

**COLUMBIA UNIVERSITY**  
**PSYC S2450Q BEHAVIORAL NEUROSCIENCE**  
**Summer 2020 Syllabus**  
**Tue & Thurs 9:00am – 12:10pm ONLINE**

---

**Instructor:** Elif Aysimi Duman

**E-mail:** ead2145@columbia.edu , elif.duman@boun.edu.tr (after Aug 14, 2020)

**Office hour:** Tue 12:10 – 1:10pm online

---

**Course description and learning objectives:**

The aim of this online course is to introduce the fundamental topics in neuroscience and their relation with behavior and psychological disorders through research findings from various fields such as psychology, pharmacology, physiology and genetics. We will start with the fundamentals of genetics and neuroscience, and move towards more specific topics such as neuroendocrine systems, vision, stress, learning and memory.

**Prerequisites:** An introductory knowledge in psychology and biology is recommended.

**Course readings:**

**Textbook:** Carlson, N. R. & Birkett, M. A. (2016). *Physiology of Behavior*, 12<sup>th</sup> Ed. Boston: Pearson.

Textbook is available at Science & Engineering Library on reserve. We will go over assigned book chapters and journal articles for each week. Please follow up on these assignments on Courseworks. Supplemental readings will be assigned throughout the semester. A brief summary of the lecture slides will be posted Thursdays after class on Courseworks.

**Course format, policies and grading:**

First few weeks of the course will be devoted to a general introduction to genetics, epigenetics and neuroscience together with relevant research methods. During this period, we will have activities to make sure the material is understood. At the end of this section, we will have a midterm on July 28 (35%). Afterwards, we will go over specific topics each week. During this period, we will cover the basics of each topic followed by discussion of relevant journal articles. Participation in discussions and activities and completing assignments on time are worth 20% of your grade. Late assignments will not be accepted. Attendance is mandatory according to Columbia University rules. During activities, in order to receive full credit, students have to be present for the activity from the beginning till the end. All assignments will be checked for plagiarism. Exams will consist of short and long essay questions. Excuse exams for the midterm will only be considered if a legitimate excuse (eg. Doctor's note) is submitted within 3 days after the exam. Final exam (45%) will cover all topics, with more emphasis given to topics after the midterm exam. There will be no excuse exam for the final. If you require any arrangement for a disability, please inform me and Office for Disability Services at the beginning of the semester to accommodate the necessary arrangements.

Participation, in-class activities, assignments	20%
Midterm exam	35%
Final exam	45%

**PSYC S2450Q BEHAVIORAL NEUROSCIENCE****TENTATIVE COURSE SCHEDULE\***

<b>Week</b>	<b>Date (dd/m)</b>	<b>Content</b>
<b>1</b>	<b>07/7</b>	Course introduction Introduction to Genes, Brain & Behavior: Genetics
	<b>09/7</b>	Introduction to Genes, Brain & Behavior: Epigenetics
<b>2</b>	<b>14/7</b>	Neuroanatomy & Neurophysiology
	<b>16/7</b>	Neuroanatomy & Neurophysiology
<b>3</b>	<b>21/7</b>	Nervous system & Neuroscience methods
	<b>23/7</b>	Sensory systems: Vision
<b>4</b>	<b>28/7</b>	Midterm exam
	<b>30/7</b>	Stress: neuroendocrine, immune and circadian interactions
<b>5</b>	<b>04/8</b>	Stress: neuroendocrine, immune and circadian interactions
	<b>06/8</b>	Learning & Memory
<b>6</b>	<b>11/8</b>	Learning & Memory Wrap-up
	<b>13/8</b>	Final exam

\* Schedule is subject to change anytime during the semester.