

BRAIN & BEHAVIOR HUMAN LAB PSY 4525

Instructor: Lynn White, Ph.D.

Office: GC 308, 586 x 7913

Office hours: MTTHF 1-2, W 10-11

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Prerequisite: PSY 1010, 4510

**Required Readings and Videos:
posted to the lab web page**



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Course Description & Objectives

The intent of the lab is to give you hands on experience and training in the field of behavioral neuroscience, specifically, human neuropsychophysiology. 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.

Upon successful completion of the lab, you will be able to understand, measure, and interpret several psychophysiological measures: galvanic skin response, heart rate, heart rate variability, respiratory sinus arrhythmia, and EEG.

You will also participate in a three-part project to investigate a) the effect of analog vs digital music on EDA, b) the effect analog vs digital music on EEG c) the effect of analog vs digital music on HR, HRV, and RSA. This project will further solidify your knowledge and appreciation for the reciprocal relationship between brain, the environment, and behavior.

Lab 1: Mock court & polygraph testing

Lab 2: Electrodermal activity & analysis

Lab 3: EEG recording

Lab 4: EEG signal cleanup & analysis

**Lab 5: Heart rate, heart rate variability,
and respiratory sinus arrhythmia**

Pre and Post Lab Work

There will be pre-lab quizzes before labs 2-5. They are open media and based on required readings and videos. These are due before the lab.

For EDA, HR, HRV, RSA, and EEG: you will record one of your classmate's and they will record yours. You will then analyze your own GSR, HR, HRV, RSA, and EEG.

Altogether, you can expect to invest ~ 20 hours working outside of the scheduled lab times.

Photo Policy

You may take and share photos of the people in the lab only if you have their explicit permission to do so.



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 course.

Lab Reflection

An outline and other materials for each lab will be posted to the lab web page. Be sure to read/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. 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%
Pre-lab quizzes	20%
Pre and Post Lab work	30%

A	93-100%	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%	Fail	00-59%

A B C D F

Cell Phone Policy

Please turn your cell phone off during labs. If you are expecting an emergency, put the cell phone on vibrate and politely excuse yourself from the lab to answer the call. Note that ALL cell phones must be on airplane mode during EEG recording.

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.



All assignments and quizzes are submitted to canvas. Readings and videos are posted to the lab website.

STATEMENTS REQUIRED
IN COURSE SYLLABI
[Per SUU Policy 6.36](#)

Late Work Policy

You will be given at least one week to take each pre-lab quiz. If you do not complete them before the lab, you will be lost and slow your partners down. As such, if you miss a due date/time, you can take the quiz(zes) but only receive 50% credit. So please do not wait until the last moment. Murphy's Law will inevitably kick in!



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
Quantitative literacy
Problem solving

Critical thinking
Teamwork

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