

Graduate Laboratory Methods In Biopsychology PSYC 592 Section 001 Fall 2011

Instructor: Gretchen Knaack & Gina Fernandez (Bob Smith)
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Class time: Fridays 1:30-4:10 pm
Class location: DKH 2054 (Arch Lab) & 2035 **Office phone #:** 703-993-1358
Office hours: Friday 12:30 – 1:30 pm
Office location: DKH 2027

Course Text:

- Carson, F. L. (1997). Histotechnology: A Self-Instructional Text. ISBN-13: 978-0891894117
- Additional Readings on Blackboard

Goals of Lecture:

The goal of this lab is to provide an overview of the available methods for research in Biopsychology including behavioral methods, laboratory procedures, and histological techniques. By the end of this course you should be familiar with the proper procedure for animal handling, basics of animal husbandry, rodent injections, basic chemistry as related to the make-up of solutions and stains, the available behavioral apparatuses, euthanasia, and the preparations of brain assays.

Course Requirements:

- Keep up with the assigned readings. Readings should be completed prior to class.
- Additional materials such as notes, assignment guidelines, outside readings, and other notices will be distributed via blackboard and/or your GMU e-mail. It is your responsibility to bring them to class. Please be sure you have access to blackboard and your GMU e-mail account is active. It is your responsibility to ensure that your email is not “over quota.”
- You are responsible for all announcements and any syllabus modifications made in class each week whether you are present or not.
- Attendance is **mandatory** to pass this course.
- Complete all mandatory training sessions outlined by the office of laboratory safety.

Grading:

Graduate Students:

This class is following a pass/fail format as such, there will not be any graded assignments. **However**, everything learned in this class will be utilized in some way throughout your graduate career and mastery of these procedures is highly recommended. Once you have been taught a procedure, you are permitted to practice individually until you reach a consistent level of proficiency. Although grades will be administered as “Satisfactory” and “Non Satisfactory,” individual assessments will be discussed with your advisor at the end of the course. However, if lack of progress is noted, more assessments will be scheduled during the semester.

Undergraduate Students:

This class will follow the normal letter grading scale (A, A-, B+, B, B-, C+, C, C-, D, F). The requirements for an A/B grade follow the guidelines stated above for a “Satisfactory” grade, and consist of active participation in class and satisfactory completion of laboratory procedures.

Graduate Laboratory Methods In Biopsychology PSYC 592 Section 001 Fall 2011

The requirements for a C/D follow the guidelines for a “Non Satisfactory” grade. Failure to attend classes or participate in the lab procedures will result in an F. Your specific grade within each range will depend on your demonstrated enthusiasm for the course (timely completion of assignments, participation in class discussion etc). Your grade will not be discussed with a faculty advisor, and any questions about your progress should be addressed to the teaching assistants. Also, completion of this course as an undergraduate does not grant you permission to run any of these procedures on your own without a graduate or faculty advisor present.

Attendance

Attendance is mandatory to obtain a “satisfactory” grade (A for undergraduates). Failure to attend class and participate will result in a “Non satisfactory” grade (F for undergraduates). This is due to the fact that each class builds upon the material previously covered. The depth of these lectures does not lend itself to individual make-up sessions. Tardiness will also adversely affect your grade; we have limited class time and a large breadth of material that needs to be covered each week.

The GMU honor code will be strictly enforced.

Cheating and plagiarism will not be tolerated and will be reported to the University Honor Board &/or penalized. Information that must be used from an outside source must be cited in correct APA format.

Technology Statement:

Required knowledge of technology for this course includes ability to retrieve additional materials sent via email to your GMU address or posted on Blackboard. Please be sure you have access to blackboard and your GMU e-mail account is active. I will post relevant information and documents via the latest version of Microsoft Office, so make sure to have the latest version of office or download the converter in order to read all important documents.

Students with Disabilities:

If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 703-993-2474. All academic accommodations must be arranged through that office.

Add/Drop Deadlines: The last day to add a class is **September 6th**. The last day to drop a class is **September 30th**.

Tentative Schedule (Subject to Change)

Date	Topic	Objectives	Assignments/Readings
Sept 2	General Lab Policies	Lab Rules, Lab Safety (Courses Review), Lab coats, Food, Bedding, Making cages, animal handling, ear punch, contact information	- Carson chapter 4
Sept 9	Chem Lab Intro	Weigh, mix, ph solutions & make 100 ml of saline each	- CITI training certificates due

Graduate Laboratory Methods In Biopsychology
PSYC 592 Section 001 Fall 2011

		(also ph solution), fill syringes, needles, IP/ Subcutaneous demonstration	- Carson chapter 5
Sept 16	Mini Pump	General Anesthesia and Mini Pump Surgery	- Bardo, M. T. & Bevins, R. A. (2000). Conditioned place preference: What does it add to our preclinical understanding of drug reward?
Sept 23	Behavioral Testing	Mini Fear Conditioning Experiment -Lecture on Spatial Memory Behavioral Tasks	- Patil, S. S., Sunyer, B. Hoyer, H., & Lubec, G. (2009). Evaluation of spatial memory of C57BL/6J and CD1 mice in Barnes Maze, the Multiple T-maze and in Morris water maze.
Sept 30	Behavioral Testing Cont	Mini experiment for CPP -Lecture on learning and anxiety measures -Golgi Stain Prep	- Hogg, S. (1996). A review of the validity and variability of the elevated plus-maze as an animal model of anxiety.
Oct 7	Sacrifice	Proper methods of sacrifice, brain extraction, review use of carcass freezer, dry ice and -80 freezer	- Holson, R. R. (1992). Euthanasia by decapitation: Evidence that this technique produces prompt, painless unconsciousness in laboratory rodents.
Oct 14	Perfusion & Golgi	Instruction and practice saline perfusion, brains into golgi	- Perfusion & Golgi protocol
Oct 21	Technique Practice	- Injection, Perfusion, brain extraction practice	
Oct 28	Brain Slicing	Practice on Vibratome and Cryostat	- Smith, D. (2005). Instructions for Cryostat slicing Leica Model CM 3050S
Nov 4	Brain Slicing Cont.	Practice on Vibratome and Cryostat	- Carson Chapter 3
Nov 11	Metal Stain & Kodak Fixer	Metal Stain in Chem Lab & Cover Slipping	- Carson Chapter 6 - EHS certifications Due - Prepare Student Project
Nov 18	Stain Review	Cresyl Violet & Cover Slipping	- Cresyl Violet protocol
Nov 25	THANKSGIVING		NO CLASS
Dec 2	Microscopy & Behavior	NeuroLucida Intro & Student	

Graduate Laboratory Methods In Biopsychology
PSYC 592 Section 001 Fall 2011

	Cont	Behavioral Project	
Dec 9	Microscopy & Behavior Cont	NeuroLucida Intro & Student Behavioral Project	