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PSYX 250N.02: Fundamentals of Biological Psychology

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PSYX 250N – Fundamentals of Biological Psychology

Fall 2018

Monday, Wednesday, Friday 1:00 - 1:50 pm

Room location: Liberal Arts 11

Contact Information

Instructor: Nathan Insel, Ph.D.

Email: nathan.insel@umontana.edu

Office hours: Skaggs Rm 362, Mon & Tues: 2:30-3:30 and by appointment

Course Description

This class offers an introduction to psychology from the perspective of biological **mechanisms**. Where many psychology classes focus on “What do humans and other animals do?” we will be asking “*How* is it done?” This includes basic questions like “How do we see, smell, hear?” and “How do we move?” It also includes more complex questions like “How do we remember?” and “How do we become motivated or feel emotion?” These are tricky topics, because although we know many details about the biology of animals and their nervous systems, we often don’t know which details are important for generating (or “computing”) mind and behavior. This class will be an **introduction to the basics** of how biological parts interact with one-another to make neurons, neuron circuits, and behavior do what they do. While you may leave this class with more questions than answers, my goal is that you will also leave with basic knowledge about brain biology and a basic understanding of the principles of its operation.

Reading Material

First (and foremost): read, understand, and think about **your lecture notes**. This also means you need to take good notes during lecture and ask questions about concepts that are unclear. This also means you should attend every class, or if you have to miss a class, to get notes from another student.

The textbook: Kalat, *Biological Psychology*, 11th edition (Available as an Ebook). This is to compliment the material presented in class. You will learn more if you are learning from multiple sources, but you will generally not be responsible material that is not covered during lecture.

Course Evaluation

In this course, you will be evaluated by four tests, each worth 25% of your final grade. Each test/exam will be based on lecture material, the last test will take place during the final exam period and be cumulative. All tests will contain multiple-choice and a handful of short-answer questions; the final may additionally include longer-answers.

Course Policies

Drop Date

Policies on dropping can be found online (<http://www.umn.edu/registrar/students/dropadd.php>).

Beginning the 46th instructional day of the semester through the last day of instruction before scheduled examinations, students must petition to drop.

Academic Misconduct

All students must practice academic honesty. As described in the Student Conduct Code (http://www.umt.edu/vpsa/policies/student_conduct.php), academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. As a general principle I have zero tolerance for academic misconduct. It is disrespectful to other students, to me, and to yourself. ***If you are caught cheating you will fail this class.***

Disability Modifications

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (<http://www.umt.edu/dss/>). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or call 406.243.2243. I will work you and Disability Services to provide an appropriate modification.

Makeup Tests

If you have to miss a scheduled test, please contact me before the test to discuss the situation. *There will be **NO** makeup tests*, and if there are compelling circumstances beyond your control that require you to miss a test, the weighting of that test will be redistributed to the other tests.

Please note that this outline is subject to change depending on the needs of the class. Any changes to the syllabus will be announced in class beforehand.

Course Outline		
Date	Topics	Suggested Reading
Aug. 27 th -31 st	Mechanisms & levels of analysis & Nervous system overview	Kalat 1.1 (p1-7) Kalat 4.1 (p86-108)
Sept. 5 th & 7 th	From molecules to cells & Neuron communication	Kalat 2.1/2.2 (p27-49) Kalat 3.1/3.2 (p51-70)
Sept. 10 th -14 th	Neuron communication (continued), neuron circuits	Circuits handout
Sept. 17 th -21 st	Neuromodulation & drugs, test review	Kalat 3.3 (p71-83)
Sept. 24 th	TEST 1	
Sept. 26 th	Cellular methods	
Sept. 28 th , Oct. 1 st & 3 rd	Vision from light to cognition	Kalat 6.1/6.2 (p153-167) Kalat 6.3 (p182-189)
Oct 5 th , 8 th , 10 th	Mechanoreceptors and more.: touch, sound, vestibular sense	Kalat 7.1/7.2 (p194-213) Kalat 7.3 (p215-229)
Oct. 12 th	Chemoreceptors: taste and smell	Kalat 8.1 (p231-239)
Oct. 15 th & 17 th	Movement, test review	---
Oct. 19 th	TEST 2	
Oct. 22 nd -26 th	Reward & Decisions	Kalat 8.2 (p240-253)
Oct. 29 th -Nov 2 nd	Stress & Emotion	Kalat 12.3 (p381-387)

		Kalat 12.1/12.2 (p355-379)
Nov. 5 th	NO CLASS!	
Nov. 7 th & 9 th	Memory	Kalat 13.1/13.2 (p389-419)
Nov. 12 th -16 th	Sleep, cognitive and systems methods, test review	Kalat 9.1-9.3 (p265-295)
Nov. 19 th	TEST 3	
Nov. 21 st & 23 rd	THANKSGIVING—NO CLASS!	
Nov 26 th -Nov. 30 th	Social behaviors, language, & brain lateralization	Kalat 11.1/11.2 (p327-351) Kalat 15.1/15.2 (p459-485) Kalat 14.1/14.2 (421-444)
Dec. 1 st -Dec.-7 th	Nervous system dysfunction & review	Kalat 15.1/15.2 (p459-485)
Dec. 12 th 1:10-3:10	Final exam (cumulative)	