

Psychology S2450Q (Behavioral Neuroscience)

July 3-Aug.9, 2017

Resit Canbeyli

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This course investigates the neuroanatomical, neurophysiological and neurochemical bases of behavior. The first part of the course is designed to provide students with a solid background in the fundamentals of neuroanatomy, nervous conduction and psychopharmacology so that they will be able to actively participate in classroom discussions in the second part when major issues in behavioral neuroscience such as learning, memory, emotions, vision, sleep and biological rhythms are investigated. Optional weekly review sessions not only allow students more time to investigate the topics covered each week but also provide them with an opportunity for further elaboration of the issues according to their needs and special interests.

Required Readings: Readings are based on the textbook by Carlson, N. R. and Birkett, M.A. (2016). Physiology of Behavior. Boston, Allyn and Bacon. 12th Ed.

Course requirements: There will be 3 midterm exams with equal weight. There is an optional research paper that can be submitted on the last day of the classes for extra credit (up to 5 points added to the cumulative grade).

Students are required to attend classes. Active class participation is expected.

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**Syllabus for S2450Q (Behavioral Neuroscience)****Instructor: R. Canbeyli****July 3-Aug. 9, 2017**

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| <u>Week</u> | <u>Date</u> | <u>Topic and Assignment*</u>                       |
|-------------|-------------|--|
| 1.          | M 7/3       | <b>Introduction and Historical Background</b> Ch.1 |
|             |             | <b>The Neuron</b> Ch.2                             |
|             | W 7/5       | <b>The Neuron/The Nervous System</b> Ch.3          |
|             |             | <b>The Brain</b> Ch.3                              |
| 2.          | M 7/10      | <b>Electrical Activity of the Neuron</b> Ch.2      |
|             |             | <b>Nervous Conduction</b> Ch.2                     |
|             | W 7/12      | <b>Neurotransmitters</b> Ch.4                      |
| 3.          | M 7/17      | <b>Exam I</b>                                      |
|             |             | <b>Neurochemical Basis of Behavior</b> Ch.4        |
|             | W 7/19      | <b>Sensory Processing: The Visual System</b> Ch.6  |
| 4.          | M 7/24      | <b>The Visual System</b> Ch.6                      |
|             |             | <b>Biological Rhythms</b> Ch.9                     |
|             | W 7/26      | <b>Sleep</b> Ch.9                                  |
| 5.          | M 7/31      | <b>Exam II</b>                                     |
|             |             | <b>Emotions</b> Ch.11                              |
|             | W 8/2       | <b>Emotions</b> Ch.11                              |
|             |             | <b>Learning</b> Ch.13                              |
| 6.          | M 8/7       | <b>Learning: Cellular Mechanisms</b> Ch.13         |
|             |             | <b>Memory</b> Ch.13                                |
|             | W 8/9       | <b>Final Exam</b>                                  |

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

**Course evaluation and grading.** Each exam will count 1/3 of the final grade and will cover the immediately preceding material. There is an optional paper to be submitted on the day of the final exam. The paper will contribute up to 5 points toward the cumulative grade.