

Biopsychology (PSY 304)
University of Oregon
Summer 2013

Time: MTWR, 10am to 12:20pm, June 24th - July 21st

Location: Gerlinger 302 (GER 302)

Instructors (office): Iryna Yavorska (LISB 206) and Jason Isbell (LISB 232)

Office hours: Iryna: By appointment; Jason: By appointment

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General Course Description: Three pounds of meat—that's enough for a small dinner party if you're buying a roast, or a quarter-pounder for you and each of eleven of your closest friends. But did you know that three pounds of meat can also hold a lifetime of memories, emotions, thoughts and desires? In this course, we explore the brain, the three pounds of meat that make us who we are.

To understand the workings of the brain, we begin by exploring the cells, or neurons, that make up the brain—their structure and function, with a focus mostly on the ways in which these neurons “communicate” with one another using electrical currents and chemical signals. We also discuss how the chemical interaction between neurons is affected by drugs, so that we can better understand their behavioral effects and associated benefits (and dangers). We also study the anatomy of the brain and the way in which different functions are segregated within the tissue. We then explore many of these functions in depth, including, for example:

- Sensation, which allows us to discover things about the world around us.
- Learning and memory, which provides a means of storing (and later recalling) that newfound information.
- Sleep, which might seem to be a time when the brain simply shuts down, but in reality is a time when the brain is highly active.
- Emotions, which modulate and color our behavior and interactions with others.

Text: *The Mind's Machine*, by N.V. Watson

Course Website: The official course website is on Blackboard (<http://blackboard.uoregon.edu>). Please notify us if you have difficulty logging into the site. This site will provide information for the course (course outline, grades, copies of lecture slides, etc.).

Course Format: The material in this course will be presented primarily in class lectures and discussion. Lecture material and supplementary readings will have some overlap, but will not be replications of each other. Some lecture material will not be covered in the readings and vice versa. You will be responsible for lecture material not covered in the readings, but you will *not* be responsible for reading material not covered in the lecture. As the name suggests, the supplementary material is meant to supplement the lecture material. It is intended to give a bit more depth and an alternate explanation of the material, should you need it. In addition, discussions of the material during lecture will be more fruitful if you have at least a general understanding of the material beforehand, helping you to ultimately comprehend and retain the material.

Grading: Grading will be based on the combined scores of three quizzes (10% total) and four exams (22.5% each, 90% total). Letter grades will be determined as follows: A (90 - 100% of total possible points), B (80 - 89%), C (70 - 79%), D (60 - 69%), F (0 - 60%). However, the instructors reserve the right

to relax (but not stiffen) this criterion, depending on the actual distribution of grades.

Quizzes (10%): Short quizzes will occasionally be given in the first 5 minutes of class. There will be four quizzes throughout the course. You will not know the days of the quizzes in advance. Questions will be drawn from the previous day's lecture. These questions will be of a more general nature and should be easily answered if you have paid attention and taken notes. Of the four quizzes, the lowest score will be dropped. The average score of the remaining three will yield 10% of the final grade. No make-up quizzes will be offered. If you miss a quiz then that grade will be the one that will be dropped.

Exams (Exam #1: 22.5%, Exam #2: 22.5%, Exam #3: 22.5%, & Exam #4: 22.5%): An exam will fall on the 4th day of each week (i.e., MTW: lecture, R: exam). The exams will be composed of multiple choice, matching, fill-in-the-blank and short answer questions. The last exam will contain questions drawn from the entire course, but with a greater focus on material covered since Exam #3. ***No make-up exams will be given without evidence of a valid excuse, and the last exam cannot be taken earlier or later than the time listed in the University final exam schedule. If you know in advance that you cannot take all exams at the appointed times (see the course schedule below), then do not take this course!*** If unforeseen circumstances during the term prevent you from taking an exam, notify the instructors immediately.

Academic Learning Services: If you have difficulty with the course materials at any time, you are encouraged to contact the instructors or TA so that we can provide timely assistance. In addition, the resources of the Academic Learning Services (<http://als.uoregon.edu/services/services.html>) can be invaluable to students that require assistance in, for example, perfecting good study habits or honing their writing skills.

Students with Disabilities: If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with the instructor as soon as possible. Also, please request that the Counselor for Students with Disabilities (Hillary Gerdes, hgerdes@oregon.uoregon.edu, tel. 346-3211, TTY 346-1083) send a letter verifying your disability. For a list of resources provided by the Office of Disability Services, please see <http://ds.uoregon.edu>.

Students for whom English is a Second Language: If you are a non-native English speaker and think you may have trouble in this course due to language difficulties, please see the instructor as soon as possible to make any necessary special arrangements.

Academic Honesty: All work submitted in this course must be your own. For the consequences of academic dishonesty, refer to the Schedule of Classes published quarterly. Violations will be taken seriously and are noted on student disciplinary records. If you are in doubt regarding any aspect of these issues as they pertain to this course, please consult with the instructor before you complete any relevant requirements of the course. (For more information, see the UO web site regarding academic honesty at: http://studentlife.uoregon.edu/programs/student_judi_affairs/conduct-code.htm).

Course Outline: This is only a working draft of the course outline. It may be revised as the term progresses. Dates on which particular topics are to be presented in lecture are subject to change. However, we will not change the dates of quizzes or exams unless absolutely necessary. The official updated version of the outline will reside on the Blackboard web site. Updated print versions can also be obtained from the instructors or teaching assistant during normal office hours.

Week 1: Cellular, neural, and brain anatomy; cell electrophysiology

Week 2: Neurochemistry and neurotransmitters; neurophysiology of vision; visual perception

Week 3: Hormones and sex; sleep and biological rhythms; learning and memory

Week 4: Emotions (theory of emotions, processing emotions, fear, stress, aggression, etc.)

;Important! Final note: The exams will be based solely on the lecture material. This includes both what is in the slides and what the instructors say when fleshing out the slides. Therefore, it is strongly suggested that you take good notes. This obviously requires your attendance to do so. If you anticipate not being able to attend class regularly then you may want to consider dropping the course. This is a 10-week course condensed into 4 weeks and contains somewhat challenging material. We will move quickly and cover a lot of ground. As instructors, we will do all we can to facilitate your learning of the material, but please take note that to do well in this course it will require a significant amount of effort and diligence on your part. Please do not hesitate to ask questions during lecture, schedule office visits, and/or email us with any questions or needs for clarification of the material. This is not an easy course but it is definitely possible to do well if you put forth the effort and take advantage of all resources.