

**History of Neuroscience
Neurobiology & Behavior 255
Winter 2017**

Course Syllabus

“The past is never dead. It isn’t even past.” William Faulkner

Course Description: An overview of the conceptual and technical foundations of neuroscience from ancient times to the present. The subjects include synapses, neurons, brain organization, sensory, motor, regulatory and cognitive systems, learning and memory and human brain function and dysfunction.

Course Coordinator:

Larry Cahill, LFCAHILL@UCI.EDU
Room 116 Bonney Bldg (inner office)

Lecturers: Faculty from several UCI Schools and Departments (see roster)

Time: Fridays 9:00 - 11:50 A.M. There will be two lectures per day, starting at 9:00 A.M. and 10:30 A.M., respectively.

Place: Room **1201 McGaugh Hall**

Course text: *Minds behind the brain: A history of the pioneers and their discoveries*, Stanley Finger, Oxford University Press, 2000.

Evaluation: The course grade will be determined primarily by a paper, which is due on the last day of class. No excuses for late papers will be accepted. Late papers will have a reduced grade. Any topic from a historical perspective is OK but it must be approved by Dr. Cahill. The paper should be 20-30 pages in length (double-spaced) plus bibliography, figures, tables and footnotes.

Selecting a Topic and Obtaining Materials: Because of the historical nature of the paper, it will be necessary to begin obtaining materials, many of which may have to be gotten through interlibrary loan, about the 4th-5th week. Therefore, the general topic should be selected by the 3rd week. You

should do some preliminary bibliographic work and reading at the earliest possible time, refining your topic and preferably formulating a specific question that you will attempt to answer.

To facilitate writing the paper and for purposes of guidance, a 1-2 paragraph plan plus a rough, preliminary bibliography for the paper is due on Feb 10 (week 5).

Oral Presentation: During the last class meetings students will have the opportunity to make an oral presentation (about 30 minutes including discussion) summarizing her/his paper. This presentation will not be graded.

Class Schedule

(NOTE: first lecture each Friday at 9, second at 10:30)

<u>Lec#</u>	<u>Date</u>	<u>Title</u>	<u>Lecturer</u>
1.	Jan 13	<i>Introduction: The past is about the present</i> Reading: Chpt 1	Cahill
2.	Jan 13	<i>Ancient Times to the Modern Period</i> Reading: Chpts 2,8	Cahill
3.	Jan 20	<i>Synaptic Transmission</i> Reading: Chpt 16	Parker
4.	Jan 20	<i>The Neuron Doctrine</i> Reading: Chpt 13, handout	Killackey
5.	Jan 27	<i>Organization of Cortex</i> Reading: Chpts 9, 11	Killackey
6.	Jan 27	<i>Understanding the Action Potential</i> Reading: handout	Cahalan

PAPER TOPIC DUE

7.	Feb 3	<i>The Concept of "Limbic System & Emotion": Great concept, or horrible?</i> Reading: Papez 1937	Cahill
8.	Feb 3	History of the Retinal Image Reading- TBA	Yellott

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| 9. | Feb 10 | <i>Hemispheric Specialization</i>
Reading: handout | Cahill |
| 10. | Feb 10 | <i>Brain Integration vs Segregation</i>
Reading: TBA | Huffman |
| 11. | Feb 17 | <i>An historically novel idea:
Moruzzi and Magoun 1949</i>
Reading- handout | Cahill |
| 12. | Feb 17 | <i>The myth of mirror neurons</i>
Reading- handout | Hickok |
| 13. | Feb 24 | <i>The Legacy of Scoville and Milner</i>
Reading: Scoville and Milner 1957 | Cahill |
| 14. | Feb 24 | <i>A Personal Perspective on Brain
and Memory</i> | Milner (video) |
| 15. | March 3 | An History of Brain and Memory | Cahill |
| 16. | March 3 | <i>In Class Discussion</i>
Reading: handout James McGaugh | McGaugh |
| 17. | March 10 | Student Presentations | |
| 18. | March 17 | Student Presentations | |

Roster of Lecturers

Michael Cahalan mcahalan@uci.edu
 Department of Physiology and Biophysics, College of Medicine

Herb Killackey, Department of Neurobiology and Behavior, hkillack@uci.edu

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