BIOL 4900 **SENIOR SEMINAR**
Credit Hours 0-3-1 Department of Biology

Instructor: Dr. Timothy J. Fort **Office:** BC 1100
Phone: 229-249-2643 **Email:** tjfort@valdosta.edu
Office Hours: Tuesday 3.00pm-5.00pm or by scheduled appointment

Senior Seminar:	Thursday	1.30pm – 3.20pm	BC 1202
Science Seminar Series:	Thursday	4.00pm – 4.50pm	TBA

Course Description BIOL 4900:
The capstone course in biology. Students are required to attend outside lectures chosen by the instructor. This course assesses students' ability to research independently topics in biology, assimilate the information, and disseminate the information in an organized and understandable fashion in both written and oral forms. Besides demonstrating comprehension of their topic and competence in communication skills, students take the ETS Major Field test is biology and complete the departmental Senior Exit Questionnaire for successful completion of the course.

Pre- or Co-requisites:
Completion of all required courses in the senior curriculum for the biology major. Grade: Satisfactory (S) or Unsatisfactory (U).

Educational Outcomes:
This course supports the Department of Biology Educational Outcome #1 and the Valdosta State University General Educational Outcomes #4 and #7.

Specific Course Requirements:
1) Research paper.
2) Oral presentation.
3) Successful completion of ETS Major Field test in Biology (140 or higher).
4) Attendance of all scheduled class meetings.
5) Attendance and evaluation of at least eight science seminars.
6) Completion of Biology Exam and Senior Exit Questionnaire.

Major Field Test:
The ETS Major Field test is a comprehensive, standardized test designed to evaluate the Student's general knowledge in the sub-disciplines of Biology. Successful completion of the ETS Major Field test is a course requirement. Students who fail to complete the ETS Major Field test will receive a grade of unsatisfactory (U) for the course. Each student is responsible for contacting the VSU Testing office (Powell Hall-East, first floor, room 1131, telephone 229-245-3878) to arrange a time to take the ETS Major Field Test in Biology. A fee is assessed to take the Major Field Test. The Biology Department will pay the fee for each student to take the test once. Students who fail to score at least 140 on the test must re-take it until a score of 140 is achieved. The student will bear the cost for any re-taking of the Major Field test. **Students should complete the Major Field Test by 7th March 2013.** For more information on the Major Field Test in Biology please refer to the ETS website. (http://www.ets.org/mft/about/content/biology). **A photocopy of your ETS major field test score must be submitted to the instructor**

Science Seminar Series:
Students are required to attend at least eight (8) seminars in the Science Seminar series. The Spring 2013 Science seminar schedule with times, dates and venues can be found on the VSU website. Students are required to complete an evaluation form for each science seminar attended. An evaluation form template will be emailed

to all students at the beginning of the semester which should then be printed out in advance of each seminar by the student. In order to receive credit for attending a science seminar, it is the students responsibility to see the instructor immediately after each seminar and submit his/her signed completed evaluation form. No late and/or electronically submitted evaluation forms will be accepted. (www.valdosta.edu/cas/scisem/Spring2013).

Attendance and Conduct:
Attendance of all scheduled class periods (including all student presentations) and at least eight science seminars is required of all students. Students are expected to arrive on time and should not enter class or a science seminar late. Use of cell phones during class periods and science seminars is not permitted. **If you use your cell phone, or your cell phone activates, during a student oral presentation or formal science seminar you will automatically receive an unsatisfactory grade for the course.**

Students with Documented Disabilities:
Students requesting classroom accommodations or modifications due to a documented disability must contact the Access Office for Students with Disabilities located in the Farber Hall. The phone numbers are 245-2498 (V/VP) and 219-1348 (TTY).

Privacy Act (FERPA):
Due to the Buckley Amendment, or Privacy Act, an individual's personal information cannot be released to anyone but that individual. As such, grades will not be discussed over the phone, by email, or released to a friend or relative.

Cheating / Plagiarism:
Please refer to the Student Code of Ethics in the Valdosta State University Student Handbook.
Please refer to the Valdosta State University, Department of Biology Plagiarism Policy.

It is imperative that all student papers are the student's own original work. Plagiarism will not be tolerated. Any student caught plagiarizing shall receive a failing grade on their paper and a grade of unsatisfactory for the course. Each student will be required to read the VSU Department of Biology Plagiarism policy (see department webpage), print and sign the form indicating that they have read and comprehended the policy. The signed form must be included in an appendix with their submitted paper. By taking this course, you agree that all required course work may be subject to submission for textual similarity review to Turnitin, a tool within BlazeVIEW
In addition, students must complete the plagiarism tutorial by 17th January 2013 online http://www.lib.usm.edu/legacy/plag/plagiarismtutorial.php

Grading:

Discussion/Participation:	10 points
Oral Presentation:	40 points
Written Paper:	50 points
Plagiarism in paper:	Automatic zero for paper
Absence from a scheduled Class:	- 10 points
Each absence from Science Seminar:	- 10 points
Failure to complete Major Field Test:	- 40 points
Failure to complete the senior exit questionnaire:	- 30 points
Failure/late submission of outline of research paper:	- 20 points

Final Grade:

Satisfactory	(S) $\geq$ 70 points
Unsatisfactory	(U) < 70 points

Outline of Research Paper:
You are required to submit a detailed outline of your paper by 7th February 2013. Your outline should include a potential title for your paper and a detailed outline of the general sections and subsections within the paper with detailed notes. A correctly formatted reference section should be included. Copies of abstracts from all primary research articles included in the reference section should also be included.

Research Paper:
You are required to write a paper on your selected topic. The paper must be submitted to the instructor in two formats (paper hardcopy and electronic) by 14th March. The "paper hardcopy" version of the paper, along with copies of all cited primary research articles and signed plagiarism policy must be submitted to the instructor in an organized 3 ring binder. The "electronic" version of the paper must be submitted to the instructor via email as an attachment in either Microsoft Word or Rich Text Format. Late submission of either the "paper hardcopy" or "electronic" version of the paper will result in an unsatisfactory grade for the course.

Overall Format of Research Paper:

1) Title Page:
Title of the paper
Student name
Course title
Instructor name
Submission date.

2) Abstract:
Abstracts should be on a separate page and be a maximum of 300 words in length.

3) Main body of the research paper consisting of:
i) Introduction: An opening to the paper that provides the reader with a general introduction to the research topic.
ii) Discussion: A detailed discussion of specific scientific studies on the selected topic with references cited where appropriate. Subheadings for different sections within the discussion should be used as appropriate.
iii) Conclusion: A concluding section to the main body of the paper that summarizes the student's interpretation of the information in the paper.

4) Literature cited
The literature cited must contain at least 10 primary research articles. Students may also cite no more than 3 review articles and no more than 2 textbooks. No web based references will be accepted unless they are from an online peer reviewed journal. All references included must be cited at least once in the body of the paper using the proper format. For this course we will adhere to the format specified in the instructions to authors for the Journal of Neurophysiology published by the American physiological society. (www.the-aps.org/publications/authorinfo/elements).

5) Figures:
All included figures must be numbered and have an accompanying legend.

6) Appendix 1:
Include complete copies of all primary research articles cited.

7) Appendix 2:
Include a signed copy of the Department of Biology Plagiarism Policy

Specific Formatting of research paper

i) 12 point Times New Roman Font.
ii) Double Spaced
iii) Left justified
iv) 1 inch margins
v) Page Numbering:
    -Title and Abstract pages are not to be numbered
    -Number all pages of the body, literature cited and figures (lower right corner)
vi) Paper Length:
    -Paper must be a minimum of 10 pages in length
    -Title, Abstract, literature cited and figures do not count towards paper length.

Oral Presentation:

Students are required to give an oral presentation of their research topic. Oral presentations will be scheduled for the last few weeks of the semester with each student being assigned a specific date and time for their presentation. After research topics have been picked an oral presentation schedule will be generated and emailed to all students. Each presentation will be scheduled to last for a total of 30 minutes. For the first 20 minutes, the student will give a formal presentation of their topic using PowerPoint. The final 10 minutes of the allotted time is reserved for questions and class discussion. It is the responsibility of the student to ensure that their PowerPoint presentation can be properly shown using the computer and projection system available in the assigned classroom. Immediately upon completion of their presentation each student must submit a copy of their PowerPoint presentation to the instructor (CD or Flash Drive).

Tentative Schedule:

DATE	**TOPIC**
10 January	**Introduction / Organization / Topic Selection**
17 January	**Discussion of Topics / Oral Presentations (Online Plagiarism Tutorial Completed)**
24 January	*No Class – Student Research*
31 January	*No Class – Student Research*
7 February	**Detailed Outlines w/ References.**
14 February	*No Class – Student Research*
21 February	*No Class – Student Research*
28 February	**Peer Review of Student Papers**
7 March	**Biology Exam & Senior Exit Questionnaire (MFT Biology Completed)**
14 March	**Research Papers Due ("paper hardcopy" in class, "electronic" copy by 5pm)**
21 March	**NO CLASS – SPRING BREAK**
28 March	*No Class – Presentation Preparation*
4 April	*No Class – Presentation Preparation*
11 April	**Student Presentations**
18 April	**Student Presentations**
25 April	**Student Presentations**

TOPIC SELECTION ORDER: _____

Course Theme: The Neural Basis of Behavior

Topics: Research topics are to be chosen from the following list. Each topic may be chosen by only one student and must be approved by the instructor.

1) Echolocation in bats

2) Mate calling in crickets (Song production (males) and recognition (females))

3) Flight in locusts

4) Escape behavior of crayfish

5) Associative learning in honeybees (proboscis extension response)

6) Learning and memory in *Aplysia* (gill and siphon withdrawal reflexes)

7) Spatial navigation in rats (long term potentiation)

8) Swimming in the medicinal leech

9) Swimming in lampreys

10) Escape behavior in cockroaches

11) Mauther neurons and C-start behavior in fish

12) Ultrasound avoidance in noctuid moths

13) Birdsong (song production and learning)

14) Jamming avoidance in weakly electric fish

15) Prey capture (feature recognition) in toads

Student Checklist of Course Requirements:

__ Completion of Major Field Test in Biology (≥ 140) – Submit photocopy of score to instructor.

__ Completion of Biology Exam and Senior Exit Questionnaire.

__ Completion of the online plagiarism tutorial (By 17 January 2013)

__ Outline with references for research paper (Due 7 February 2013)

__ Oral presentation

__ Copy of Oral Presentation PowerPoint (CD/Flash Drive) – (Due immediately after presentation)

__ Research paper "paper hardcopy" – (Due 14th March in class)

__ Research paper "electronic copy" – (Due 14th March by 5pm)

__ Attendance of all scheduled class periods (including all student presentations)

__ Attendance of and submission of completed evaluation forms from at least 8 science seminars.