

# BIOLOGY 1AL LABORATORY COURSE SYLLABUS

Spring 2016

**Professor:** Dr. Gian Garriga, Department of Molecular and Cell Biology, Office hours 9-10 AM Mondays and Tuesdays in 174 Koshland Hall. Because of the large number of students in this class, Dr. Garriga will be unable to respond to students' emails.

**Course Coordinator:** Mike Meighan, 2088 VLSB 642-4110, e-mail <mailto:mmeighan@berkeley.edu>. See bCourses for scheduled office hours. Mr. Meighan is available for advice on study habits, techniques, and matters of scheduling, laboratory operations, exams, etc.

**Bio1AL web site:** <http://mcb.berkeley.edu/courses/bio1a/>

**Lectures: Monday 5-6:30 PM, 1 Pimentel beginning Jan 25** ("Safety and Equipment"). *Simulcast* in 10 Evans. *CourseCapture* will be available, but quality and availability is not guaranteed.

**Evening Exams:** Format: multiple-choice, no short answer. **There are NO make-up exams.**

Exam 1: Th March 3, 9-10 PM.

Exam 2: Th March 31, 8-10 PM.

Exam 3: Th April 28, 8-10 PM

**Graduate Student Instructors for laboratory sections:** Please see bCourses for the most up to date listing of office hours. These office hours will be held in 2084 VLSB (GSI office for Bio 1A/1AL).

**Correct email address.** We will contact you at your berkeley.edu address as listed on bCourses. Make sure you are receiving messages sent to that address. If you have not received any emails yet, it is likely your listed email address is incorrect. bCourses also requires correct email addresses.

**Adding Bio1AL:** Enroll your self through TeleBears or add to the course waitlist. Email [bio1a-enrollment@berkeley.edu](mailto:bio1a-enrollment@berkeley.edu) or see Erol Kepkep in 2083 VLSB for any questions.

**Attendance:** You must attend your scheduled lab each week.

**Permanent switch of lab sections:** On bCourses web site click "Click Here to Switch Lab Sections" for instructions how you may be able to switch your lab section. **Deadline** for switching sections via TeleBears is Sunday, Jan. 24 midnight.

**Rescheduling the lab section you attend due to illness or an emergency:** In the case of an unavoidable conflict, it **may** be possible to reschedule your lab for a particular week. Send an email as soon as possible to [bio1alab@berkeley.edu](mailto:bio1alab@berkeley.edu) with your name, lab section, reason for rescheduling and alternate times during the same week that you can attend or stop by 2083 VLSB to speak to the staff.

## Lab times and locations:

	Tues.	VLSB		Wed.	VLSB		Th.	VLSB		Fr.	VLSB
213	9 <sup>30</sup> -12 <sup>30</sup>	2113	313	9-12	2113	413	9 <sup>30</sup> -12 <sup>30</sup>	2113	513	9-12	2113
215	9 <sup>30</sup> -12 <sup>30</sup>	2095	315	9-12	2095	415	9 <sup>30</sup> -12 <sup>30</sup>	2095	515	9-12	2095
217	9 <sup>30</sup> -12 <sup>30</sup>	2097	317	9-12	2097	417	9 <sup>30</sup> -12 <sup>30</sup>	2097	517	9-12	2097
223	2 - 5	2113	323	2-5	2113	423	2-5	2113	523	2-5	2113
225	2 - 5	2095	325	2-5	2095	425	2-5	2095	525	2-5	2095
227	2 - 5	2097	327	2-5	2097	427	2-5	2097	527	2-5	2097
235	6 <sup>30</sup> - 9 <sup>30</sup>	2095									
237	6 <sup>30</sup> - 9 <sup>30</sup>	2097									

**Deadlines:** Jan. 24 to permanently switch lab sections via TeleBears, Jan. 29 to drop the course; Feb 5? to add course without fee; Feb. 19 to change grading option.

**REQUIRED LAB MATERIALS**

**Course Material Fee:** \$50 course materials fee will be billed via CARS.

**Campbell, Biology (10<sup>th</sup> ed) and Learning Catalytics:** The UCB textbook store offers substantial discounts on these. *Learning Catalytics* is available separately for \$12 for 6 month access (<https://learningcatalytics.com/pages/pricing>). You do not need *Mastering Biology*.

**Spring 2016 Lab Manual:** Download from bCourses or purchase from Replica Copy (2138 Oxford). You must use the Spring 2016 Lab Manual.

**Pre-lab Assignments and Worksheets.** Download from bCourses or purchase at Replica Copy .

**Course Notes:** Lecture slides will be available on bCourses by 5 PM on the Friday preceding an upcoming Monday lecture.

**Exam Reader:** Representative exam questions from past semesters are available. Download from bCourses or purchase at Replica Copy.

**GRADES:**

Lab Lecture Quiz (4 X 10, 36 max)	36 pts
Worksheets (2x10)	20 pts
Lab Exam 1	50 pts
Lab Exam 2	60 pts
Lab Exam 3	70 pts
Lab Evaluation (required submission)	4 pts
<b>Total</b>	<b>240 pts</b>

Point Distribution per exam

	Exam 1	Exam 2	Exam 3
Part 1	50 points	6 points	4 points
Part 2		54 points	6 points
Part 3			60 points
<b>Total Points</b>	<b>50 points</b>	<b>60 points</b>	<b>70 points</b>

**Pre-lab Assignment.** These provide an introduction and overview of the laboratory exercise for the week. Do not expect to be able read the lab exercise for the first time while actually trying to do the lab.

**Monday evening quiz.** Prof. Garriga will ask four questions (1 pt each) at the start of his lectures. You will use either *Learning Catalytics* using a WiFi enabled device or *iClicker* to submit your answers. We will send an announcement on Friday Jan 22<sup>nd</sup> concerning which device we will use. Questions will cover material in the lab manual. **You should log in to AirBears2 at the start of lecture and log in to Learning Catalytics.**

**Worksheets.** You will complete *Worksheets* during lab; they are due at the end of each lab. One of the worksheet questions (worth 2 pts) will be chosen randomly and graded each week.

**Typical Guaranteed letter grades:** 90-100% = A, 80-89% = B, 70-79% = C, 60-69% = D, <60% = F. If some examinations prove to be unusually easy or difficult, the cut offs for letter grades may be raised or lowered. For those students who are close to the cut-offs their improvement on exams will be considered as well as their work on pre-lab assignments and lab discussion projects.

**I grade:** UC regulations require that a student has completed at least one-half of the material with a passing grade of C or better and also that the student has documented medical evidence of their inability to complete the course on schedule. The student assigned an I grade must complete the work before the first day of classes in the spring semester 2017, without including the course for units on the study list, or the I lapses to an F.

## CHEATING

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." As a UCB student you pledge to adhere to this code. Any student found cheating will be reported to the University and given an F course grade. Cheating is not tolerated on any work!

## HOW TO DO WELL

1. Read the material before lecture and lab.
2. Clarify topics you do not understand by coming to office hours, forming a study group, or emailing your questions to your GSI.
3. Use the exam reader, making sure you understand the reasoning behind the answers.
4. Be prepared for lab and be prepared to think.
5. Seek help if you fall behind.

## BIOLOGY 1A STUDY RESOURCES

Please take advantage of available resources. The following is a partial list.

**Office Hours:** See page 1 and the updated list on bCourses.

**Student Learning Center (SLC, 189 Chavez Student Center):** The SLC may offer student-led study groups and tutoring. See their website for more information ([slc.berkeley.edu](http://slc.berkeley.edu)).

**Study groups:** These are usually a great way to learn. I encourage you to form study groups, either within your lab or with students from other sections.

**Tutor Services (fee):** Formal tutoring (variable fees) from individuals may be available as the semester progresses. Contact Mike.

**Faculty reviews** are usually available before exams.

**The Lab Manual and Exam Reader** provide further information.

## Bio1AL Schedule

<i>Date</i>	<i>Lecture Topic</i>	<i>Campbell, 10th ed.</i>	<i>Lab Manual (Spring 2016)</i>
Week 1 1/25-29	Lab 1 Lecture: Safety, Equipment..	Ch. 6 pp 94-96; Figure 10.9	Pages 1-24.
Week 2 2/1-5	Lab 2: Cells, <i>Vibrio</i> isolation.	Figure 6.8; Ciliates 600-01; Green alga & Amoebozoans 603-605.	Pages 24-34, 35-48* (focus on 35-38).
Week 3 2/8-12	Lab 3: Enzymes, Microbiology- <i>Vibrio</i> streaking.	Ch. 5.2, 5.4 & 8.4	Pages 49-62, 35-48* (focus on 38).
2/15-19	Holiday	No Lab Lecture, No lab.	No lab lecture and no lab.
Week 5 2/22/26	Lab 4: Photosynthesis and <i>Vibrio</i> streaking,	Ch. 6 pp 96-97; Ch. 10.1, 10.2 & 10.3	Pages 63-78, 35-48* (focus on 38-39).
Week 6 2/29-3/4	Lab 5: Genetics & Mol. Biol. I, Complementation I, and PCR.	Ch. 12.1, 12.2, 13.3, 13.4 % 20.1.	Pages 87-94, 35-48*, 79-86**, (*focus on page 39-40, focus on pages 79-81)
<b>Th 3/3</b>	Exam 1: labs 1-4 = 50 pts.	<b>Thursday 9:00 -10:00 PM</b>	
Week 7 3/7-11	Lab 6: GMB II, Complementation II, and DNA electrophoresis.	Ch. 14.2, Ch. 15.1, 15.2 & 15.3	Pages 95-105, 35-48*, 79-86*. (*focus on pages 40-43, ** p. 82-84)
Week 8 3/14-18	Lab 7: Bioinformatics and Complementation III.	Ch. 26.1, 26.2 & 26.3	Pages 107-109 + update on bCourses, 35-48*, 79-86**, (*focus pages 43-47, 85-86)
Week 9 3/28-4/1	Lab Review		
Th, 3/31	Lab Exam 2: labs 5-7 plus labs 1-4 = 60 pts	<b>Thursday 8-10 PM</b>	
Week 10 4/4	Lab 8: Anatomy.	Ch. 41.3, 42.3 & Figure 44.12	Pages 111-126
Week 11 4/11-15	Lab 9: Sensory Input and genetic variation.	Ch. 11.2, 11.3, 50.1 & 50.4	Pages 127-138
Week 12 4/18-22	Lab 10 Reproduction and Development.	Figure 46.11, 47.1 & 47.2	Pages 139-148
Week 13 4/25	Review		
<b>Th. 4/28</b>	Lab Exam 3: labs 8-11 = 70 pts.	<b>Thursday 8:00-10 PM</b>	