

BIOLOGY 1AL LABORATORY COURSE SYLLABUS

Spring 2017

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: mostly on bCourse, some on <http://mcb.berkeley.edu/courses/bio1a/>

Lectures: Monday 5-6:30 PM, 1 Pimentel beginning January 23 ("Safety and Equipment"). *Simulcast* in 10 Evans (possibly also 60 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 February 23: 9-10 PM.

Exam 2: Th March 23: 8-10 PM.

Exam 3: Friday May 12 : 3-6 PM . Plan your flights accordingly.

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 CalCentral or add to the course waitlist. Email 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: In CalCentral go to "My Academics". Follow the detailed instructions provided on the FAQ file posted on bCourses.

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 with your name, lab section, reason for rescheduling and alternate times during the same week that you can attend or stop by 2083B VLSB.

Lab times and locations:

| | Tues. | VLSB | | Wed. | VLSB | | Th. | VLSB | | Fr. | VLSB | | |
|-----|-----------------------------------|------|--|------|------|------|-----|-----------------------------------|------|-----|------|------|------|
| 213 | 9 ³⁰ -12 ³⁰ | 2113 | | 313 | 9-12 | 2113 | 413 | 9 ³⁰ -12 ³⁰ | 2113 | | 513 | 9-12 | 2113 |
| 215 | 9 ³⁰ -12 ³⁰ | 2095 | | 315 | 9-12 | 2095 | 415 | 9 ³⁰ -12 ³⁰ | 2095 | | 515 | 9-12 | 2095 |
| 217 | 9 ³⁰ -12 ³⁰ | 2097 | | 317 | 9-12 | 2097 | 417 | 9 ³⁰ -12 ³⁰ | 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 ³⁰ - 9 ³⁰ | 2095 | | | | | | | | | | | |
| 237 | 6 ³⁰ - 9 ³⁰ | 2097 | | | | | | | | | | | |

Deadlines: *January 22* to permanently switch lab sections via CalCentral; *January 27* is the drop deadline; *February 17* is the deadline to change grading option.

REQUIRED LAB MATERIALS

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

Campbell, *Biology* (10th 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*.

Required “Learning Catalytics” for Lecture WiFi voting: The Biology 1AL lab lecture will have 4 graded questions during **EACH** lab lecture. “Learning Catalytics” is the software we will use to allow students to vote using WiFi enabled devices (phone, tablet, watch, etc). Learning Catalytics is packaged FREE with the textbook but you register for it from within your registration of Mastering Biology. It is available for purchase separately for \$12 for 6 month access (<https://learningcatalytics.com/pages/pricing>). **NOTE THERE IS A REQUIRED ASSIGNMENT BEFORE THE FIRST CLASS.** In this assignment you will register your SID. In the first assignment you will register your SID. The session number for the first assignment is 79699085.

Spring 2017 Lab Manual: Download from bCourses or purchase from Replica Copy (2138 Oxford). You must use the Spring 2017 Lab Manual.

Pre-lab Assignments and Worksheets. Download from bCourses.

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 11, 40 max) | 40 pts |
| Worksheet or Pre-lab (2 x11) | 22 pts |
| Lab Exam 1 | 50 pts |
| Lab Exam 2 | 50 pts |
| Final Exam | 100 pt |
| Lab Assessment at the end of the semester (required submission) | 5 pts |
| Total | 267 pts |

Point Distribution per exam

| | Exam 1 | Exam 2 | Final |
|---------------------|------------------|------------------|-------------------|
| Part 1 | 50 points | | 15 points |
| Part 2 | | 50 points | 15 points |
| Part 3 | | | 70 points |
| Total Points | 50 points | 50 points | 100 points |

Monday evening quiz. Prof. Garriga will ask four questions (1 pt each) during the lecture. You will use *Learning Catalytics* using a WiFi enabled device to submit your answers. **You should log in to AirBears2 (or Cal Visitor) at the start of lecture and log in to Learning Catalytics.**

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 during lab. One of the pre-lab questions (worth 2 pts) may be chosen randomly and graded each week.

Worksheets. You will complete *Worksheets* during lab. Some are due at the end of lab, whereas others are due at the start of the next lab. One of the worksheet questions (worth 2 pts) may be chosen randomly and graded each week.

You will NOT be informed whether the question graded will be a pre-lab or a worksheet for a given lab. Thus you should do both each week, expecting it will be graded.

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 2018, 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.

Office Hours: See 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).

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.

Safe, Supportive, and Inclusive Environment

Whenever a faculty member, staff member, post-doc, or GSI is responsible for the supervision of a student, a personal relationship between them of a romantic or sexual nature, even if consensual, is against university policy. Any such relationship jeopardizes the integrity of the educational process. Although faculty and staff can act as excellent resources for students, you should be aware that they are required to report any violations of this campus policy. If you wish to have a confidential discussion on matters related to this policy, you may contact the Confidential Care Advocates on

campus for support related to counseling or sensitive issues. Appointments can be made by calling (510) 642-1988. The classroom, lab, and work place should be safe and inclusive environments for everyone. The Office for the Prevention of Harassment and Discrimination (OPHD) is responsible for ensuring the University provides an environment for faculty, staff and students that is free from discrimination and harassment on the basis of categories including race, color, national origin, age, sex, gender, gender identity, and sexual orientation. Questions or concerns? Call (510) 643-7985, email ask_ophd@berkeley.edu, or go to <http://survivorsupport.berkeley.edu/>.

Bio1AL Schedule

| <i>Date</i> | <i>Lecture Topic</i> | <i>Campbell, 10th ed.</i> | <i>Lab Manual (Spring 2017)</i> |
|--------------------|--|--|--|
| Week 1 1/23-27 | Lab 1 Lecture: Safety, Equipment. | Ch. 6 pp 94-96; Figure 10.9 | Pages 1-24. |
| 1/27 | Drop Deadline. | | |
| Week 2 1/30-2/3 | Lab 2: Cells, <i>Vibrio</i> isolation. | Figure 6.8; Ciliates 600-01; Green alga & Amoebozoans 603-605. | Pages 25-36, 37-50* (focus on 37-39). |
| Week 3 2/6-10 | Lab 3: Enzymes, Microbiology-<i>Vibrio</i> streaking. | Ch. 5.2, 5.4 & 8.4 | Pages 51-64, 37-50* (focus on 40). |
| Week 4 2/13-17 | Lab 4: Photosynthesis and <i>Vibrio</i> streaking, | Ch. 6 pp 96-97; Ch. 10.1, 10.2 & 10.3 | Pages 65-78, 37-50* (focus on 40). |
| 2/17 | Deadline to change NP/P to grade. | | |
| Week 5 2/20-24 | Holiday on Monday. Lab exam on Thursday 2/23 9-10 PM | | Lab Exam 1 on 2/23 Thursday 9-10 PM |
| Th 2/23 | Lab Exam 1: labs 1-4 = 50 pts. | | |
| Week 6 2/27-3/3 | Lab 5: Genetics & Mol. Biol. I, Complementation I, and PCR. | Ch. 12.1, 12.2, 13.3, 13.4 % 20.1. | Pages 87-94, 37-50*, 79-86**, (*focus on 41-42, 79-81) |
| Week 7 3/6-10 | Lab 6: GMB. II, Complementation II, PCR analysis (electrophoresis). | Ch. 14.2, Ch. 15.1, 15.2 & 15.3 | Pages 95-106, 37-50*, 79-86**. (*focus on 42-44, ** 82-84) |
| Week 8 3/13-17 | Lab 7: Bioinformatics and Complementation III. | Ch. 26.1, 26.2 & 26.3 | Pages 107-122, 37-50*, 79-86**, (*focus 45-50, **85) |
| Week 9 3/20-24 | Holiday on Monday. Lab exam on Thursday 3/23 8-10 PM | | Lab Exam 2 on 3/23 Thursday 8-10 PM |
| Th 3/23 | Lab Exam 2: labs 5-7 = 50 pts. | | |
| 3/24 | Deadline to change to P/NP. | | |
| Week 10 | SPRING BREAK | 3/27-3/31 | |
| Week 11 4/3-7 | Lab 8: Anatomy. | Ch. 32.1-4, 40.1, 41.1-3, 42.1-3, 42.5, 44.1-3, 46.1, 50. | Pages 123-138 |
| Week 12 4/10-14 | Lab 9: Human genetics and taste perception. | Ch. 11.2, 11.3, 50.1 & 50.4 | Pages 139-150 |
| Week 13 4/17-21 | Lab 10: Development | Figure 46.11, 47.1 & 47.2 | Pages 151-160 |
| Week 14 4/24-28 | Lab 11: Physiology and exercise plus evaluations. | Ch. 42.2, 3, 5-6. | Pages 161-174 |
| Friday 5/12 | Lab Exam 3: labs 8-11 (plus the other exams) = 100 pts. | | Friday 5/12 3-6 PM Plan accordingly. |