

**Boston University**  
**Animal Models of Behavioral Neuroscience**  
**PS 521 / NE 521**  
**Fall 2021**  
**Lecture/discussion: TR 11:00a – 12:15p**  
**Location: PSY 153**

**Instructor:** Dr. Benjamin Scott  
bbs@bu.edu  
Office: KCILSE 705C

**Course description:**

Examines the modern behavioral approaches and wide range of species across the animal kingdom used to model human behavior and neural function. Lectures present background material, and students lead discussion of primary research articles.

We will focus on contemporary research which attempts to identify the neural mechanisms of cognition, and related psychiatric disorders, through the use of animal models. Selected topics include communication and deception in cephalopods, cultural transmission in songbirds, episodic memory in food caching birds, mental simulations in primates and decision making in rodents.

**Learning goals:** After completing this course, students should:

- (1) Have familiarity with the range of animal models for complex cognitive behavior;
- (2) Appreciate the evolutionary basis of neural systems that generate learning, memory and cognition;
- (3) Demonstrate an advanced ability to read, understand, and discuss the primary scientific literature;
- (4) Understand the experimental tools available in different animal models.

**Prerequisite:** Junior standing and either PS 231 or NE 101, or permission of the instructor.

**Office hours:** Tuesday 12:15-1:15pm or by appointment.

**Web:** <https://www.scottcognitionlab.com/teaching/>

**Grading:**

<b>Discussion/participation</b>	<b>Points</b>
Daily Quiz	25%
Discussion leading	25%
Discussion participation	25%
Reviews	25%
	<b>100.0%</b>

**Discussion:** This course will be run as a high-level seminar with approximately 1 hour of each class period set aside for discussion of primary literature. These discussions will be led by students on a rotating basis. Between participation and leading, discussion constitutes 50% of your grade. Please consider preparation as your homework commitment outside of class. Effective preparation requires a thorough reading of each article prior to coming to class. In addition, we suggest employing the following strategies: (1) Practice explaining important figures before coming to class. (2) Consult key cited references, especially when they appear in passages critical to the claims of the paper but which are difficult to understand. (3) Rather than relying on class period to ask clarifying questions about the readings, look up unfamiliar terms and concepts as you encounter them. Office hours are available to help address questions, especially before you lead a discussion.

**Reviews:** Students will write reviews of selected presentation papers. The reviews should be 400-600 words in length and will be modeled after the peer review process used by academic journals to evaluate new manuscripts. Details will be discussed in class.

**Daily Quizzes:** Each day in class a one question quiz will be administered. Students are required to bring a writing implement to class, paper will be provided. Questions will be based on the assigned reading material in class that day. Unless otherwise announced, quizzes will be open note. The lowest 5 quizzes will not count to your final grade. This effectively allows you to miss 5 days of class without direct adverse effect to your grade. Unexcused absences beyond this limit will result in loss of points. See information of Attendance and Absences below for more information.

**COVID-19 Accommodations:** Face masks, in accordance with BU policy, will be required at all times including during presentations and discussion. The class is offered in person only and will not be recorded or broadcast. However, if the instructor or guest speaker is unable to attend due to health and safety protocols and a suitable substitute cannot be found we will switch to zoom. Classes that students miss due to documented health and safety protocols will not be counted toward their final grade. If students miss more than 5 classes, they will be required to write or present a research report on a research topic related to the class. The research topic will be selected by the student(s) in consultation with the instructor and should be related to the topic of comparative behavior, but something not covered in class. The presentation may take the form of a lecture delivered in class (30 min suggested), a video abstract (5-8 min suggested) or a review article (4 pages).

**Attendance & Absences:** Students will be expected to attend all classes. Excused absences are available for sanctioned school events, medical or religious reasons. If you know that you cannot attend a class due to one of the aforementioned reasons, email the instructor ASAP and well in advance of class. For details of the University Policies on absences for religious reasons please see the following website: <https://www.bu.edu/academics/policies/absence-for-religious-reasons>

**Accommodations for Students with Documented Disabilities:** If you are a student with a disability or believe you might have a disability that requires accommodations, please contact Disability and Access Services at (617) 353-3658 or [access@bu.edu](mailto:access@bu.edu) to coordinate any reasonable accommodation requests. Disability and Access Services is located at 25 Buick Street. Website: <https://www.bu.edu/disability/>

**Academic Conduct:** Students are responsible for knowing and abiding by Boston University's Academic Conduct Code, which can be found online: <https://www.bu.edu/academics/policies/academic-conduct-code/>

**Courtesy:** Please be courteous to your fellow students and instructors. This includes punctuality, silencing electronics, not distracting other students.