



Psych/Bio/ 217A: Behavioral Neuroscience
Haverford College
Fall 2017
Tue/Thu 11:30-1 pm/ Sharpless 430

Instructor: Mary Ellen Kelly, Ph.D

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Sharpless S414

Office hours: Tue/Thu 1:30-2:15; **or by appointment (Sharpless 414)**

Course Description:

This course introduces students to the exciting and rapidly evolving field of behavioral neuroscience. Behavioral neuroscience, or biological psychology aims to better understand the complexities of normal and abnormal human behavior by unraveling the mysteries of the human brain. Through lectures, readings, and digital media, students will be introduced to basic concepts in neuroscience. The course will develop a solid foundation in the fundamentals such as functional neuroanatomy, neuronal communication and neuropharmacology. Classic and state-of-the-art neuroscience research methodologies leading to this knowledge will be highlighted. Throughout the course we will cover major themes including neuroplasticity, neurogenesis, learning and memory, and the complex inter-relationship between the environment and brain function.

Course Objectives:

At the completion of this course, and with full engagement of the material, students should achieve the following objectives:

1. Appreciate the diverse methodological approaches one can take to understand the workings of the brain.
2. Explain the basic organization and structure of the nervous system and have a fundamental understanding of how neuronal cells convey information.
3. Recognize how differences and/or similarities in the neurobiology of various species can enhance our understanding of human behavior.
4. Apply fundamental principles of neuroscience to our understanding of normal and abnormal human behaviors such as addiction, learning and memory and psychopathology.
5. Inherent to all the above stated objectives is the hope that through discussions and reading of primary literature, students gain an appreciation for how neuroscientists approach the study of complex human behavior.

Readings:

Course readings will include both material from the textbook as well as journal readings or review articles posted to Moodle. **Students are expected to come to class having read the assigned material.** The textbook is available for purchase in the bookstore and online. Readings will be posted two weeks prior to assigned date.

Breedlove, S. M. & Watson, N. V. (2017). Behavioral Neuroscience. (8th ed.)
Sunderland, MA:Sinauer.

Grading:

Midterm Exam	20%
Final Exam (Cumulative)	30%
Research Paper/Book Review	25%
Assignments (3)	15%
Attendance/Participation	10%

Exams:

The first exam will be an in class exam while the final exam will be take home and distributed on the last day of class

Research Paper/Book Review:

There are two options for the essay component of the course.

Option 1: Research Paper

Students will write a 6-8 page research paper (not including references) focused on an aspect of neuroscience of interest to you. Topics can include those covered in class, in addition to areas of neuroscience not covered. For example, you might be interested in the neurobiology of obesity. A starting point would be to pick a review paper on the topic of choice, then focus in on a specific aspect of the research presented in your review (e.g. genetic predispositions to obesity, epigenetic influences on obesity). You should include at least 5 additional references to provide a comprehensive narrative of your topic.

The paper should be double spaced and formatted according to the *APA Publication Manual*, 6th edition: a copy is available in the science Library. Further details will be presented in class.

Option 2: Book Review

Students will write a 4-6 page paper, choosing one of the suggested books. The essay should include a review of the book, focusing on how it expanded on elements of neuroscience discussed throughout the course (if applicable). Choose a topic

presented in the book that was of interest to you (perhaps a chapter) and identify and discuss the scientific accuracy of the author's presentation. How well did the author represent the primary research in their interpretation of the literature? Further details regarding this option will be reviewed in class. Book suggestions will be posted within the week.

Assignments:

Throughout the semester there will be 3 short assignments worth 5 points each. The purpose is to facilitate learning of the course material and to hopefully encourage a more in-depth look at particular topics presented in class. Assignment will be posted on moodle with associated due dates.

Attendance and Participation:

Class attendance and class participation are an expected course requirement. Students are responsible for all materials covered in class. Please plan to attend. If you are absent due to an illness/emergency etc. please notify me by e-mail. Class will begin promptly (Haverford Time).

There are many ways to participate and actively engage in course material. Asking questions and participating in discussions in class will enhance learning and contribute to an interactive classroom environment. If you feel a concept could use additional clarification it is likely you are not alone. If speaking in public is difficult, questions and comments can also be e-mailed to me directly or addressed during office hours.

Grading Scale:

Letter Grade Determination:

94.0% and above- A/4.0	80.0 – 82.99----- B- / 2.7	67.0-69.99—D+/1.3
90.0 - 93.99---- A- /3.7	77.0-79.99----- C+/2.3	60.0-66.99---D/1.0
87.0-89.99----- B+/3.3	73.0 – 76.99----- C/ 2.0	59.99 and less—F/0.0
83.0 – 86.99----- B /3.0	70.0 – 72.99---- C-/1.7	

Academic Honesty:

The Honor Code is in effect at all times.

Note: Audio recording of class lectures requires permission.

Laptops allowed: Class-related only

Haverford College is committed to supporting the learning process for all students. Please contact me as soon as possible if you are having difficulties in the course. There are also many resources on campus available to you as a student, including the Office of Academic Resources (<https://www.haverford.edu/oar/>) and the Office of Access and Disabilities Services (<https://www.haverford.edu/ads/>). If you think you may need accommodations because of a disability, please contact Sherrie Borowsky, Coordinator of Accommodations, Office of Access and Disability Services at hc-ads@haverford.edu. If you have already been approved to receive academic accommodations and would like to request accommodations in this course because of a disability, please meet with me privately at the beginning of the semester (*within the first two weeks if possible*) with your verification letter.