

BRAIN, MIND, AND BEHAVIOR – MCB 61

Department of Molecular and Cell Biology

University of California, Berkeley

Spring 2014

Tu and Th 9:30 – 11:00 am, Wheeler Auditorium

Instructor: Natalia Caporale

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Office Hours: TBD

Course Description:

This is an introductory course on the structure and function of the human nervous system

This is a course on the structure and function of the human nervous system, with emphasis on how brain physiology and chemistry are related to human behavior. It is a comprehensive introduction to the exciting field of contemporary neuroscience for students of all backgrounds and interests.

Prerequisites:

There are no University course prerequisites for MCB 61.

Required textbook:

- “An Introduction to Brain and Behavior”, by Brian Kolb and Ian Whishaw
Either the 4th edition (2012) or the 3rd edition (2009)

These books are available for purchase at campus bookstores. Copies are also available on reserve in the Moffitt Library.

Discussion Sections:

This class has 2 lectures and 1 discussion section per week. Attendance to the discussion sections is compulsory. Each student who registered for the class is already registered in a discussion section.

Attendance: We highly recommend that you attend lectures and you are required to attend your discussion sections.

Website:

<http://bspace.berkeley.edu/> (primary website is on bSpace)

Graduate student instructors (GSIs):

We are lucky to have great GSIs and they, together with your classmates, will be your best allies in this class. You are encouraged to get to know and talk with your GSI. Don't be shy!

Below are their names and email addresses. Additional information, such as office hours will be posted on bspace.

Anwar Nunez-Elizalde	anwarnunez@berkeley.edu
Wren Thomas	awthomas@berkeley.edu
Alexandra Courtis	courtis@berkeley.edu
Courtney Gallen	courtney.gallen@gmail.com
Irin Pansawira	ipansawira@berkeley.edu
Kenji Kobayashi	kenji.kobayashi@berkeley.edu
Michael Picetti	michael.picetti@berkeley.edu
Moe Turner	mcturner@berkeley.edu

Section	Day	Time	GSI	Location
101	Monday	9-10 am	Wren	2011 VLSB
102	Monday	10-11 am	Wren	2030 VLSB
103	Monday	10-11 am	Irin	2032 VLSB
104	Monday	1-2 pm	Anwar	2062 VLSB
105	Monday	1-2 pm	Courtney	2011 VLSB
106	Monday	3-4 pm	Kenji	83 DWINELLE
107	Monday	3-4 pm	Courtney	2038 VLSB
108	Tuesday	1-2 pm	Anwar	247 DWINELLE
109	Tuesday	2-3 pm	Anwar	2066 VLSB
110	Tuesday	8-9 am	Maureen	2066 VLSB
111	Wednesday	10-11 am	Wren	2030 VLSB
112	Wednesday	11-12pm	Michael	2070 VLSB
113	Wednesday	1-2 pm	Michael	2011 VLSB
114	Wednesday	2-3 pm	Kenji	2038 VLSB
115	Wednesday	4-5 pm	Kenji	2070 VLSB
116	Thursday	1-2 pm	Alexandra	2032 VLSB
117	Thursday	2-3 pm	Alexandra	2066 VLSB
118	Thursday	3-4 pm	Alexandra	2070 VLSB
119	Thursday	8-9 am	Maureen	2062 VLSB
120	Friday	10-11 am	Irin	2030 VLSB
121	Friday	11-12 pm	Irin	2030 VLSB
122	Friday	12-1pm	Michael	2030 VLSB
123	Friday	1-2pm	Courtney	125 Li Ka Shing

In Class iClicker Questions: (Clickers 1, 2 or + are OK; Clicker to GO won't work)

We will use clickers throughout the class (worth 5% of your final grade). Clicker questions will not be given each class but often, so **you are responsible for bringing your clicker to all** lectures (we also recommend bringing spare batteries). There will be ~2-4 questions per clicker session. **Full credit will correspond to 60% correct answers** (If we ask 100 questions, you would need 60 correct to obtain full credit). All clicker questions will be posted on bspace after class.

Note: No written answers will be accepted. If your clicker doesn't work, or you missed class, those questions will be considered "incorrect answers".

Course Assignments:

Apart from the work you will do in class, you will also be asked to do some work at home. These home assignments aim to promote learning by reactivating memories of what you have learnt each week, as well as provide the opportunity for metacognitive learning and for exploring how neuroscience pertains to many aspects of our lives outside the classroom.

- **Journaling [12 journal entries]: (Done Weekly ONLINE)**

As part of the learning process in this course, we will be asking you to complete a journal entry every week online. Sometimes, this journal entry will be guided, asking you to reflect on specific topics, while other times, it will just be a reflection on the course, what you have learnt, the questions you still have. Taking the time to evaluate and reflect on our experiences, and how they contribute to our growth is a key component of the learning process. Your answers will be graded on completion (following instructions well) and effort. **There is NO correct answer to any of the journaling assignments. All journaling entries will be due on Sundays at 11:55pm.**

There are a total of 14 journaling tasks. You must complete 12 for full credit. We will only grade the first 12 journaling tasks submitted, though you are welcome to work on the remaining ones.

No late journal entries will be accepted. Please keep in mind that Bspace can be tricky. **DO NOT WAIT FOR THE LAST MINUTE** to submit the journal, as Bspace or internet may run into troubles.

- **Homework Assignments: (Must be turned in DURING SECTION IN PAPER)**

There will be three homework assignments in this class. Brief descriptions of each assignment are given below. More details will be given online when the assignments are posted. Due dates are shown below and on the class schedule.

- Assignment 1: Look for a newspaper / magazine article on a topic in neuroscience that seems to be having an impact in current society. You will be asked to summarize the article and explain your choice. *Due date: Week of Feb 10 – 14 @ your section.*
- Assignment 2: Read a story that describes a patient suffering from an uncommon neurological phenomenon. We will provide stories to choose from. You will summarize the story and answer a few questions. *Due date: Week of Mar 17-21 @ your section.*
- Assignment 3: Write 4 multiple choice questions and 2 short answer questions on the course material and provide the correct answers. You will submit your questions on paper to your GSI AND will also submit a copy online that will be available for everyone to read and use for reviewing later. *Due date: Week of April 21 – 25 @ your section.*

Late assignments will lose 10% value per day.

No late assignment will be accepted after 1 week.

- **Surveys: (Completed on SURVEYMONKEY)**

Throughout this course you will be asked to complete 3 surveys. The goal of these surveys is for you to provide us with feedback on sections (survey 1); lectures and the first exam (survey 2) and the class (survey 3). These surveys are reviewed for completion and answers are kept confidential. We strongly believe that student feedback is key to the success of this class! Open and due dates for the surveys are listed in the class schedule.

Exams:

Exams will consist of multiple choice and a couple of short answer questions. The class has 2 midterms and one final. Each midterm exam covers the preceding portion of the course and draws from material in lectures, discussion sections, and readings. The final exam is comprehensive and covers material from the entire semester.

All midterm exams will be during class time. There will be no surprises or trick questions. Our desire is for you to learn the material and do well on the exams.

Policy on missed exams:

- If a midterm exam is missed without a valid excuse, then the student will receive a zero.
- If a midterm exam is missed WITH a valid excuse (which was discussed with the instructor **BEFORE** the date of the exam), then the final exam will be worth the value of the final exam and midterm combined. **There will be no make-up exams.**
- Missing the final exam results in an F in the class.

Regrade Policy:

Written regrade requests must be presented to your GSI **within seven days after the exams are returned. To be eligible for a regrade you must have answered your exam questions in pen.** You must complete the "exam regrade request" form (found online) and give it to your GSI together with the graded exam. **The entire exam will then be subjected to a regrade.** Altering an exam to gain points on a regrade is cheating and will result in an F for the course.

Grades:

Grades on this class are based on exams (2 midterms, 1 final), in class clicker questions and discussion section score. The discussion section score will include: (1) attendance and participation, (2) journaling, (3) homework assignments and (4) completion of three online surveys.

Grade distribution will be as follows:

Discussion Section	15 %
In Class Clickers (60% correct)	5 %
Two Midterms	45 %
Final	35 %

Your letter grade in the course will be determined according to **absolute standards of performance**. You will not be in competition with your classmates for the grades nor will the class be curved to a predetermined distribution. It would be wonderful if everyone would get an A in the class. However, as you all know letter grades are based upon the points that you EARN (not based upon needs or wants).

Grades are usually assigned following the guidelines below:

A (some form of an A)	100-90%	D (some form of a D)	69-60%
B (some form of a B)	89-80%	F	59-00%
C (some form of a C)	79-70%		

Keep up with the material and assignments and you will do well in the class. No extra credit opportunities nor additional arrangements will be made in order to "boost" grades. We will not reply to these kinds of emails.

We strongly recommend that you focus on learning and enjoying the material! If you are enjoying the class and excited about the materials we are discussing, the good grades will follow!

Berkeley Honor Code Statement

The student community at UC Berkeley has adopted the following Honor Code:

“As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others.” The hope and expectation is that you will adhere to this code.

Collaboration and Independence: Reviewing lecture and reading materials and studying for exams can be enjoyable and enriching things to do with fellow students. This is recommended. However, unless otherwise instructed, homework assignments are to be completed independently and materials submitted as homework should be the result of one’s own independent work.

Cheating: A good lifetime strategy is always to act in such a way that no one would ever imagine that you would even consider cheating. Anyone caught cheating on a quiz or exam in this course will receive a failing grade in the course and will also be reported to the University Center for Student Conduct. In order to guarantee that you are not suspected of cheating, please keep your eyes on your own materials and do not converse with others during the quizzes and exams.

Plagiarism: To copy text or ideas from another source without appropriate reference is plagiarism and will result in a failing grade for your assignment and usually further disciplinary action. For additional information on plagiarism and how to avoid it, see, for example:

<http://www.lib.berkeley.edu/instruct/guides/citations.html#Plagiarism>

<http://gsi.berkeley.edu/teachingguide/misconduct/prevent-plag.html>

Academic Integrity and Ethics: Cheating on exams and plagiarism are two common examples of dishonest, unethical behavior. Honesty and integrity are of great importance in all facets of life. They help to build a sense of self-confidence, and are key to building trust within relationships, whether personal or professional. There is no tolerance for dishonesty in the academic world, for it undermines what we are dedicated to doing – furthering knowledge for the benefit of humanity.

Your experience as a student at UC Berkeley is hopefully fueled by passion for learning and replete with fulfilling activities. And we also appreciate that being a student may be stressful. There may be times when there is temptation to engage in some kind of cheating in order to improve a grade or otherwise advance your career. This could be as blatant as having someone else sit for you in an exam, or submitting a written assignment that has been copied from another source. And it could be as subtle as glancing at a fellow student’s exam when you are unsure of an answer to a question and are looking for some confirmation. One might do any of these things and potentially not get caught. However, if you cheat, no matter how much you may have learned in this class, you have failed to learn perhaps the most important lesson of all.

Class Schedule (Subject to Change – Check Online)

<u>Date</u>	<u>Day</u>	<u>Lec #</u>	<u>Topic</u>	<u>Chap</u>	<u>Assign/Survey</u>
Jan 21	Tu	1	Introduction to the Class and Brain History of the Brain / Evolution	1	
23	Th	2	Genes / Nature vs Nurture / Fixed Action Patterns	1	
28	Tu	3	Brain and Nervous System Organization / Brain Cells	2, 3	
30	Th	4	How do neurons communicate?	3, 4	Survey 1 open
Feb 4	Tu	5	Neurotransmitter Signals and Behavior	5, 6	
6	Th	6	Hormones and Behavior	6	S.1 closed, 11:55pm
11	Tu	7	Psychodelic drugs, Drug Addiction	5, 6	Assignment 1 due in section this week
13	Th	8	TBD		
18	Tu	9	Development of the Nervous System	8	
20	Th	10	Spill Over or TBD		
24	Mon		GSI Led Review Session on Lectures 1-10 (6-7pm; Location TBD)		
25	Tu		In-Class Exam I (Lec 1-10)		Survey 2 open
27	Th	11	How do we study the brain?	7	
Mar 4	Tu	12	How do we sense the world? Visual System I	9	S.2 closed, 11:55pm
6	Th	13	How do we sense the world? Visual System II	9	
11	Tu	14	Sound, speech, music I	10	
13	Th	15	Somatosensory System	11	
18	Tu	16	Taste - Olfaction	12	Assignment 2 due in section this week
20	Th	17	Sensory Plasticity	14	
25	Tu		Spring Break		
27	Th		Spring Break		
April 1	Tu	18	Movement	11	
3	Th	19	Spill Over or TBD		
7	Mon		GSI Led Review Session on Lectures 11-19 (6-7pm; Location TBD)		
8	Tu		In- Class Exam II (Lec 11-19)		
10	Th	20	How do we learn and remember? / Recovering from Injury	14	
15	Tu	21	Emotions and the Brain / Autism	12	
17	Th	22	Sleep and Dreaming	13	
22	Tu	23	Cerebral cortical hemispheric specialization, language	10, 15	Assign. 3 due this week; Survey 3 open
24	Th	24	Brain Aging / Dementia / Alzheimer's	16	
29	Tu	25	Mind, Meditation, Consciousness	15	
May 1	Th	26	Spill Over or TBD		S. 3 closed, 11:55pm
May 5-9			RRR week (Lectures on Tu and Th will meet to review Lectures 1-19)		
9	Fri		GSI Led Review Session on Lectures 20-26 (Location and Time TBD)		
May 14	Wed		Final Exam @ , 11:30 -2:30 pm , Location TBD		