INSTRUCTOR: Steven de Belle, WHI 231, 895-3271, debelle@ccmail.nevada.edu.

OFFICE HOURS: WHI 231, Wednesday, 10:00 – 12:00, or by appointment.

LECTURE: WHI 111, TR, 4:00 – 5:15.


PREREQUISITE: BIO 300 (Genetics) or by permission of the instructor.

COURSE DESCRIPTION: An investigation of the physical origins of behavior. We will examine nervous system development and function through the application of genetic dissection and transgenic techniques. Relevant non-genetic approaches to solving problems in the field will also be discussed. In general, each week will be devoted to an individual topic or research area. An overview will be given by the instructor on Tuesdays. Students will present seminars on current research, drawn from the primary literature on Thursdays. Due to the limited number of weeks in the term, there will be some variation in this schedule. 3 credits.

COURSE OBJECTIVES: Students completing this course successfully will be trained to a proficiency expected of an entry level graduate student in neurogenetics. This will include knowledge of the following subjects and skills:

- general neurobiology, including: development, physiology and anatomy
- behavioral biology and methods used in behavioral analysis
- advanced genetic techniques used to study the nervous system
- critical reading of scientific research papers
- preparing and writing term papers based on scientific literature
- preparing and presenting seminars based on scientific literature
- critical listening to literature seminars and discussion

ATTENDANCE: Attendance is mandatory. One point will be deducted for each unexcused absence. Attendance will also affect the participation grade (see below).
**PARTICIPATION:** Students are expected to initiate and participate in discussions during and after lectures and seminars. Reading of the relevant literature prior to lectures and seminars is critical. A recommended strategy is to prepare questions and criticisms of the literature before each class.

**HOMEWORK ASSIGNMENTS:** To promote audience preparation and participation in seminar discussions, a set of standard questions pertaining to the literature and other relevant resource material will be provided by the instructor. Submission of written answers to these questions will be accepted prior to each seminar only.

**SEMINARS:** Topics and dates for presentations will be determined by the instructor. Although literature and other resources for each topic will be provided, alternative materials may used with consent of the instructor. Topics for presentation must be selected by Tuesday, September 14th. Seminars should be ~ 45 minutes in length, with ~ 15 minutes for questions and discussion. Resources must be distributed at least one week in advance of each seminar.

**SEMINAR CRITIQUES:** Students will be expected to evaluate seminar presentations (other than their own). Evaluations will be based on a standard set of questions provided by the instructor and should be submitted during the class following each seminar. Taking notes during seminars will aid in writing effective critiques and will enhance comprehension of the material for future reference (see below).

**MID-TERM PAPER:** This assignment is due on Tuesday, November 2nd. A suggested list of current topics will be provided, but alternatives may be chosen with approval of the instructor. You will select, read and discuss a minimum of two related journal articles that are not more than 5 years old. Articles must be taken from the primary literature. These are journals containing peer-reviewed research papers reporting the results of experiments and written by scientists. Review articles do not report original results and are not acceptable. Journal articles must be approved by the instructor. In not more than four pages (typed, double-spaced, 12-point font) discuss the following:

- What are the papers about? 15
- What are the main hypotheses? 15
- What experiments did the authors carry out to address their hypotheses? 15
- What were the main findings of the experiments? 15
- What conclusions were drawn from the results? 15
- What do you think is the significance of these findings? 25

*Total Points* 100
**Final Exam:** A take-home final exam will be assigned on December 7th and will be due on December 16th, in the office of the instructor. It will consist of essay questions drawn from lectures and seminars.

**Assessment:**

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<tr>
<th>Component</th>
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<tr>
<td>Attendance</td>
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<td>Participation</td>
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<td>Homework Assignments</td>
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<td>Seminar Critiques</td>
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<td>Seminar Grade</td>
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<td>Mid-Term Paper</td>
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<td>Final Exam</td>
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A = 90 – 100%; B = 80 – 89%; C = 70 – 79%; D = 60 – 69%; F < 60%.

**Academic Dishonesty:** Any form of copying is considered academic dishonesty and may result in one or all of the consequences outlined on page 51 of the UNLV Undergraduate Catalog.

**Holidays:** It is the responsibility of the student to notify the instructor no later than the last day of late registration of his or her intention to participate in religious holidays which are not official State holidays or periods of class recess. This policy shall not apply in the event that administering the test or examination at an alternative time would impose an undue hardship on the instructor or the University, which could not reasonably have been avoided.

**Disabilities:** If you have a documented disability that may require assistance, contact the Disability Resource Center for coordination in your academic accommodations. The DRC is located in the Reynolds Student Services Complex in room 137. The DRC's phone number is 895-0866 (TDD 895-0652).