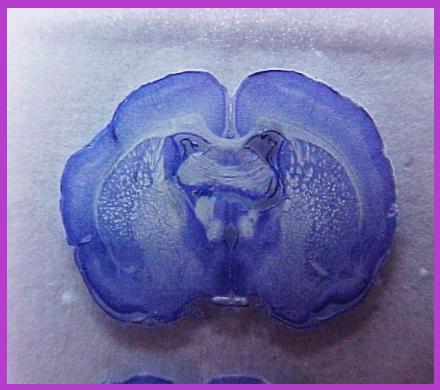
BRAIN & BEHAVIOR LAB
PSY 4515

S P R I N G



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Instructor: Lynn White, Ph.D.

Office: GC 308, 586 x 7913
Office hours: daily 1-2 or by appoint.
Email: white_L@suu.edu

Prerequisite: PSY 1010, 4510

Required Readings: these are posted to the lab web page .

Lab 1: Humane Treatment & use of rodents
Pre-surgical behavioral analysis of rats
Introduction to stereotaxic surgery

Lab 2: Stereotaxic surgery – hippocampal lesions

Lab 3: Social behavior and pain perception in mice fed a healthy vs. unhealthy diet

Lab 4: Behavioral analysis of lesioned rats
stress-induced blood glucose responses in mice fed a healthy vs unhealthy diet

Lab 5: Perfusions and Histology

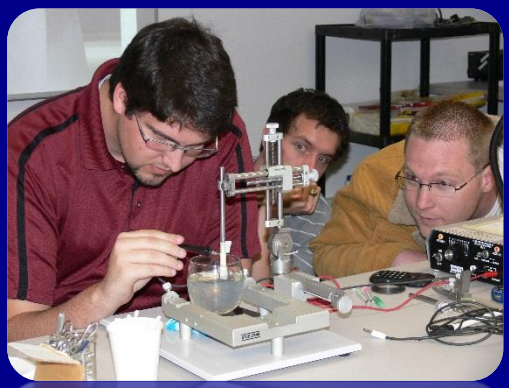
Lab Description & Objectives

The intent of the lab is to give you hands on experience and training in the field of behavioral neuroscience. This will not only serve to enhance your appreciation for the interaction between biology, the environment, and behavior, but also to develop some of the skills necessary to pursue graduate studies or a career in the same or a related field. It will help solidify the material learned in PSY 4510, as well as give you the information and experience necessary to make informed and responsible decisions concerning animal research.

Upon successful completion of the lab, you will be able to: treat rodents humanely and maintain their welfare, sample distal blood and measure blood glucose levels, record behavior on the elevated plus maze, the social response test, the tail flick test, the forced swim test, and the inhibitory avoidance box, properly restrain rats for injection, prepare syringes for injection, perform perfusions and slide mount brain slices for histological analysis, perform stereotaxic surgery and chemical euthanasia. Note that proficiency levels will depend greatly on whether you choose to participate in these activities or to simply observe. You will also participate in a project to investigate the relationship between diet and 1. social behavior 2. pain sensation thresholds, and 3. stressed induced blood glucose reponses.

Preparatory Lab Work

Prior to lab 3 each student will need to go into the animal room once to habituate the mice to the restraint tube. Each mouse will remain there for 3 minutes. You will be assigned 15 mice – so plan on this taking you about 1.5 hours. Arrange a day & time with me as I will need to let you in.



Attendance

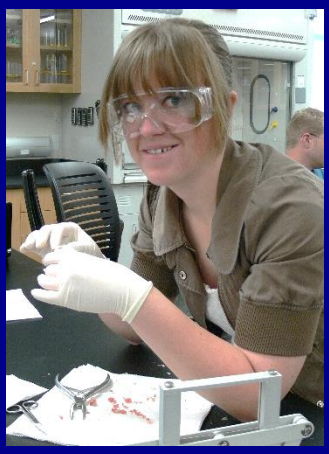
The nature of the labs is such that they cannot be repeated or made up. Aside from losing points for the lab summary, you will have lost a valuable experience. Students who miss more than 2 labs will likely not pass the lab.

Note: most labs will run the full three hours. Plan accordingly.

Lab Reflection

Materials for each lab will be posted to the class web page. Be sure to read and watch these before each lab. Upon completion of a lab, you will be required to submit a summary and a thoughtful reflection of the lab. The summary must be in your own words, not copied and pasted from my website. These are due the Friday immediately following the lab (-5% per day if late).

Note: if you miss a lab, the lab summary & reflection cannot be made up. That's the nature of the beast.



Grading

Lab summaries	**50%**
Lab presentation	**45%**
Extracurricular lab time	**5%**

A	**93%+**	**C**	**73-76%**
A-	**90-92%**	**C-**	**70-72%**
B+	**87-89%**	**D+**	**67-69%**
B	**83-86%**	**D**	**63-66%**
B-	**80-82%**	**D-**	**60-62%**
C+	**77-79%**	**F**	**0-59%**

Cell Phone Policy

Please turn your cell phone off during labs and when around the animals. If you are expecting an emergency, put the cell phone on vibrate and politely excuse yourself from the lab to answer the call.

Taking and Sharing Photos Policy

Much of the public's negative opinion toward animal research stems from social media posts taken out of context. You may take photos in the lab OTHER than those showing surgery, perfusions, blood sampling, injections, or swimming. Please do not take photos of your lab mates without their explicit permission.

Disclaimer

Information contained in this syllabus, other than the grading, late assignments, makeup work, and attendance policies, may be subject to change with advance notice, as deemed appropriate by the instructor.

Workload Expectations

On average, count on spending 2 hours of "out of class" work for every hour spent in the class. That adds up to about 6 hours a week.

canvas

All assignments are submitted to canvas. Your project presentation will be uploaded to a shared google folder.

Lab Project Presentation

Students will work together to create and record a narrated slide presentation summarizing the projects conducted in the lab. Additional details are posted to the lab website. This recorded video will then be shown to students in the human lab and (possibly) students in PSY4510.

Assessment of Risk

As with many labs in the sciences, sharp objects and hazardous materials are used. However, every precaution will be taken to minimize the risk. Please inform me should you know or suspect you are pregnant so that additional safety precautions can be taken.

Another potential risk is that of being bitten/scratched/urinated/defecated on by one of the rodents. Though I will instruct you on proper handling techniques, animals are unpredictable (as are you!) and I cannot guarantee that any of these things will not happen. You should make sure you are up to date on your tetanus shot just in case. Lastly, if you are allergic to rodents, cats, dogs etc... you may want to take appropriate precautions to avoid an allergy/asthma attack.

SUU Essential Learning Outcomes
Addressed by PSY 4515

Knowledge of the Physical and Natural World

Through study in the behavioral and life sciences

Focused *by engagement with big questions, such as how can nervous and endocrine system manipulations affect behavior and vise-versa? How can rat research tells us anything about humans?*

Intellectual and Practical Skills, including

Inquiry and analysis
Critical thinking
Quantitative literacy
Team work
Problem solving

Practiced extensively *in the course of conducting and interpreting laboratory activities*

Personal and Social Responsibility, including

Ethical reasoning and action

Anchored *through extensive discussion on the ethical and humane use of animals in research*

Statements Required in Course Syllabi

Per SUU Policy 6.36