

INSTRUCTOR: Jill K. Leutgeb, Ph.D., Professor of Neurobiology
Office: Pacific Hall 3125A, Phone: 858-246-0825 , e-mail: jleutgeb@ucsd.edu

COURSE FORMAT: This course will include an in-depth presentation of the mechanisms for learning and memory at the molecular, cellular, and systems levels. A goal of the course is to introduce students to current topics in learning and memory research, while also learning the fundamental concepts about the biology of learning and memory. To reach this goal this course will also introduce students how to read primary research literature and how to interpret experimental results. Please make sure to review information about the nervous system from prerequisites BILD 2 and BIPN 100 as well as other physiology/neuroscience classes. Students should have a strong basis in understanding neuronal signaling, including temporal and spatial summation of dendritic input, as well as changes in synaptic integration (course topics in BILD2, BIPN100, and BIPN140).

LECTURES: Tuesday, Thursday 9:30-10:50AM. YORK 2722

TEXT AND READINGS: *Memory, From Mind to Molecules*, 2nd edition, by L. R. Squire and E. R. Kandel (2010). Journal articles and reviews will also be assigned. The required readings are listed in the course outline and journal articles will be available as pdf files on the course website. Lecture content should be used to determine what course material is most important for exam assessment. Discussion sections will aid in helping students focus on the most important topics in the assigned reading and primary literature.

COURSE WEBSITE: There is a TritonEd site for the course <https://tritoned.ucsd.edu/>. Student accounts are added on the first day of class. Concurrent enrollment (Extension) students are not added automatically. Extension students should obtain a registration token from Extension's student services or the ACS Help Desk. More information is at <http://sdacs.ucsd.edu/~icc/ce.php>.

Announcements, updates, postings, lecture slides, reading material, class discussion forums, and exam grades will all be communicated using the course TritonEd website.

PODCASTS OF LECTURES: Lectures will be podcast. To reach the Podcasts use your Web browser to go to <podcast.ucsd.edu>. You can listen to each lecture from that site or download it to your personal device.

CLICKERS: Clicker questions will be used throughout the lecture to achieve an in-depth understanding of the material. **Please register your clicker using TritonED. Ten extra credit points (corresponding to approx. 5 % of the course grade) will be given by responding to at least 75 % of ALL clicker questions (excluding questions during the first class on April 2nd).** When responding to less than 75 %, credit will be assigned in proportion to the number of answered questions. It is irrelevant whether the questions are answered correctly or incorrectly. Note that some lectures have more and that some have fewer clicker questions, but that your score will nonetheless be for the number of answered questions rather than for the number of classes that you attended. If your clicker is registered, the percentage of **your responses to clicker questions will be periodically posted on TED so that you can estimate whether you are on track for receiving the full extent of the extra credit.**

QUIZZES: Five in class quizzes will be given throughout the quarter on the dates indicated in the course outline. Each quiz covers the material from the previous weeks or assigned reading and is for a maximum of ten points. Quizzes contribute 40 points to your overall course grade (the 4 top quiz scores will be

selected out of 5 quizzes). Quizzes will be administered in class using clickers. Make sure you clicker is registered before the first quiz to make sure your points are assigned to you.

OFFICE HOURS. Each IA and the instructor will hold one office hour per week as long as they are well-attended. Office hours will begin the second week of the quarter. All office hours will be open to groups of students. If you need to discuss matters other than the course material, please make an appointment with the course instructor by e-mail.

Times and locations of all office hours will be announced by April 8th.

ELECTRONIC COMMUNICATION. You can ask questions about course material by posting a message on TritonEd in the class discussion board. Using this format answers will be available to and will also benefit others in the class. The class discussion board will be checked frequently by Instructional Assistants and the Instructor. Please use the instructors regular e-mail address (jleutgeb@ucsd.edu) only for matters that require an instructor's personal attention and **be sure to include <BIPN148> in the subject line.** Because of the large volume of e-mails that the instructor receives, it may be several days before you receive a response to e-mail, including during periods before exams.

LECTURE SLIDES WILL BE AVAILABLE ON TritonED after each lecture.

SECTIONS: Sections will NOT meet during the first week of the quarter; they will start in the week of April 8th. The times and locations of sections listed in the Spring Quarter Schedule of Classes may change. **If changed, an updated schedule will be posted on TritonEd by April 8th. Attendance at sections is optional, but it is required that you attend the section that you are registered for.** Regular attendance at and active participation in a section (greater than 70% attendance in your section) can weigh in your favor if your final grade is just below a grade line. Your attendance will be monitored by a sign-up sheet, please be sure to sign in when you have attended section. The sections are designed to provide a forum for you to ask questions about the course material, and receive additional instruction. Review of basic neurobiology concepts, instruction for reading primary research literature, will be covered only in section.

EXAMS:

1. GRADING: Your grade for this course will be based on two midterm exams, quizzes, and a final. Each midterm exam will be worth approximately 50 points and will consist of short answer, multiple choice and true/false questions. If scantrons will be used, they will be provided. The instructor will inform you of whether to bring a number 2 pencil to be used for scantron exams. The final will be worth approximately 100 points and will be composed in the same format as the midterm exams. **Because your grade in this course will depend largely on your performance on the exams, please make sure to carefully read each question, take time to interpret data graphs and tables in order to clearly determine the best answer.**

2. EXAM SCHEDULE:

Midterm 1: **Tuesday, April 30** **9:30 to 10:50 am**

Midterm 2: **Tuesday, May 28** **9:30 to 10:50 am**

Final: **Tuesday, June 11** **8:00 to 10:59 am**

Locations will be announced in class and on TritonED. If no changes are announced, the exams will be administered in the lecture hall.

3. MAKE-UP EXAMS: You are expected to take the exams when they are scheduled. To be fair to your fellow students, make-up exams can be arranged only in the following three circumstances:

- A. You are too ill to take the exam. In order to be excused from an exam or to take a make-up exam (The instructor decides which is most appropriate for you), you must e-mail Dr. Leutgeb and let her know that you are ill as soon as it is possible to do so (before the exam, if it is at all possible). If you do not bring written verification by a physician that you were too ill to take the exam when it was scheduled, it is at the instructor's discretion to accept or to not accept your excuse.
- B. You have an extremely pressing need to be out of town at the time when the exam is scheduled (not the day before or the day after) AND you have arranged the make-up exam at least one week in advance. You cannot arrange a make-up exam after the fact. It will help in making these arrangements if you bring written confirmation of your need to miss the regularly scheduled exam when you ask to schedule a make-up exam. In any case, you will also need to bring the corroborating documents to the make-up exam. There are no make-up exams for the final because the date and time was published by the registrar prior to class registration.
- C. You are taking an exam for a course for academic credit toward graduation that conflicts with the exam for this course AND you have arranged the make-up exam at least one week in advance. You must bring corroborating documents to the make-up exam.

Your last chance to schedule a make-up exam for the circumstances that are listed in B and C is by making arrangements with Dr. Leutgeb one week before the day of the exam. If you fail to talk with the instructor before or at that time, you must take the exam as scheduled (unless you are too sick to do it--see part A above).

PLEASE NOTE: Having another mid-term or final scheduled on or near the day of our exam is not a reason to take a make-up exam.

4. GETTING BACK GRADED EXAMS: Grading usually takes about a week. Grades will be posted on TritonEd as soon as they are available.

5. GRADES: All the points that each student earned on exams, quizzes, and extra credit participation will be totaled. This will be your total points for the course. The final course grading scale will be determined from the points earned on exams and quizzes (excluding extra credit from participation) by either using a standard curve or a straight grading scale depending on which yields the highest number of A's. For the standard curve, the mean and standard deviation will be calculated. An A will be assigned for scores that are greater than one standard deviation above the mean, a B for scores that are above the mean, a C for scores that are below the mean, a D for scores that are more than one standard deviation below the mean, and an F for scores that are more than two standard deviations below the mean. If scores have a normal distribution and students do not earn any extra credit, grading on a curve implies that 16 % will receive A's, 34 % B's, 34 % C's, and 16 % below C. The exact distribution between grades can vary depending on the distribution of the scores and on the extra credit that is earned. For the straight scale, the top five scores (sum of points from exam and quizzes) will be averaged, and that average will be considered "100%." An A will be 90% and above, a B 80%-89%, a C 70%-79%, and a D 60%-69%. Plus or minus signs will be added for grades within 2% of cutoff between letter grades.

6. REGRADES: If you have an objection to **a particular exam question**, you have 24 hours from the end of the exam to raise your concerns. Objections to exam questions must be made in person with a prepared, written argument. A decision will then be made whether or not to grade that question for the entire class. If you have objections to the grading of your exam, exam scantrons can be viewed after grading upon request.

ACADEMIC DISHONESTY: All suspicions of academic misconduct will be reported to the Academic Integrity Office according to university policy. Academic misconduct is not just blatant cheating (e.g., copying off another student during an exam), but what you might have thought of as "minor cheating" in high school. In particular, academic misconduct includes **writing an e-mail that includes fabricated statements, using other student's clickers, and faking a family emergency or medical condition.** The Policy on Integrity of Scholarship (academicintegrity.ucsd.edu) and this syllabus list some of the standards by which you are expected to complete your academic work, but your good ethical judgment (or asking for advice) is also expected as every behavior that is unethical or not in the spirit of academic integrity cannot be listed here.

Those students found to have committed academic misconduct will face administrative sanctions imposed by their college Dean of Student Affairs and academic sanctions imposed by the instructor. The standard administrative sanctions include: the creation of a disciplinary record (which will be checked by graduate and professional schools); disciplinary probation; and attendance at an Academic Integrity Seminar (at a cost of \$75). Students can also face suspension and dismissal from the University; those sanctions are not at the instructors' discretion. Academic sanctions can range from an F on the exam (i.e., receive zero points for that exam) to an F in the class. The appropriate sanctions are determined by the egregiousness of the Policy violation. Students who assist in or are complicit with cheating could also be in violation of the Policy. Thus, students who become aware of their peers either facilitating academic misconduct or committing it should report their suspicions to an instructor for investigation.

See <http://weber.ucsd.edu/~dkjordan/resources/cheat.html> for additional information.

INSTRUCTIONS FOR TAKING EXAMS. The exams in this course are closed book, closed notes, and electronics-free. That is, you must use only what is in your brain to answer questions. Using anything else (e.g., electronic devices or someone else's exam) constitutes a breach of academic integrity and will be treated accordingly. We will enforce all of the following conditions. You can minimize the time it takes to get set up for an exam--and thus maximize the time you have available to complete the exam--by learning the rules and following them without being reminded. YOU have the power to make exams go efficiently and smoothly or not, which will eat into your time for the exam.

1. Students will sit every-other-seat (if space allows). Your instructors/IAs will tell you the seating arrangement in your room.
2. All electronic devices must be turned off and stored in a bag/backpack that is placed under your desk. This rule applies to cell phones, calculators, notebooks, audio devices, watches--**ALL** electronic devices. Setting your cell phone to "vibrate" isn't turning it off, and putting devices into your pockets isn't putting them under your desk. If we can see or hear an electronic device, we will confiscate it.
3. All of your belongings--except what you will write with--must be placed **UNDER** the seat that YOU are sitting in. Please don't put anything on the desk next to you, on the floor in front of you, or anywhere else except under your desk where you can't see them and we can't trip over them.
4. You can have one clear plastic bottle of water or anything you may need because of medical reasons (doctor's notice is required). You cannot have large pencil boxes filled with lots of things or snacks.
4. Hats can either be removed or turned with the bill to the back of your head. Once the exam begins, you can't touch your hat, wherever it is. Hooded sweatshirts or jackets must be worn with the hood down, not on your head or covering your face.
5. Scantrons require the use of a #2 pencil. Fill in a bubble completely without marks outside the circle. Be sure to fill in bubbles for your name, student #, and exam version.
6. **BRING YOUR UCSD ID CARD TO EVERY EXAM.** You will have to show it when you turn in your exam.
7. Be sure you turn your exam in as you leave the exam room. Don't take any exam materials with you when you leave. You may be asked to leave through a particular door.
8. Depending on circumstances, we may or may not be able to allow restroom breaks. Arrive early at the exam room to learn how this issue will be handled in your room.
9. Anything that is written on the back of exam pages will not be graded. You can use the backs of exam pages as scratch paper.