1-2015

PSYX 250N.02: Fundamentals of Biological Psychology

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Psychology 250N: Biological Psychology

Spring 2015 – Section 02

Course Information

Time: Tuesday and Thursday, 9:40 – 11:00am
Location: HS 207

Instructor Information

Instructor: Mark Primosch
Email: mark.primosch@umontana.edu
Office: Skaggs 368
Office hours: Monday 10:00 – 11:00am; Wednesday 10:00 – 12:00pm

Required Text

Kalat, James W. (2015). *Biological Psychology*. Boston, MA: Cengage Learning*

**Students may opt to use the electronic version of the 11th edition of above textbook. There are subtle differences between the two (e.g. chapter organization and material in chapters). The course will be organized from the 12th edition. Thus, there may be a slight risk using the 11th edition, though minimal.*

Supplemental Readings/Videos

There will be a number of additional reading assignments that will be required for the course. These supplemental readings will be located on Moodle for students to download and read. In addition, there will be two supplemental video lectures (TED Talks) that students will be required to watch.

Learning Outcomes and Objectives

1. **The brain, experience, and behavior**
   Students will develop their understanding of how the brain influences one's experience of the world and one's behavior in it. Measurement: In-class OR online quizzes (located on Moodle) and exams on assigned textbook and supplemental reading/video assignments.

2. **Scientific methods and behavioral neurobiology**
   Students will identify scientific methods, especially those of cognitive neuroscience, that are valuable in behavioral neurobiology. Measurement: In-class OR online quizzes (located on Moodle) and exams on assigned textbook and supplemental reading/video assignments.

3. **Diseases, trauma, drug usage, hormones, and genes**
   Students will learn several disease etiologies related to mental health and neurological functioning. Measurement: In-class OR online quizzes (located on Moodle) and exams on assigned textbook and supplemental reading/video assignments.

4. **Critical thinking**
   Students will learn how to think critically about the information taught in the course. Emphasis will be placed on research methodology and the inferences these methods allow researchers to

make. Measurement: Students will have the opportunity to demonstrate critical thinking in the Taking Sides group project. In-class OR online quizzes (located on Moodle) will also give students the opportunity to demonstrate their critical thinking.

Course Requirements

Exams

There will be **three exams** over the Spring 2015 semester. Each exam will be 50 multiple-choice questions and each question will be worth one point. A total of **150 points** can be earned for all three exams. Students are responsible for providing their own scantron forms for each exam. These forms can be purchased at the university bookstore.

Quizzes

There will be 12 quizzes throughout semester. Each quiz will be related to a supplemental reading or video assignment (see class schedule for details and dates). Only the best 10 (i.e. highest scores) quiz scores will be calculated into students' final grade. Quizzes will be completed on Moodle unless stated otherwise by the instructor, in which case the quiz (or quizzes) will be in class. Quizzes on Moodle will be open for 7 days prior to the scheduled due date and will close at 9:40am on the date of the assigned supplemental reading or video. If a quiz is completed in class, the student will grade her or his own quiz. All quizzes are "closed-book", meaning students are not to access the assigned reading while attempting to answer the questions or any notes taken on each reading. Students will be allowed to use any notes taken while watching the two TED talks but are not to access the video while attempting to answer the related quiz questions. For Quiz 6, students will be allowed to access the reading and their notes to answer the quiz question. Each student is expected to practice academic honesty per the Student Conduct Code when completing his or her own quiz. Each quiz will be worth 5 points total and will be a mixture of multiple-choice, true/false, and short answer/essay questions.

Taking Sides Group Project and Presentation

Students will be assigned to work in a group to complete the *Taking Sides* project. The purpose of this group project is to allow students to demonstrate critical thinking on a topic related to biological psychology. In addition, this project will give students the opportunity to gain practical experience for their future careers, which will most likely require some form of group collaboration or teamwork. The project is worth 25 points total.

The purpose of this project is to allow students to explore controversial topics within psychology that they finding interesting and to evaluate the available evidence for both sides of the issue before making a final decision on the issue. However, a final decision or stance does not need to be made. The project overview is located on Moodle. Students will submit peer ratings for each group member on Moodle. See the Taking Sides Project Overview document on Moodle for additional information about the assignment, grading, and due dates.

Lectures and Supplemental Reading/Video Assignments

You will be responsible for all information from the lectures as well as the assigned texts—including material in the reading/video assignments not covered in class. Regular attendance is critical. Please be sure to keep up with your reading and attend lectures. Important announcements will be made throughout the semester either in class or via email.

At various point throughout the semester, the online polling system Poll Everywhere will be used to facilitate discussion of course content and assess students understanding of course material. Poll Everywhere uses SMS messaging and therefore students will be asked to text message responses to a dedicated number associated with the course. Students will be charged standard text messaging fees if they choose to participate. Therefore, participation is optional, yet strongly encourage. Students will not be graded for their responses or penalized for not participating in these polls.

Grading

Grades will be based on the 3 exams (150 points), 10 quiz scores (50 points), and the Taking Sides project (25 points). Total points possible in the course are 225.
Grades will be as:
89-100%=A
79-88%=B
69-78%=C
59-68%=D
58% and below=F

Course Guidelines and Policies

Make-up Policy

Make-up exams are not permitted unless a doctor's note for illness or some other formal documentation of an emergency is provided. In addition, you must contact me via email prior to the exam if you will miss the exam. The final exam is not comprehensive.

Academic Integrity

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a sanction by the University. All students need to be familiar with the Student Conduct Code.

Disability Modifications

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. 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.

Add/Drop Deadline

Please take note of important registration dates listed in the Spring 2015 academic calendar. See the UM Important Dates and Deadlines form on Moodle for details. After the 45th day of the spring semester, no petitions to drop the course will be signed and no Incompletes will be given except in documentable emergency situations.

Disclaimer

Mark Primosch reserves the right to make changes in (a) the course schedule, (b) course requirements, (c) the course grading procedures, and/or any other aspects of the course at any time. Any alterations will be circumspect and will be made in the best interests of the students, the course, and the professor.

Course Schedule

Date	Topic	Reading(s)	Assessment
01/27	Course Overview	Syllabus	NA
01/29	The Cells of the Nervous System; The Nerve Impulse	Chapter 1.1 & 1.2	NA
02/03	The Concept of the Synapse; Chemical Events at the Synapse	Chapter 2.1 & 2.2	NA
02/05	Structure of the Vertebrate System; The Cerebral Cortex	Chapter 3.1 & 3.2; *No longer Gage*	Quiz 1
02/10	Research Methods	Chapter 3.3; *Detection of Deception with the fMRI: Are we there yet?*	Quiz 2
02/12	Genetics and Evolution of Behavior	Chapter 4.1; *DNA is not Destiny*	Quiz 3
02/17	Visual Coding; How the Brain Processes Visual Information	Chapter 5.1 & 5.2; *Beau Lotto: Optical illusions show how we see (TED Talk)*	Quiz 4
02/19	How the Brain Processes Visual Information; Parallel Processing in the Visual Cortex	Chapter 5.3	NA
02/24	**Exam One**	**Material from 01/27-02/17**	**In Class**
02/26	Audition; The Mechanical Senses	Chapters 6.1 & 6.2	NA
03/03	The Chemical Senses	Chapters 6.3; *Olfactory Lives of Primates*	Quiz 5
03/05	Hunger	Chapter 9.3	NA
03/10	Rhythms of Waking and Sleeping; Stages of Sleep and Brain Mechanisms	Chapter 8.1 & 8.2	NA
03/12	Stages of Sleep and Brain Mechanisms; Why Sleep? Why REM? Why Dreams?	Chapter 8.3; *Should Neuroscience Research Be Used to Inform Public Policy?*	Quiz 6
03/17	The Control of Movement; Brain Mechanism of Movement	Chapters 7.1 & 7.2; *The Metabolic Consequences of Sleep Deprivation*	Quiz 7
03/19	Movement Disorders	Chapter 7.3	NA
03/24	Movement Disorders	Chapter 7.3; *Beware of Neuro-bunk (TED Talk)*	Quiz 8
03/26	**Exam Two**	**Material from 2/24-03/24**	**In Class**
03/31	*Spring Break (No Class)*	*Spring Break*	*Happiness*
04/02	*Spring Break (No Class)*	*Spring Break*	*Happiness*
04/07	What is Emotion?; Attach and Escape Behaviors	Chapters 11.1 & 11.2	NA
04/09	Stress and Health	Chapter 11.3; *Sapolsky Ch. 2*	Quiz 9
04/14	Learning, Memory, and Amnesia	Chapter 12.1; *The Lost Mariner*	Quiz 10
04/16	Storing Information in the Nervous System	Chapter 12.2	NA
04/21	Lateralization of Function	Chapter 13.1; *A Tale of Two Halves*	Quiz 11

Date	Topic	Reading(s)	Assessment
04/23	Evolution and Physiology of Language	Chapter 13.2; *Paul Broca's Historical Cases*	Quiz 12
04/28	Consciousness and Unconscious Processes and Attention	Chapter 13.3	NA
04/30	Substance Abuse and Addiction	Chapter 14.1	NA
05/05	Mood Disorders	Chapter 14.2	NA
05/07	Presentations	Presentations	In Class
05/12	Presentations	Presentations	In Class
05/15	Final Review		In Class
TBA	**EXAM THREE (FINAL)**	**Material from 04/07-05/12**	**Location TBA**