

PSYC 399 Advanced Research: Lab in Gambling, Drugs and Junk-Food Spring 2015

CLASS LECTURES:

Time: Tuesday & Thursday 10.30-11.50 AM

Location: Allbritton 113

WELCOME! This intensive laboratory course provides in-depth training on the experimental methods of behavioral neuroscience of motivation and reward using rodent research techniques. We will review contemporary studies with a particular focus on gambling, diet-induced obesity and drug addiction. Some of the models examined in more detail will focus on the role of reward uncertainty and the concept of loss in gambling, the individual differences in the attraction to reward cues in subjects prone to obesity versus those that are resistant (with a particular emphasis on prenatal and developmental exposure to high-fat diets), and finally the individual differences in the resistance to adverse consequences in models of intense desire and addiction (such as the conflict-based model and Pavlovian autoshaping). Students will learn how to handle and inject rats in a behavioral neuroscience research setting, and how to measure reward and motivation using operant (skinner) boxes to carry out tasks such as progressive ratio, Pavlovian conditioned approach, conditioned reinforcement, and locomotor sensitization. They will be exposed and become familiar with several different forms of these research techniques including the hardware and software necessary for this type of research, and will be encouraged to adapt existing behavioral paradigms to answer new questions.

LEARNING GOALS: The goal for each student in this course is to understand and be able to clearly articulate the key techniques and concepts in the Robinson Lab's field of research. The course will provide each student with a chance to be involved in the experimental design, experiment planning, data collection, analysis, and representation of a research project. Students are expected to learn and work on how to effectively communicate scientific research through in-class presentations and a research project report. Please make an appointment with me if you have difficulty with your work in this course. It is strongly suggested that students avail themselves of the opportunity to clarify and discuss research topics and assignments during faculty office hours. Office hours are not opportunities to obtain information missed during absences from class. Such material should be obtained from classmates.

You can expect:

- To start and end class on time.
- To reply to e-mails within 24 hours on weekdays and 48 hours on weekends.
- To assign homework that adequately covers the material and meets the learning objectives of the course.

I can expect you:

- To come to class on time.
- To be attentive and engaged in class.
- To refrain from using laptops (other than for taking notes), cell phones and other electronic devices during class, unless specifically asked to use these devices.
- To spend an adequate amount of time preparing the reading each week.

- To be respectful towards other students at all times, particularly during discussions and when working in a team setting.
- To be responsible and reliable when doing any animal or lab work.
- To seek help when appropriate.

INSTRUCTOR:

Mike Robinson PhD

Office: 003 Judd Hall

Office Hours: Tuesdays 1-3 PM or by appointment

Phone: 860-685-3243

Email: mjrobinson@wesleyan.edu

ASSIGNMENT SCHEDULE:

- The literature review paper (20%) will be due on March 6th
- Individual presentation of a research article (20%) will be scheduled throughout the course
- The research project paper (25%) is due on the first day of the exam period (Tuesday May 12th 2015)
- Research project talks (25%) will be scheduled during the last two weeks of class
- Attendance and participation (10%) will be assessed throughout the semester

READINGS: Readings will be based on scientific research articles. Students are expected to do the assigned readings prior to each and every class and to come prepared to discuss the material and the concepts. No textbook is required for the course and readings will be posted on Moodle.

COURSE REQUIREMENTS: Students are required to attend regular class lectures and discussions as well as scheduled research/group meetings. Students must take/submit all assessments. There will be no extensions on assignments without a valid excuse. Assignments not turned in or turned in late without adequate justification will receive a 0.

NOTE: Add/drop Period ends on February 4th, 2015.
Last day to withdraw from course: April 29th, 2015.

ASSIGNMENT: Students will be divided into groups and each group will be assigned a set of rats. They will learn how to handle them and will be assigned or help develop an experimental research project aligned with the interests and goals of the lab. Students will be expected to design an experimental protocol as a group and to coordinate with each other to carry out their experiment and collect data. Each student will then be expected to write up his or her results in the form of a research paper/report. The research paper will consist of: a brief introduction laying out the context of the research, a methods section detailing how the research was carried out and any problems encountered, a results section with statistical analysis and a brief discussion of the results and any possible further directions. Attention will be paid to the choice and clarity of figures/graphical representation and the ability to communicate scientific results clearly and effectively. Research papers are to be produced solely as individual work by each student.

STUDENTS WITH DISABILITIES: Wesleyan University is committed to ensuring that all qualified students with disabilities are afforded an equal opportunity to participate in and benefit from its programs

and services. To receive accommodations, a student must have a documented disability as defined by Section 504 of the Rehabilitation Act of 1973 and the ADA Amendments Act of 2008, and provide documentation of the disability. Since accommodations may require early planning and generally are not provided retroactively, please contact Disability Resources as soon as possible. If you believe that you need accommodations for a disability, please contact Dean Patey in Disability Resources, located in North College, Room 021, or call 860-685-5581 for an appointment to discuss your needs and the process for requesting accommodations. Students are responsible for registering with Disabilities Services, in addition to making requests known to me in a timely manner. If you require accommodations in this class, please make an appointment with me as soon as possible, so that appropriate arrangements can be made.