). Specifically, each member of group 1 will evaluate the critics of the research papers by group 2; and vice-versa. Each student will receive a score (0-25 pts) from the instructor for his/her evaluation of the other group presentation. In addition, each group will be evaluated by the instructor on the basis on their critical review of the articles. The group will receive a score (0-50 pts). It is the responsibility of the group members to determine how this group score should be portioned out between the different members. For instance, say a group of three students receives 40/50 (120/150) overall. The group will decide if each of the members earned 40/50 or if group members should be assigned different grades (e.g., 35/50 for one group member, 40/50 for the second, and 45/50 for the third) based on individual efforts. Any potential problems in the collegiality within a group should immediately be brought to the attention of the instructor for conflict resolution.

November 1

Research proposal *Specific Aims* section due

Research proposal *Background and Significance* section due

Research seminar presentation

1. Nasheda Sapp

Title:

2. Julie A. Milam

Title:

3. Kayleigh A. Zerr

Title:

November 8

Research seminar presentation

4. Ann M. Tilley

Title:

5. Alan Van Norman

Title:

6. Nicole W. Dutro

Title:

7. Katrina N. Masset

Title:

November 15

Research proposal *Materials & Methods* section due

(Include the revised *Specific Aims* and *Background/Significance* sections)

Research seminar presentation

8. Devanshi Soni

Title:

9. Carolyn A. Jagunich

Title:

10. Jamie Swicegood

Title:

11. Jamaal Weaver

Title:

November 22

Thanksgiving

November 29

Complete revised research proposal due (all sections)

Research seminar presentation

12. Samantha Wilson
Title:
13. Arati Regmi
Title:
14. Hom K Rana
Title:

December 6

**Mandatory* standard Major Field Assessment Test (MFAT) for all Biology Seniors
A student's score on this standard national test is considered a reflection of her/his overall college experience and training. Consequently, students are strongly urged to study for the test by reviewing their notes in the following courses or equivalents: BIOL 191, 192, 212, 350, 351 and 352. As a policy of the department of biology, any student who fails to score at the 50% or better on the MFAT test would not earn a final "A" grade in the BIOL 493 capstone course, regardless of her/his performance in other course requirements. Likewise, scoring 50% or better on the MFAT test alone does not guaranty a final "A" grade in the course if other requirements are not met.

The time for the computerized test is Wednesday, May 2 from 10:30 AM – 12:50 PM in LS 117. Note: testing time for each student is 2 and 1/2 hours maximum; so please be in the test room (LS 117 or LS 240) on time.

Course Expectations and Policy:

Research Seminar: *Each student is expected to give a seminar presentation of 10-12 min about her/his research proposal on any topic in the field of biology. Your research seminar presentation should give a good overview of the originality, significance, research question, hypothesis, aims, and experimental design of the research proposal. The presentations are not to exceed 12 min; please be considerate of other students (Instructor will be strict on timing). The audience will have 2-5 minutes to ask the speaker questions relevant to the proposal at the end of the presentation. The audience and the instructor will evaluate each speaker. After all the speakers of the day have given their presentations, there will be a general discussion session. The seminar presentation grade for each student will be determined based on the evaluations of the Instructor and the rest of the audience (including the other students) as follows:*

<i>Instructor's evaluation</i>	<i>50%</i>
<i>Audience evaluation</i>	<i>50%</i>

<i>Total</i>	<i>100%</i>

Instructions for writing your individual research proposal

In order to acquire the analytical skills needed to understand the field of biology and be proficient in the application of biological concepts in the workforce and in graduate school, it is important to learn how to write a research proposal. Each student in this course will submit and present a 10-15 page (references not included) research proposal in class, on a research topic of interest in the biological sciences. The research proposal must be an original work; any research project or paper previously used as an assignment in a different course will not be acceptable. Likewise, plagiarized papers will receive a zero. The written research proposal (100 pts) and its oral presentation as a seminar in class (100 pts) represent 50% of your overall grade in this course. The research proposal must be double-spaced with 1" margins, font size 12, and must contain the following sections:

Specific Aims: 1 page maximum - This is a brief, but very important outline of your proposal. It contains the research hypothesis, the aims you are proposing to test this hypothesis and how these aims will be addressed. (See example of attached Specific Aims)

Background and Significance: 5 pages maximum - This section includes a good introduction, a discussion of the state of the research in the field and the relevance of the proposed research. It is important for the reviewer to see that you have an understanding of current knowledge the field. This section should provide a strong justification of the studies you are proposing to conduct. End this section by restating your research hypothesis and specific aims. Your next section, research design, explains how you plan to conduct these studies to address your aims, and must not be disconnected with these sections.

Research Design (OR Materials and Methods): 5 pages maximum - In order for the reviewer to believe you are capable of conducting the studies required to address your specific aims, you need to provide a detailed logical step by step plan to carry out each experiment. It is advised to write this section by specific aim and to stay within your aims.

References - All articles cited in the paper should be referenced using *Biology of Reproduction* journal format (see samples given in class). A minimum of five (5) references from referred journals is required.

If you get any information on the Internet from a non-refereed journal article, make sure it is an official site and provide the title of the article, the author name(s), date of last update and web site address in the reference section of your paper. All refereed journal articles must be used as above.

The due dates for each section of the proposal are given in the Proposal Review Checklist. Please be advised that all the faculty members in the biology department are ready and willing to work with you and help you develop a good research proposal. See the instructor if you are unable to find a faculty member for your project.

Class Participation/MFAT exam: Students learn by attending classes regularly and evaluating other presentations. All students are expected to attend each lecture, on time. Attendance records will be kept and taken into account when assigning final course grade. Students who attend class regularly have better overall performance. Unexcused absences will be penalized. *Each student must give a seminar, participate in a group project, turn in the individual research paper, and take the MFAT exam in order to pass the course.*

Grading Policy

	<u>Points</u>	<u>% of Overall Course Grade</u>
<i>Class participation - *Mandatory ETS exam</i>	<i>100</i>	<i>25</i>
<i>Seminar presentation</i>	<i>100</i>	<i>25</i>
<i>Group critic/evaluation of research articles (25 + 25 + 50)</i>	<i>100</i>	<i>25</i>
<i>Individual research proposal (10 + 10 + 10 + 70)</i>	<i>100</i>	<i>25</i>
<i>Total</i>	<i>400</i>	<i>100%</i>

Grading Scale*

<u>Standard Grade Scale</u>	<u>Corresponding Total Scores</u>
90 - 100% A	360 - 400
80 - 89% B	320 - 359
70 - 79% C	280 - 319
60 - 69% D	240 - 279
< 60% F	<240

No make-up presentations will be allowed except in extreme cases; under these circumstances, only the instructor will make this decision. The instructor reserves the right to change the dates of any presentation or seminar, and curve grades as he judges appropriate. Please feel free to see the instructor anytime should you have any questions about the course

ADA Notice: *This University abides by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, which stipulates that no student shall be denied the benefits of an education "solely by reason of a handicap." If you have a documented disability that may impact your work in this class and for which you may require accommodations, please see the Disability Resource Coordinator as soon as possible to arrange accommodations. In order to receive accommodations, you must be registered with and provide documentation of your disability to the Disability Services office, which is located in the Psychology Building, suite 232.*