

MCB 32L Fall 2016 Syllabus

Class times

Lecture	Mon 1-2pm	2060 VLSB
Laboratory Sections	Wed, Fri 9am-12pm	4056 VLSB
	Tues, Wed, Thurs, Fri 2-5 pm	4056 VLSB

Instructor

Robin Ball, rwbball@berkeley.edu

Office hours: Tues 10-11am and Wed 11am-12:30pm in 134 LSA

Graduate Student Instructors

<u>Section</u>	<u>GSI</u>	<u>Email</u>
101: Tu 2-5	Megan McIntosh	mmcintosh@berkeley.edu
102: W 9-12	Panayota Rigas	panayota@berkeley.edu
103: W 2-5	Daniel Woolridge	dwoolrid@berkeley.edu
104: Th 2-5	Megan McIntosh	mmcintosh@berkeley.edu
105: F 9-12	Daniel Woolridge	dwoolrid@berkeley.edu
106: F 2-5	Panayota Rigas	panayota@berkeley.edu

Grading

The final grade will be based on:

		<u>Pts</u>
1. Pre Lab Questions	8 @ 10 pts each	80
2. Lab Reports	4 @ 100 pts each	400
3. Worksheets	5 @ 40 pts	200
4. Independent Investigation *	1 @ 150 pts	150
5. Exam		50
6. Lab Participation		100
Total Points		980

* The independent investigation (Lab 10) will consist of 3 parts:

- Proposal 10 pts
- Laboratory report 100 pts
- Presentation 40 pts

Pre Lab Questions

Pre lab questions for Labs 2-9 will be posted on bCourses and are due at the beginning of your lab section. They consist of some study questions from the previous lab, as well as questions related to that day's lab. The answers can be found in the lab manual and from the lab lectures (web searches won't always give you the right answer!). The point of these questions is to make sure you read the laboratory manual before coming to class so you are totally prepared for the lab exercises. Lab will go a lot more smoothly if everyone reads the lab manual before class. You will get no credit for late pre-labs.

Lab Reports and Worksheets

For each lab, you will either write a lab report or complete a worksheet. Lab reports are a formal write-up of the experiments you did, results you found, and the conclusions you can draw from these results. Although you perform the labs in a group, lab reports need to be written individually, using your own words. Your GSI will discuss the requirements in more detail with you. Labs 2, 4, 5, 7 and 8 have worksheets instead of lab reports, which can be found at the end of these labs in the lab manual (neatly rip them out of your notebook and put your name on them).

Write your own lab reports using your own words. Do not copy from others or from the internet/lab manual. If we discover that you have copied the work of another, you will receive 0 points on that assignment.

Exam

There will be one multiple choice exam in lecture November 14. You will get 50 minutes to take the 50 question exam. You should have no problem with the exam if you attend lecture, do the pre labs, study questions and generally pay attention during the lab.

Lab Participation

These points will be awarded at the discretion of your graduate student instructor. It will be based on an evaluation of your participation during lab time, attendance, readiness for lab and the work you put into answering the study questions, worksheets and thought questions for each lab.

Independent Investigation

During the last three labs of the semester, you will be working in groups to conduct and analyze your own experiments, which will follow up on concepts from earlier labs (see Lab 10 in manual). You will need to write a proposal for what you will test, how you will test it and how you will analyze the data. You will turn in one proposal per group and you will all receive the same grade. Your GSI will provide feedback to your group, so you can make changes to your plan before you start the experiments. Each member of a group will individually submit their own lab report. In the last lab section, your group will present your experiments to the rest of your lab.

Late lab report policy

10 points will be deducted for a laboratory report that is turned in late. For every additional class period, an additional 15 points will be deducted from the lab report. Thus if a lab is handed in within 1 week of the deadline, 10 points will be deducted, within 2 weeks 25 points will be deducted, etc. This policy is to be fair to all students across sections and to be fair to those students who turn their lab reports in on time.

Missed lab policy

Unfortunately, due to the preparation involved in laboratory setup, it is usually not possible to make up any laboratories. **If you know ahead of time you will miss a laboratory or if you are sick and cannot attend you must contact your GSI.** A missed laboratory session without a valid reason will result in a deduction of 50 points from your final grade. Due to the enrollment size, **you cannot just attend another**

laboratory section. If the absence is excused, you can still do the lab report or a make-up assignment for a worksheet.

Please tell your GSI if you will be late to lab or if you need to leave early, but do not make a habit of it.

Schedule

There is lab during the first full week of the semester (starting Aug 30).

You must attend lab during the first week to keep your place in the class.

Week	Monday lecture	Lab	Assignments due
8/29	1. Diffusion	Introductions Lab 1 – Diffusion	
9/5	<i>No lecture (Labor Day)</i>	Lab 2 – Sensory systems (see videos on bCourses)	Pre lab 2 Lab 1 report
9/12	3. Equilibrium and membrane potentials	Lab 3 – Electrolyte movement	Lab 2 worksheet Pre lab 3
9/19	4. Action potentials and reflexes	Lab 4 – Nerve conduction	Pre lab 4 Lab 3 report
9/26	5. Muscle contraction and summation	Lab 5 – Muscle excitability	Pre lab 5 Lab 4 worksheet
10/3	6. EMGs and muscle movement	Lab 6 – EMG Sign-up for Lab 10 topic	Pre lab 6 Lab 5 worksheet
10/10	7. Heart, cardiac muscle	Lab 7 – Frog heart	Pre lab 7 Lab 6 report
10/17	8. ECG, blood pressure, respiration	Lab 8 – Physiological measurements	Pre lab 8 Lab 7 worksheet Lab 10 proposal
10/24	9. Exercise physiology	Lab 9 – Exercise physiology	Pre lab 9 Lab 8 worksheet
10/31	10. Example presentation	Lab 10 – Independent Investigation	Lab 9 report
11/7	Review for exam	<i>No lab all week (due to Veteran's Day)</i>	
11/14	Exam (in lecture)	Lab 10 – Independent Investigation	
11/21	<i>No lecture</i>	<i>No lab all week (Thanksgiving)</i>	
11/28	<i>No lecture</i>	Lab 10 presentations	Lab 10 report