Psyc 111: Introduction to Biological Psychology

Spring 2015 Syllabus

Part 1: Course Information

Instructor Information

Instructor: Dr. Sharon Furtak, Assistant Professor of Psychology

- M.S. & Ph.D. in Behavioral Neuroscience from Yale University
- B.A. in Psychology from the University of Massachusetts, Amherst

- My research interests focus on the neurobiology of emotional learning & memory.

Office Location: AMD 357A

Office Hours: Mondays 11-12pm, Wednesdays 2-3pm, or by appointment

Office Telephone: 916-278-6666

E-mail: furtak@csus.edu

PSYC 111-01:

Class time & location: MW 10-10:50am, AMD 240 T.A.: Leslie Borromeo (email: lcb88@csus.edu)

PSYC 111-02:

Class time & location: MW 1-1:50pm, EUR 102 T.A.: Stephanie Hanley (email: hanley@csus.edu)

Course Description

Introductory overview of the psychobiological aspects of behavior. Emphasis is on the central and autonomic nervous systems and the endocrine system. Topics include physiological factors involved in sensation, perception, motivation, learning, emotion, social behavior, and maladaptive behavior. Prerequisite: PSYC 2; PSYC 8, PSYC 101 recommended. Graded: Graded Student. Units: 3.0.

Textbook & Course Materials

Required Text: Available at Bookstore.

- 1. Purchase the e-version or printed version of the book "Foundations of Behavioral Neuroscience", **9**th **Ed**, by Neal Carlson. Price: \$69.99.
- 2. Before you attend class print out/download the syllabus and handouts from SacCT. Material will be posted & updated regularly. NO RECORDING OR PHOTOGRAPHY IN CLASS EXCEPT WITH THE EXPLICIT PERMISSION OF DR. FURTAK.

Course Requirements

- Internet connection (DSL, LAN, or cable connection desirable)
- Access to SacCT
- Access to Adobe Reader & Microsoft Office (available in computer labs)
- Access to QuickTime or alternative video player software for mpg files.

Course Structure

<u>Hybrid format.</u> This course is designed to provide a hybrid experience, including both face-to-face and online activities.

Contact time will be divided in the following way:

- o 66 % face-to-face sessions (Mondays & Wednesdays, see below)
- 33 % online sessions (Fridays, see below)

Face-to-face sessions will be held on the Sacramento State campus in assigned classrooms and will consist of two 50 min class sessions per week on Mondays & Wednesdays. Class time will be a combination of lecture presentation and group activities that will focus on theory, research and conceptual aspects of the material.

Online sessions will be a blend of self-paced learning and mastery modules, group discussion forums, and quizzes. All of these will be posted on SacCT.

SacCT Access

This course will have readings, quizzes and materials posted online through a course management system named SacCT. You will use your SacLink account to login to the course from the <u>SacCT login page</u> (https://sacct.csus.edu/). In SacCT, you will access online lessons, course materials, and resources.

To access this course on SacCT you will need access to the Internet and a supported Web browser (Internet Explorer, Firefox, Safari). To ensure that you are using a supported browser and have required plug-ins please run the Check Browser from your SacCT course. Refer to the SacCT Browser Tune-up page for instructions.

Technical Assistance

If you need technical assistance at any time during the course or to report a problem with SacCT you can:

- Visit the SacCT Student Resources Page
- Review SacCT Student Tutorials
- Visit the SacCT Student FAQ's Web Page
- Submit a SacCT Problem Form

Important Note: This syllabus, along with course assignments and due dates, are subject to change. It is the student's responsibility to check SacCT for corrections or updates to the syllabus. Any changes will be clearly noted in course announcement or through SacCT email.

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Part 2: Course Objectives

At the conclusion of the course, the goal is for you to have a clear understanding of the fundamental topics in Biological Psychology and how they contribute to human and animal behavior.

The course objectives are for you to be able:

- 1) to explain how neurons communicate and how drugs impact this communication.
- 2) to differentiate neuroanatomical distinct cortical (primary sensory areas) and subcortical (the basal ganglia, amygdala, etc...) structures of the nervous system,
- 3) to discuss how different sensory systems (e.g. visual stimuli) process and perceive stimuli in our environment,
- 4) to compare and contrast the role of the endocrine system (hormonal control) in reproductive behavior and in other basic functions of the body (i.e. either sleep or ingestive behavior),
- 5) to describe how synaptic modification within neural circuits underlie learning and memory, and
- 6) to apply what you have learned to understand the biological basis of mental illness.

You will meet the objectives listed above through a combination of the following activities in this course:

- Attend all face-to-face sessions.
- Complete weekly quizzes and group activity.
- Complete three examinations.
- Complete final group project.
- Participate in face-to-face and online group activity.
- Participate in online discussion forums.

Regular class attendance and completing reading assignments as assigned will be necessary for the successful completion of this class.

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Part 3: Topic Outline/Schedule

This syllabus is a general topic outline for the semester. Please refer to the "Daily Schedule" below for important class due dates and on SacCT to "Course Content" for assignments and assessments within each Module.

- Week 01: Module 1 Connecting Your Brain to Behavior
 - Course introduction.
 - Historical foundation of biological psychology.
- Week 02-04: Module 2 Neuronal Communication.
 - Communication within neurons.
 - o Communication between neurons.
 - o The effect of drugs on neuronal communication.
- Week 05: Module 3 Neuroanatomy
 - o Cortical & subcortical structure in the brain.
 - o The functional relevance of neuroanatomy.
- Week 06-08: Module 4 Sensation & Perception.
 - Visual processing: Transduction to perception. Primary Visual Cortex.
 - Visual processing: Perception of color, form and motion. Associative Visual Cortices.
 - Auditory processing: Transduction to Perception.
 - o Gustatory processing: The chemical senses.
- Week 09: SPRING BREAK.
- Week 10-11: Module 5 Endocrine System & Its Influence on Behavior.
 - o Hormonal regulation of sexual & maternal behavior.
 - o Hormonal control of when we start & stop a meal.
- Week 12-13: Module 6 Neurobiology of Learning & Memory.
 - Emotional learning & memory.
 - Stimulus-response learning & memory.
 - o Declarative/episodic learning & memory.
- Week 14-15: Module 7 Neurobiology of Mental Illness.
 - Biological basis of mental illness (will survey 4 out of the following: schizophrenia, depression, PTSD, autism, ADHD, anxiety disorders, OCD or substance abuse).
- Week 16: Module 8 Conclusion.
 - Reviewing what we learned this semester & how we can apply it to everyday information.

Daily Schedule

Important Note: This syllabus and due dates of assignments is subject to change. It is the student's responsibility to check for and keep up with changes in due dates announced on SacCT. Assignment details will be explained in detail within each assignment posted on SacCT. If you have any questions, please contact Dr. Furtak.

Course Schedule				
Week	Module	Assignment	Date & Location	Topics & Assessment
		Read Ch. 1 & Review Online Slides Module 1	M, Jan. 26 <i>F-2-F</i>	IN-CLASS LECTURE 1: Introduction and Historical Foundation of Biological Psychology.
01	1		W, Jan. 28 <i>F-2-F</i>	IN-CLASS ACTIVITY 1: Split-brain patients and what they can tell us about consciousness.
			F, Jan. 30 Online	ONLINE GROUP DISCUSSION 1: post due Fri. 11:59pm
			Omme	ONLINE QUIZ 1: submission due Fri. 11:59pm
		Read Ch. 2 pp. 19-37 & Review Online Slides Module 2.1	M, Feb. 2 <i>F-2-F</i>	IN-CLASS LECTURE 2: Communication within Neurons.
02	2		W, Feb. 4 <i>F-2-F</i>	IN-CLASS ACTIVITY 2: Ion movement, the resting potential & the action potential.
			F, Feb. 6 Online	ONLINE GROUP DISCUSSION 2: post due Fri. 11:59pm
				ONLINE QUIZ 2: submission due Fri. 11:59pm
	2	Read Ch. 2 pp. 37-47 & Review Online Slides Module 2.2	M, Feb. 9 <i>F-2-F</i>	IN-CLASS LECTURE 3: Communication between Neurons.
03			W, Feb. 11 <i>F-2-F</i>	IN-CLASS ACTIVITY 3: Neurotransmitters at the presynaptic terminal and post-synaptic spine.
			F, Feb. 13 Online	ONLINE GROUP DISCUSSION 3: post due Fri. 11:59pm ONLINE QUIZ 3: submission due Fri. 11:59pm
	2	Read Ch. 4	M, Feb. 16 <i>F-2-F</i>	IN-CLASS LECTURE 4: Drug effects on neural communication.
04		& Review Online Slides Module 2.3	W, Feb. 18 <i>F-2-F</i>	IN-CLASS ACTIVITY 4: Drugs and your brain.
			F, Feb. 20 <i>Online</i>	ONLINE GROUP DISCUSSION 4: post due Fri. 11:59pm
				ONLINE QUIZ 4: submission due Fri. 11:59pm

Week	Module	Assignment	Date & Location	Topics & Assessment	
05	3	Read Ch. 3	M, Feb. 23 <i>F-2-F</i>		
		& Review Online Slides Module 3	W, Feb. 25 <i>F-2-F</i>	IN-CLASS ACTIVITY 5: The functional relevance of neuroanatomy.	
			F, Feb. 27 Online	ONLINE GROUP DISCUSSION 5: post due Fri. 11:59pm ONLINE QUIZ 5: submission due Fri. 11:59pm	
	2-3	Study for Exam	M, Mar. 2 <i>F-2-F</i>	Exam 1: Module 2-3 (Chapters 2, 3, and 4) note: Chapter 1 will not be on the exam	
06	4	Review Online Slides Module 4.1	W, Mar. 4 <i>F-2-F</i>	IN-CLASS LECTURE 6: Visual processing: Transduction to perception. Primary visual cortex.	
			F, Mar. 6 Online	NO ONLINE ASSESSMENT THIS WEEK.	
	4	Read Ch. 6 & Review Online Slides Module 4.2	M, Mar. 9 <i>F-2-F</i>	IN-CLASS LECTURE 7: Visual processing: Perception of color, form, and motion. Associative visual cortices.	
07			W, Mar. 11 <i>F-2-F</i>	IN-CLASS ACTIVITY 6: The visual sense from sensation to perception.	
			W, Mar. 13 Online	ONLINE GROUP DISCUSSION 6: post due Fri. 11:59pm ONLINE QUIZ 6: submission due Fri. 11:59pm	
	4	Read Ch. 7 & Review Online Slides Module 4.3	M, Mar. 16 <i>F-2-F</i>	IN-CLASS LECTURE 8: Auditory & gustatory processing: Examples of other senses.	
08			W, Mar. 18 <i>F-2-F</i>	IN-CLASS ACTIVITY 7: Differences between electrical & chemical senses.	
			F, Mar. 20 Online	ONLINE GROUP DISCUSSION 7: post due Fri. 11:59pm ONLINE QUIZ 7: submission due Fri. 11:59pm	
	n/a	No Assignment	M, Mar. 23		
09			W, Mar. 25	SPRING BREAK	
			F, Mar. 27		

Week	Module	Assignment	Date & Location	Topics & Assessment	
10	5	Read Ch. 9	M, Mar. 30 <i>F-2-F</i>	IN-CLASS LECTURE 9: Hormonal regulation of sexual & maternal behavior.	
		& Review Online Slides Module 5.1	W, Apr. 1 <i>F-2-F</i>	IN-CLASS ACTIVITY 8: Gender differences in behavior & brain structure.	
			F, Apr. 3 Online	ONLINE GROUP DISCUSSION 8: post due Fri. 11:59pm ONLINE QUIZ 8: submission due Fri. 11:59pm	
		Read Ch. 11 & Review Online Slides Module 5.2	M, Apr. 6 <i>F-2-F</i>	IN-CLASS LECTURE 10: Hormonal control of when we start & stop a meal.	
11	5		W, Apr. 8 <i>F-2-F</i>	IN-CLASS ACTIVITY 9: Applying what we learned to our habits.	
			F, Apr. 10 Online	ONLINE GROUP DISCUSSION 9: post due Fri. 11:59pm ONLINE QUIZ 9: submission due Fri. 11:59pm	
12	4-5	Study for Exam	M, Apr. 13 <i>F-2-F</i>	Exam 2: Module 4-5 (Chapters 6, 7, 9 and 11) note: Chapter 1 will not be on the exam	
	6	Read Ch. 10	W, Apr. 15 <i>F-2-F</i>	IN-CLASS LECTURE 11: Emotional learning & Memory.	
			F, Apr. 17 Online	NO ONLINE ASSESSMENT THIS WEEK.	
	6	Read Ch. 12 & Review Online Slides Module 6	M, Apr. 20 <i>F-2-F</i>	IN-CLASS LECTURE 12: Stimulus-Response and declarative learning & memory.	
13			W, Apr. 22 <i>F-2-F</i>	IN-CLASS ACTIVITY 10: Comparing 3 types of memory.	
			F, Apr. 24 Online	ONLINE GROUP DISCUSSION 10: post due Fri. 11:59pm ONLINE QUIZ 10: submission due Fri. 11:59pm	
14	7	Read Ch. 15-16	M, Apr. 27 <i>F-2-F</i>	IN-CLASS LECTURE 13: Biological basis of mental illness. Part I.	
		& Review Online Slides Module 7	W, Apr. 29 <i>F-2-F</i>	IN-CLASS LECTURE 14: Biological basis of mental illness. Part II.	
			F, May 1 Online	ONLINE GROUP DISCUSSION 11: post due Fri. 11:59pm	
				ONLINE QUIZ 11: submission due Fri. 11:59pm	

Week	Module	Assignment	Date & Topics & Assessment	
15	6-7	Study for Exam	M, May 4 <i>F-2-F</i>	Exam 3: Module 6-7 (Chapters 10, 12, 15 and 16)
	8	No Assignment	W, May 6 <i>F-2-F</i>	IN-CLASS ACTIVITY 11: Reviewing what we learned this semester & how we can apply it to everyday information.
			F, May 8 Online	NO ONLINE ASSESSMENT THIS WEEK.
16	n/a	No Assignment	M, May 11 <i>F-2-F</i>	FINAL PROJECT PRESENTATION: Groups 1-4
			W, May 13 <i>F-2-F</i>	FINAL PROJECT PRESENTATION: Groups 5-8
			F, May 15 Online	NO ONLINE ASSESSMENT THIS WEEK.
17	May 13-18 th			FINAL EXAM: No Final Exam

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Part 4: Grading Policy

Graded Course Activities

Visit the **Course Content** link in SacCT for details about each assignment listed below. (See Part 1 for more information about accessing tools and activities).

Percentage & Points	Description
60 % 60 pts total 20 pts each	1. Exams. There will be 3 exams, which will be composed of multiple-choice and/or essay questions. Dates of exams are marked in the Daily Schedule. Makeup exams will only be approved with a valid & documented reason (i.e. hospitalization). The makeup exam must be taken within 72 hours of the testing day.
15 % 15 pts total	2. Group Final Project. Each student will be assigned to a group of 4-5 students. Student groups will work together during In-Class Activities, Discussion Posts and toward the presentation of a Group Final Project. A handout will be given early in the semester that describes the group project, the day the group will present it to the class and a rubric of how the project will be graded.
10 % 10 pts total 1 pts each	3. Quizzes. A total of 11 quizzes will be given online; quizzes due dates are marked in the Daily Schedule. No make-up quizzes will be given. The lowest grade will be dropped. Only the 10 highest grades will count toward your final grade.
10 % 10 pts total 2 pts each	4. Discussion Posts. A total of 11 discussion posts will be given online, due dates are marked in the Daily Schedule. Over the semester, 5 of 11 these discussions will be randomly selected for grading. Instructions are given in each discussion prompt.
5 % 5 pts total 0.5 pts each	5. In-class Activities. Class will consist of group activities followed by class discussion on a total of 11 classes as marked in the Daily Schedule. It is expected that all students will participate and add to group and class discussion. Credit will only be given to those students who are in attendance & participating. The lowest grade will be dropped. Only the 10 highest grades will count toward your final grade.
	6. Class Attendance. Three absences, including excused or unexcused, is accepted prior to a grade reduction. There is a 1-point decrease in your final grade for each additional day missed for up to 5 days (5 points of final grade). Regular attendance is advised. Tardiness of more than 15 minutes after the beginning of class will count as an absence.
100 %	Total Percentage/Points Possible

Late Work & Make Up Policy

There will be **no** late submission of course material unless otherwise posted. If you miss an exam for a valid & document reason (i.e. hospitalization), then you must contact Dr. Furtak immediately and take a make-up exam within 72 hours of the original test date. If you miss a quiz it must count as your lowest grade, which will be dropped from the calculation of your final grade.

Be sure to pay close attention to deadlines in the SacCT Calendar, a link is posted on the left side of the Navigation panel.

Viewing Grades in SacCT

Points you receive for graded activities will be posted to the SacCT Grade Book typically within 7 days of the assignment/quiz due date. Click on the My Grades link on the left navigation to view your points.

It is your responsibility to check these grades once posted. If you have a question or complaint about a grade posted on SacCT, then you must email Dr. Furtak within 7 days of the posted grade. In the email, please put in subject line "question regarding grade" and within the email make sure to state which assignment you are referring to and exactly where you believe a grading error was made. Only emails from your CSUS email address will be responded to by the professor so that identity can be made and validated.

Letter Grade Assignment

Final grades assigned for this course will be based on the percentage of total points earned and are assigned as follows, point values are not rounded up:

Letter Grade	Percentage	Performance
Α	93-100%	Excellent Work
A-	90-92.99%	Nearly Excellent Work
B+	87-89.99%	Very Good Work
В	83-86.99%	Good Work
B-	80-82.99%	Mostly Good Work
C+	77-79.99%	Above Average Work
С	73-76.99%	Average Work
C-	70-72.99%	Mostly Average Work
D+	67-69.99%	Below Average Work
D	60-66%	Poor Work
F	0-59.99%	Failing Work

Important note: For more information about grading at Sac State, visit the academic policies and grading section of the university catalog.

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Part 5: Course Policies

Attend Class

Students are expected to attend all online and face-to-face class sessions as listed on the course calendar. Attendance at face-to-face class meetings and participation in online activities is essential for the success of the hybrid experience. Please see Part 4 for grading relative to attendance and participation.

Participation

Student participation in the classroom is strongly encouraged. If you don't understand a topic or if I am lecturing too quickly, other classmates will too. Let me know I need to slow down by raising your hand. Please see Part 4 for grading relative to attendance (i.e. in class assignments).

Build Rapport

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let Dr. Furtak, or the T.A.s, know as early as possible. As you will find, building rapport and effective relationships are key to becoming an professional. Make sure that you are proactive in informing Dr. Furtak, or the T.A.s, when difficulties arise during the semester so that we can help you find a solution.

Complete Assignments

All assignments for this course will be submitted electronically through SacCT unless otherwise instructed. Assignments must be submitted by the given deadline or special permission must be requested from instructor before the due date. Extensions will not be given beyond the next assignment except under extreme circumstances.

Understand When You May Drop This Course

It is the student's responsibility to understand when they need to consider disenrolling from a course. Refer to the Sac State Course Schedule for dates and deadlines for registration. After this period, a serious and compelling reason is required to drop from the course. Serious and compelling reasons includes: (1) documented and significant change in work hours, leaving student unable to attend class, or (2) documented and severe physical/mental illness/injury to the student or student's family.

Incomplete Policy

Under emergency/special circumstances, students may petition for an incomplete grade. An incomplete will only be assigned if there is a documented medical reason. All incomplete course assignments must be completed within 1 year.

Inform Your Instructor of Any Accommodations Needed

If you have a documented disability and verification from the Office of Services to Students with Disabilities (SSWD), and wish to discuss academic accommodations, please contact your instructor as soon as possible. It is the student's responsibility to provide documentation of disability to SSWD and meet with a SSWD counselor to request special accommodation before classes start. If you have special test taking arrangements, then you must give Dr. Furtak notification at least 72 hours before the scheduled exam/quiz date.

SSWD is located in Lassen Hall 1008 and can be contacted by phone at (916) 278-6955 (Voice) (916) 278-7239 (TDD only) or via email at sswd@csus.edu.

Commit to Integrity

As a student in this course (and at this university) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the classroom. If you are found cheating, then you will be reported to the Office of Academic Conduct and you will receive an F in the course.

Sac State's Academic Honesty Policy & Procedures

"The principles of truth and honesty are recognized as fundamental to a community of scholars and teachers. California State University, Sacramento expects that both faculty and students will honor these principles, and in so doing, will protect the integrity of academic work and student grades."

Read more about Sac State's Academic Honesty Policy & Procedures

Definitions

At Sac State, "**cheating** is the act of obtaining or attempting to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means."

"Plagiarism is a form of cheating. At Sac State, "plagiarism is the use of distinctive ideas or works belonging to another person without providing adequate acknowledgement of that person's contribution."

Source: Sacramento State University Library

Important Note: Any form of academic dishonesty, including cheating and plagiarism, may be reported to the office of student affairs.

Course policies are subject to change. It is the student's responsibility to check SacCT for corrections or updates to the syllabus. Any changes will be posted in SacCT.