

## **PSY304: Biopsychology: An Introduction to Human Neuroscience**

### ***Spring 2012 Class Syllabus (CRN 35528)***

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**TA Office hours:**

**Lectures:** M/W 8:30-9:50, 229 MCK

**Discussion Sections:** F, noon-5:20, see class schedule

**General Course Description:** This class provides an initial exposure to one of the most fascinating subjects of modern scientific inquiry: neuroscience, or the study of how nervous systems control behavior. It begins with a superficial discussion of some of the intrinsic properties of neurons, the cells that enable information flow through the nervous system, and then how they talk to each other. We then put neurons together and begin to discuss the circuits underlying higher-order phenomena such as sensory perception, motor action, and cognition, tending to stay away from subjects that are well-represented by other classes. There are 3 basic modules, 1) cellular; 2) systems, and 3) cognitive neuroscience.

<b>Week</b>	<b>Date</b>	<b>Topic</b>	<b>Reading</b>	<b>Discussion Section</b>
1	April 2	<b>History of Neuroscience</b>	Chapter 1	Movie: TBA
	April 4	Neuronal structure & function	Chapter 2	Movie Time!
2	April 9	The Neuronal Membrane at Rest	Chapter 3	
	April 11	The Action Potential	Chapter 4	Electrophysiology
3	April 16	<b>Exam #1</b>		
	April 18	Synaptic Transmission	Chapter 5	Exam 1 Retake
4	April 23	Neurotransmitter Systems	Chapter 6	Neuroanatomy I
	April 25	Structure of the Nervous System	Chapter 7	
5	April 30	Methods in Neuroscience	various	Neuroanatomy II
	May 2	The Somatic Sensory System	Chapter 12	
6	May 7	<b>Exam #2</b>		Exam 2 Retake
	May 9	Visual System	Chapter 9, 10	
7	May 14	Auditory, Vestibular Chemical Senses	Chs 8, 11	NEUROANATOMY PRACTICAL
	May 16	Motor Control	Chs 13, 14	
8	May 21	<b>Exam #3</b>		Exam 3 Retake
	May 23	Hypothalamus, Brain Rhythms and Sleep	Chapters 15, 16, 19, 18	
9	May 28	MEMORIAL DAY, no class		
	May 30	Learning and Memory	Chapters 24, 25	Home Neurologist Kit
10	June 4	Neurological/ Psychiatric	Chapter 22	
	June 6	<b>Exam #4</b>		Exam 4 Retake
11		<b><i>NO Final Exam!!!</i></b>		

**Course Outline:** The preceding is only a working draft of the course outline; it will be revised as the quarter progresses. Depending upon how the class as a whole is doing, the schedule of material may be refined. Dates on which particular topics are to be presented in lecture can be subject to change, as may reading assignments, etc. However, we will not change the dates of exams. 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.

**Communication:** I will be happy to entertain any and all questions during my scheduled office hours, which happen directly after class on Monday and Wednesday (so you're already here!). If this time doesn't work for you, we can set up an appointment for another time. Also, remember your TA can handle most questions via email or office hours. However, due to the high volume of other emails, I will not be able to handle your emails to [cleef@uoregon.edu](mailto:cleef@uoregon.edu), so I have set up an email address for the class ([biopsych@uoneuro.uoregon.edu](mailto:biopsych@uoneuro.uoregon.edu)), which I will check the night before every class. I will then either respond to you individually via email, or will cover your question in class the next day. Note that I cannot change Blackboard's email, so if you email me via Blackboard, it will go to my uoregon.edu address, so if you want to contact me via email about the course, pls write a separate email to [biopsych@uoneuro](mailto:biopsych@uoneuro), and I'll definitely get it.

**Required Text:** *Neuroscience: Exploring the Brain* by Bear, Connors and Paradiso ([a copy is on reserve in both the Knight library and the Science library](#); please notify me immediately if you have difficulty obtaining the text from the bookstore). This is an excellent textbook, but is admittedly at a higher level than should be expected for a class without prerequisites (there really is no introductory neuroscience textbook), so concentrate your efforts on understanding what has been presented in lecture. The publishers of this text also provide an online tutoring service free with the purchase of the textbook (see the inside front cover for details). However, although most everything has been excellent thus far, note that since this site is run by the publisher, we cannot take responsibility for the material presented there.

**Course Website:** The official course website is on Blackboard (<http://blackboard.uoregon.edu>), if you are registered, you should see it. Please notify one of the instructors if you have difficulty logging into the site. This site will provide supplemental information for the course. The lectures may change depending upon how things are going.

**Optional Text/Weblinks:** As optional reading on the subject, try *Biological Psychology* by James Kalat or *Biopsychology* by John P.J. Pinel ([copies are on reserve in the Knight Library](#)). You can also get more neuroscience-related information at the following web sites:

<http://www.brainconnection.com>

<http://www.neuroguide.com>

<http://faculty.washington.edu/chudler/introb.html>

<http://www.hhmi.org/senses>

<http://www.mindhacks.com/>

[http://ect.downstate.edu/courseware/neuro\\_atlas/](http://ect.downstate.edu/courseware/neuro_atlas/)

<http://www.drugfree.org/Portal/DrugIssue/>

<http://www.newscientist.com/channel/being-human/brain>

<http://blogs.nature.com/nn/actionpotential/>

If you know of other web sites of interest, please pass them along to the instructor.

**Course Format:** The material in this course will be presented through a combination of assigned reading from the text, class lectures, and demonstrations and discussion. Lecture material and 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 are expected to do the assigned reading *before* the corresponding lecture. Your understanding of the material during lecture will be more fruitful if you have at least a general acquaintance with the material beforehand, helping you to ultimately comprehend and retain the material. That being said, the vast majority of exam questions come from the lecture material, which is available on the Blackboard site at least the night before the lecture. This means that the easiest way to pass this class is to attend the lectures: the class moves very fast, so those that get behind often stay there.

**Grading:** Grading will be based on the combined scores from the discussion sections (20%), and your four exams (20% each). 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, we reserve the right to relax (but not stiffen) this criterion, depending on the actual distribution of grades. There is no standard “curve” per se, after looking at the exam scores I may curve an exam or add points to all grades, but it will depend upon the shape of the distribution (i.e. one can indeed fail this class).

**Discussion/participation (20% of final grade):** Scores will be determined by class participation (discussion, questions, etc.) as well as the scores of worksheets and the practical. There will be a worksheet for each non-review discussion section which will provide the basis for your grade for that week, for review sessions and exam sessions, there is no worksheet. One section is a practical exam.

**Exams (each 20% of your grade):** The four exams will be composed of multiple choice, matching, fill-in-the-blank and short answer questions. Not only is there a review, you have the opportunity to take the exam again during the discussion section, and I will take the better of the two scores.

Because of this, ***no make-up exams will be given without evidence of a valid medical or family emergency***, so *if you know in advance that you cannot take all exams at the appointed times (see the course schedule below), do not take this course!* If such unforeseen circumstances during the term prevent you from taking an exam, notify an instructor immediately, PRIOR to the exam.

### **Final Exam THERE IS NO FINAL**

**Extra Credit:** There are now two more ways to get extra credit. One is to volunteer to be a subject in an experiment run by one of my colleagues that works with people, the Human Subjects Pool. Students interested in a further extra credit assignment can serve as subjects in the Psychology Human Subjects Pool. The Human Subjects Pool is designed to provide students the opportunity to see firsthand how psychology experiments are performed; at the same time, you’ll be providing data that will help a researcher learn how the brain works. If you decide to participate, you will earn .5 points of extra credit toward your *final grade in the course* for each hour you serve as a subject, up to a maximum of 3 points (credit hours beyond the maximum of 6 will be ignored). For example, 4 hours of credit would increase a final grade of 79 up to an 81, giving you a B- for the course instead of a C+. To participate, follow the guidelines for the Human Subject Pool posted at

<http://psychweb.uoregon.edu/undergrad/humansubjects.htm>. Since it is impossible to predict the number of experiments that will be available on any given week, I suggest that you *do not wait until the last week of the term before participating*. It is unlikely that any experiments will be available during finals week. Note that it is your responsibility to faithfully follow the rules of Human Subject Pool, as described at <http://psychweb.uoregon.edu/undergrad/humansubjects.htm>. If you do not follow these rules, you will be penalized, in the form of a subtraction from your already-completed extra credit. **If you have any questions or comments about this extra credit assignment, do not hesitate to contact [biopsych@uoneuro.uoregon.edu](mailto:biopsych@uoneuro.uoregon.edu), or the human subjects coordinator at [<hscoord@uoregon.edu>](mailto:hscoord@uoregon.edu).**

There is an alternative to the above form of extra credit, which is to turn in a 4 page essay on a topic of the instructor's choosing, for a maximum of 3 points of your final grade. Only students that are actually failing the course after both midterms can do both. Occasionally, there may be opportunities for extra credit that will be assigned in exams. However, they can only help you, not hurt you.

**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 (Molly Sorois, [disabsrv@uoregon.edu](mailto:disabsrv@uoregon.edu), 164 Oregon Hall, Phone 346-1155, 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/resources.htm>.

**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 of language difficulties, please see the instructors 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://darkwing.uoregon.edu/~conduct/>).