

PSYC 320: Biopsychology
Fall 2022
Location: WPH 102
Time: Tues and Thurs 2-3:50 PM (PDT)

Instructor: Shirin Birjandi, Ph.D.
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Office Hours: TBD
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Course description:

- This field of study has been called: Psychobiology, Biopsychology, Physiological Psychology, Behavioral Neuroscience, and various other names. Overall, the goal is to explain how the brain provides for diverse mental skills and drives, including perception, emotion, motor control, memory, and consciousness. Much of our discussions will be on the cellular and at the systems level.

Goals of the course:

- At the cellular level, we learn about the structure of individual neurons as well as how they communicate with one another.
- At the systems level, we learn the names of the major brain structures and focus on those regions that are specialized in what they contribute to the mental skills and drives.
- Brain regions that control emotions and memory formation. Emotions, learning and memory discussed both at a cellular and molecular level. Many of the current explanations of emotion and mood are based on the chemical substances that are released from the neuron terminals. Moreover, many of the concepts for how sensory information is processed or how memories are stored are based on research that has recorded the activity of individual neurons.
- How the brain controls sleep, ingestion, and sexual drive.
- Introduction to techniques used to investigate questions relating to the brain and disease.
- Discussion of modern genetic testing and its potential societal impact.
- Survey of neurological deficits produced by damage or disease and knowledge gained from fMRI imaging.
- Through primary article readings students will hone their critical thinking skills, critically evaluate the methods, results and interpretations of primary journal articles.

Textbooks:

- *Biopsychology: Fundamentals and Contemporary Issues* by Martin S. Shapiro v1.0
- Selected readings will also be assigned from various sources and posted on Blackboard.

Course assignments and evaluations:

Assignment	Points	Approx % of Grade
Midterm 1	100	23.2%
Midterm 2	100	23.2%
Midterm 3	100	23.2%
Final Exam	100	23.2%
Participation	30	7.0%
TOTAL	430	100%

The final grade is calculated based on point totals, percentages are given for your reference.

Attendance will not be taken at class sessions; however, attendance is strongly encouraged. If you must miss one or more class sessions, it is your responsibility to keep up with the course work.

Grade scale:

A 100-90%	B+ 84-86.9%	C+ 75-77.9%	D 60-68.9%	F ≤59.9%
A- 87-89.9%	B 81-83.9%	C 72-74.9%		
	B- 78-80.9%	C- 69-71.9%		

Exams:

EXAM DATES ARE FIRM. An exam can be taken only on the scheduled date and at the scheduled starting time. Students who are unable to take an exam at the scheduled time must give written notification as soon as possible, preferably in advance. Students who miss an *exam, case study, etc.* for a legitimate reason, must provide documentation of said reason within seven days of the exam date or due date. Documentation must be sent to course Instructor. If documentation is not received within seven days, the score for the missed assignment/exam will be zero. Making up an exam will only be allowed if the student can demonstrate with written documentation a compelling reason (such as family or medical emergency) for not taking the exam at the scheduled time. A make-up exam may include an oral component and will generally be more difficult than the in-class exam.

Re-grading of exams:

Your graded midterm exams can be reviewed with a 20 minute window. If you feel an error was made in the grading of your exam, you must submit your exam, along with a Regrade Request Form (found on Bb) in which you have a thorough (but concise) **typewritten** explanation of why you think your answer deserves more credit, to Dr. Birjandi within 1 week of the time it was viewed. The entire answer will be re-graded, not just the part you think deserves more credit. Your score may increase or decrease as a result of a regrade.

Case Studies

There will be three case studies throughout the course where a primary journal article will be presented by the instructor. The papers can be found on Blackboard under the tab *Case Studies*. Students are encouraged to read the papers prior to lecture. Primary journal articles are crucial to understanding how scientific advancements are made. More importantly, how are questions answered through the process of experimental design, data collection and interpretation. Advances in science are routinely reported in peer reviewed publications and it is crucial for students to understand how to navigate and to understand scientific articles.

Case Study Participation

Students are expected to familiarize themselves with the case study articles prior to the presentation in order to ask thoughtful scientific questions pertaining to the work. **Student participation will be evaluated based on attendance and submission of two written questions pertaining to the article(s) presented. Participation is worth 10 pts/presentation for a total of 30 pts.** No credit for participation will be given in the case of an unexcused absence.

WK Lectures Topic

Readings

1	08/23/22 1	History and Introduction	Chap 1
	08/25/22 2	History and Introduction	Chap 1
2	08/30/22 3	Functional Anatomy	Chap 2
	09/01/22 4	Functional Anatomy	Chap 2 Chap 8.2-8.5
3	09/08/22 5	Neuron Communication	Chap 3.1-3.3
	09/13/22 6	Neuron Communication	Chap 3.1-3.3 Chap 3
4	09/15/22	Exam 1 (Lectures 1-6)	
	09/20/22 7	Psychopharmacology, Recreational Drugs, Tolerance, and Sensitization	Chap 3.4 Chap 14
5	09/22/22 8	Psychopharmacology, Recreational Drugs, Tolerance, and Sensitization	Chap 3.4 Chap 14
	09/23/22 9	Methods and Strategies of Research <i>Case study 1</i>	Chap 4 Article Posted on Bb
6	09/27/22 10	Hormones, Sex, and Love	Chap 11
	09/29/22 11	Hormones, Sex, and Love	Chap 11
7	10/04/22 12	Sleep, Dreaming, and Circadian Rhythms	Chap 9
	10/06/22	Exam 2 (Lectures 7-13)	
8	10/11/22 13	Human Communication	Chap 7
	10/13/22	Fall Recess, No Lecture	
9	10/18/22 14	Emotions and Stress	Chap 12
	10/20/22 15	Emotions and Stress	Chap 12
10	10/25/22 16	Learning and Memory	Chap 13
	10/27/22 17	Learning and Memory	Chap 13
11	11/01/22 18	Ingestive Behavior	Chap 10

	11/03/22	Exam 3 (Lectures 14-19)	
12	11/08/22 19	The Developing Nervous System	Chap 15
	11/10/22	The Developing Nervous System <i>Guest lecturer (Assal Habbi, Ph.D)</i>	
13	11/15/22 20	Genetics and Evolution	Chap 5
	11/17/22 21	Eugenics <i>Case study 2</i>	Article Posted on Bb
14	11/22/22 22	“Human Races” - Can they be defined? <i>Case study 3</i>	Article Posted on Bb
	11/24/22	Thanksgiving, No Lecture	
15	11/29/22 23	Addiction and Affective Disorders	Chap 15
	12/01/22 24	Neurological Disorders: Neuropsychiatric, Brain Injuries, and Brain Pathologies	Chap 16
	12/8/22	Final Exam (Lectures 19-24) at 2 PM	

Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

IMPORTANT: COVID-19 PROTOCOLS

Students must comply with all COVID-19 safety protocols outlined by federal, state, local, and university policies. These policies will likely evolve with the changing conditions of the COVID-19 pandemic and may include social distancing, the use of face coverings at all times, proof of vaccination, and regular COVID testing, among others.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
studenthealth.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call
suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call
studenthealth.usc.edu/sexual-assault

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298
equity.usc.edu, titleix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
usc-advocate.symlicity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776
dsp.usc.edu

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Campus Support and Intervention - (213) 821-4710

campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101

diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call

dps.usc.edu

Non-emergency assistance or information.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)

ombuds.usc.edu

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.