

Biology 10: Introduction to Biology

Fall 2016 Syllabus

Course #40074 Tuesday Lecture: B210, 6:00 pm-8:50 pm

Course #40075 Wednesday Lab: B202, 6:00 pm-8:50 pm

Course #40076 Thursday Lab: B202, 6:00 pm-8:50 pm

Instructor

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Office Hour: Wednesdays, 5-6 pm in B202 (the lab). If you are never able to make this time due to a standing conflict such as work, e-mail me and we can figure out a time. I am willing to meet over Skype for those students who are unable to reach campus outside of their class times.

Like your fellow college students who have learned to be skeptical and to question everything, you may be a little hesitant about this course, may be a little wary considering biology is probably not your jam/thing, as the class is designed for non-majors. There's a good chance you need to fulfill a science requirement and want this class to help you transfer to a four-year school. If not, no worries, I'm just glad you're here.

Here are the answers to a few questions you may have:

What qualifies you to teach this class?

Great question, glad you asked. This is my third year teaching as adjunct faculty at Laney, and my path here has been a windy and colorful one. To illustrate this, let's play that game two truths and a lie (for those of you who don't know this game, I'll explain in class).

Statement 1: I once left my job as a fact-checker at a travel magazine to move to the hometown of my favorite professional wrestler, the Iron Sheik, to write a book about him.

Statement 2: I once met Donald Trump in the bathroom at one of his casinos in Atlantic City, New Jersey, where he was promoting one of his books. I saw him fix his hair when he thought no one was looking.

Statement 3: I spent hundreds of hours in grad school photographing and tracing the penises of insects from Tahiti in order to tell the species apart and to discover new species.

At different times, I've worked in journalism, public relations, and science, but ultimately decided that I wanted to make teaching a primary focus of my career. I believe that my experiences outside of biology have made me a more well-rounded person and a better communicator. I earned my doctorate from UC Berkeley in 2013, and have been teaching at Laney ever since.

What is your approach to teaching?

My style of teaching is based on a philosophy I call **PARE** (Personalized, Active, Relevant, Equitable). It means that I want to get to know how each of you as people and as learners (Personalized); it means I use a lot of interactive activities besides a straight lecture, not because I want to use gimmicks, but because research shows that students generally learn best when they are actively engaged in their own learning process (Active); it means I believe the question “why do I have to know this?” is a fair one, which I will answer throughout the course (Relevant); and it means that I try to create as fair a classroom environment as I can, ensuring that everybody has the opportunity to succeed (Equitable).

What am I going to learn in this class?

We'll cover basic chemistry, cell biology, genetics, metabolism, evolution, ecology, and biodiversity as we work our way through 3 units: (1) microbiology; (2) genetics and evolution; and (3) biodiversity.

More important than the specifics, however, is that you gain an overall grasp of the importance and relevance of biology in your daily life so that you can become a scientifically literate citizen. You may not all walk out the door at the end of the semester loving biology, but I hope you will at least respect it.

Required Materials

1. Biology 10 Lab Manual: Available from the Laney bookstore for \$19.75. This is the manual you will use in the lab portion of the course. You can only purchase this at our bookstore.
2. Textbook, “Campbell Essential Biology with Physiology,” 4th edition, by Eric Simon, Jean Dickey, and Jane Reece. You can rent this for the semester for around \$20 from textbookrentals.com, chegg.com, valorebooks.com, or another online textbook company. You can also purchase or rent it in the campus bookstore. There is also a copy of the textbook kept on the reserve shelf at the library, which you can check out for up to 2 hours. The 3rd edition, which is fine to use, is also available used in the bookstore.
3. Two large-size Green Books, for in-class activities, available at the bookstore.

4. Three scantrons, 1 for each exam, available in the bookstore. Each scantron should have space for at least 25 questions.

Highly Suggested Materials

- 1) Colored pens or pencils for note-taking (I will occasionally write on the board in multiple colors).
- 2) Breath mints. We do a lot of group and partner work. Just sayin'.

Official Student Learning Outcomes (things you should be able to do by the end of the class)

1. Differentiate between a hypothesis and a theory.
2. Discuss the principles of biology as the study of living things including biological hierarchies, the classification of living things, and the chemical processes of cells and organisms.
3. Improve confidence in scientific knowledge and ability to apply knowledge to related situations.
4. Read and discuss articles related to current issues in biology. Form opinions on these issues and express and defend those opinions biologically in discussions and written essays.
5. Cooperate with others working as a group, delegate work to others, and collaborate with your group.
6. Use microscopes and other equipment correctly and care for them properly.

On Moodle

Moodle is your friend and mine, so please get comfortable using it as quickly as possible. The page for our class can be accessed through <http://eperalta.org/fall2016>. All of the lectures, handouts, and other class materials will be posted to Moodle, you may be asked to hand in assignments on Moodle, and I will use Moodle to send out important class announcements. So yeah, it's important.

A Note on Access

I realize that some of you may not have access to the Internet at home. However, it is important in this class that you regularly check our class page on Moodle. For those of you with limited off-campus Internet access, please take advantage of the computers available in the following locations on campus:

- Library
- Business Lab, F251
- CIS Lab, G273
- Technology Center, F170

Grade Policy

Your grade in the course is out of a possible 800 points. You can keep track of your grade in the class through the Gradebook section of Moodle. Your final grade will be based on your number of total points at the end of the semester as follows:

- A 720-800 points (90-100%)
- B 640-720 points (80-89%)
- C 560-640 points (70-79%)
- D 480-560 points (60-69%)
- F Below 480 points (0-60%)

Your final grade is determined by the total number of points, not your percentage score. For example, 719.5 total points translates to a B, while 720 points is an A. If you add the class late, you are allowed to make up any labs or homework assignments you missed for full credit, but you will not be allowed to make up any of the Green Book activities for credit.

Spring 2016 Grade Results:

- A: 16
- B: 21
- C: 8
- D: 3
- F: 0

Please note that I do not grade on a curve. Why? Because I think using a curve pits you against each other and encourages unhealthy competition; I think a better model is that each of you gets the grade you earned, regardless of how your peers performed.

Points Breakdown (see FAQ for more details)

3 exams @ 100 pts each	300 pts
3 lab practicals @ 30 pts each	90 pts
13 labs @ 10 pts each	130 pts
13 Green Book assignments @ 10 pts each	130 pts
2 study question assignments @ 30 pts each	60 pts
2 short papers @ 25 pts each	50 pts
1 microscope quiz @ 10 pts	10 pts
Learning Styles assessment	30 pts
Total	800 pts

Class Schedule (subject to change)

Week of	Lecture Title	Suggested Reading	Lab	Due Dates (all assignments due in lecture)
UNIT 1: Microbiology				
8/22	Introduction to science and biology	Ch. 1 (p. 2-18)	What makes science important? (p. 3-12)	
8/29	The atom's apple	Ch. 2 (p. 22-33)	Chemistry in practice (p. 13-20)	Learning styles assessment due
9/5	Why you'll never eat a chocolate frosted donut again	Ch. 3 (p. 36-48)	Using a microscope (p. 21-28)	Green Team study questions due
9/12	The office inside your cells; stem cell debate!	Ch. 4 (p. 54-71)	You are what you eat (p. 29-44)	Yellow Team study questions due; wear your team colors for the cell debate!
9/19	Energy means a lot more than Red Bull	Ch. 5 (p. 74-82), Ch. 6 (p. 90-101), Ch. 7 (p. 106-112)	What makes something a cell? (p.45-54)	Blue Team study questions due
9/26	Exam 1 , Why you are nothing more than the letters A, C, G, T	Ch. 3 (p. 49-51), Ch. 10 (p. 172-177).	Lab Practical 1	
UNIT 2: Genetics and evolution				
10/3	Operation Give A Crap begins	PMAT (People Must Always Try!) and how to make sperm and eggs	Ch. 8 (p. 120-140), Ch. 10 (p.177-182)	Why do we breathe oxygen? (p. 55-64); Microscope quiz and conferences
10/10	Widows' peaks and pea sex	Ch. 9 (p. 144-149), Ch. 10 (p. 178-187)	How do cells make more cells? (p. 65-74)	Red Team study questions due
10/17	Wallace (and Darwin's) Big Idea	Ch. 13 (p. 242-258)	What's so great about DNA? (p. 75-90)	White Team study questions due
				Short paper 1 due (everybody)

10/24	Where do species come from?	Ch. 14 (p. 269-271; 274-277; 285-289)	How do things change? (p. 91-102)	Green Team study questions due
10/31	Exam 2 and Lab Practical 2		Thursday section to do microbes lab following practical	
UNIT 3: Biodiversity				
11/7	Size doesn't matter	Ch. 15 (p. 294-295; 299-310)	The diversity of small things (p. 103-112); Thursday section to do plants lab	
11/14	Beautiful botany	Ch. 16 (p. 314-332)	Evolution of plants (p. 113-128); Thursday section to do animals lab	Yellow and Blue Team study questions due
11/21	Animal House I	Ch. 17 (p. 336-353)	Animal Phylogeny (p. 129-146); no Thursday section due to Thanksgiving	Red Team study questions due; Short paper 2 due
11/28	Animal House II	Ch. 17 (p. 354-p. 367)	Human evolution (p. 147-156)	White Team study questions due
12/5	Jeopardy! and potluck party		Lab Practical 3	
12/12	Final Exam	Merry Xmas, Hanukkah, Kwanzaa, and other holidays!		Last date to hand in extra credit and makeup labs is 12/13

Cheating/Plagiarism

My biggest pet peeve is cheating. As a student at Laney, you are expected to abide by the honor code. If I catch you cheating, the consequences will depend on the situation and could result in a referral to the Dean.

Dropping the Class

I'd hate to see you go, but if you decide to drop the class you need to do so by 9/4 to avoid getting a W (withdrawal) on your transcript. It is your responsibility to drop yourself from the class. The deadline to drop with a W (and not receive a letter grade) is November 18.

For Students with Disabilities

I want to make this course as accessible as possible to students with disabilities that may affect any aspect of course assignments or participation. I encourage you to let me know by the second week of the course regarding any accommodations that will improve your experience in (or access to) this course. You can also contact the Disability Services and Programs for Students at 510-464-3428 for assistance.

A Note on Punctuality

While I don't take off points for being late to class (this isn't high school, and I don't see my role as being the hall monitor), I expect you to come to class on time. This is both a matter of respect to me and your fellow classmates (coming in late is disruptive) and for your own good in the class (with only one lecture and one lab a week, it is really hard to miss any time and expect to do well). If you anticipate being regularly late to class, perhaps this class is not the right one for you.

Frequently Asked Questions

Q1: What will be on the exams, and does spelling count?

A1: The exams will be held during our Tuesday lectures and are written to take up to 75 minutes. They consist of multiple choice, explanatory multiple choice, short answer, long answer, and fill-in-the-blank questions. I rewrite my exams every semester. I won't take points off for bad spelling, but I do expect you to write legibly and intelligibly.

Q2: Are the exams comprehensive?

A2: The first exam focuses on the first unit, the second exam on the second unit, and the final exam is comprehensive, but focuses mostly (75%) on the third unit. The final is comprehensive because everything in the course connects from beginning to end, and so to be successful in the course, you need to understand how the whole thing stands together.

Q3: What happens if I miss an exam or lab practical?

A3: Make-up exams will only be given under extraordinary life circumstances (if you have one of these, come talk to me, preferably with plenty of advance notice). Otherwise, a missed exam or lab practical will be marked as a zero.

Q4: What are the lab practicals?

A4: Lab practicals are exams in the lab portion of the class in which you will circulate among stations and answer questions about the experiments and procedures you've completed during lab sessions.

Q5: Can I text during class?

A5: Pretend like you're on an airplane. Keep all portable electronic devices stowed for the duration of class.

Q6: How do the labs work?

A6: Read the lab before coming to lab—you'll find you can fill in a lot of the work beforehand. Bring your textbook and lecture notes to every lab—trust me, they will help you. I expect you to complete all the exercises in the lab manual during the lab period. You will work in groups, and each week one of you will be the captain, whose lab manual I will check in detail at the end of the period as the representative for your group. Although I will not check each of your manuals in detail, you are expected to have done all the work and to have answers that reflect those of your captain. If you do not finish in the lab period, I will give you either full credit or a grade based on what you have done. If you miss a lab for any reason besides an emergency, you can do whatever work you can at home and earn up to 5 points for handing it in late. If I have excused your absence due to an emergency, I will simply remove that assignment from the calculation of your final grade. **The last day to submit makeup labs for credit is December 13.**

Q7: When is Election Day?

A7: November 8, a Tuesday! Vote, and then come to lecture.

Q8: Can I turn in an assignment late?

A8: No late assignments will be accepted.

Q9: Do I have to do the textbook reading?

A9: I highly recommend reading the assigned chapters to provide more context for the lecture material. Doing the reading can also help you better understand class material, especially since many of my examples will come out of the book. But all of the questions on exams will be based on material that is covered in lecture, *i.e.*, I will not ask you about things in the book that were not also covered in class.

Q10: What are the Green Book assignments?

A10: Active learning is a big part of my teaching philosophy, and the Green Book assignments are a main type of active learning activity. Each lecture, I will give you several exercises to complete in your Green Book, which you will hand in for grading at the end of each class. The exercises are graded for completion, not content. If you complete all exercises, you will earn 10/10.

Q11: What are the study question assignments?

A11: Following every lecture, I will post a set of 6 study questions to Moodle. These questions act as your study guide for the exams. Each week starting the week of 9/5, one of the Crayola War teams (you will all be divided into 5 teams) is responsible for handing in answers to the study questions from the previous lecture (each student on the team must hand in their own answers).

Q12: How can I contact you if I have a question? Instagram?

A12: Um, no. The best way to reach me is via e-mail (bbalukjian@peralta.edu). I will do my best to reply as quickly as possible, but please keep in mind that I have other work responsibilities in addition to teaching this class (I write as a freelance journalist) and a personal life (believe it or not), so it may be a bit before I can reply to you. I have a very open-door policy, and if you are ever concerned about something or have an issue you want to bring up, by all means, come talk to me. Communication is key.

Q13: Can I earn extra credit?

A13: Yes! There are lots of ways you can get extra credit. **The last day to hand in extra credit is December 13.**

1. Win the Crayola War (15 points for the first-place team, 5 points for second place). We'll discuss this more in class, but you'll be working in teams in lecture all semester, and the winning teams earn extra credit.
2. E-mail me with a recent news story about a topic that relates to something that we've discussed in class. You should send me the link to the story, along with at least one paragraph, written in your own words, explaining the main point of the story, why you found it interesting, and how it specifically relates to class. The New York Times, Los Angeles Times, Discover Magazine, and National Geographic are just a few of the places where you can find recent articles. 5 points, available one time.
3. Attend at least two tutoring sessions with our class tutor (times and days TBA). You will need to prepare at least two questions to ask the tutor which you will hand in to them. 5 points.

Q14: Does attendance count?

A14: Yes. As mentioned earlier, each lecture class includes 10 points for completing the Green Book activities. Missing a lecture means you will get 0 points for that class, which you can't make up.

Q15: Can you give me a study guide for the exams?

A15: No. I don't believe in a study guide that lists all the information that is going to be on the exam—if that was the case, you could just ditch class and get a copy of the study guide from a friend to cram for the exam. That's not learning. So instead, I give you a set of study questions

after each lecture. Those questions provide a reasonable study guide. Remember, however, that any material presented in lecture is fair game for the lecture exams, regardless of whether or not it appears in a study question.

Q16: What the crap is Operation Give A Crap?

A16: After the first lecture exam I will take a look at your scores, and anyone scoring a 70 or lower will be enrolled in Operation Give A Crap. Consider it an academic intervention. Low test scores are a red flag that you are not making the expected progress, and I will therefore intervene early to help you get back on track. More details will be given on the program as we approach the first exam.

Q17: What is the learning styles assessment, due 8/29?

A17: I acknowledge that people learn best in many different ways, although our educational system has been historically geared towards text-based learners. But some people need to be actively moving to absorb information, others prefer auditory transmission, and still others are spatial and graphic learners. I do my best to deliver content for all types of learners, and as part of my personalization of the course, I want to know how each of you learns best. To figure this out, I've given you a simple and fun homework assignment that you will get the first day of class.

Q18: What are the short papers?

A18: You have two short paper assignments, one due on 10/18 and the other on 11/22. I'll give you specific instructions later in the semester, but the general idea is to write a 5-paragraph essay on a recent article related to a new discovery in the field of biology.

Resources

Housing:

1. Covenant House, provides housing and shelter services. 510-379-1010, covenanthousecalifornia.org, 200 Harrison St., Oakland.
2. Operation Dignity, provides safe housing and nutritious meals. 510-287-8465, 160 Franklin St., Oakland.
3. East Oakland Community Project, provides support service for the homeless. 510-532-3211, eocp.net, 7515 International Blvd., Oakland.

Food:

1. St. Paul's Episcopal Church, provides food and some household goods. 510-834-4314 x504, stpaulsoakland.org/foodpantry, 114 Montecito Ave., Oakland.
2. Telegraph Community Center, referrals to non-profits and provides food. 510-658-4457, 5316 Telegraph Ave., Oakland.

Domestic Abuse:

Family Violence Law Center, 800-947-8301 (24-hour crisis line).

Physical Health:

Laney Wellness Center II, 4th Floor of the Laney Student Center, Room 410. 510-464-3134.

Hours of Operation: Tuesdays and Thursdays, 9 AM-1 PM, 2 PM- 4PM.

Services available: Pregnancy testing, medical problems, STD testing, flu shots, etc.

Mental Health:

Counseling available in Room 414 of the Student Center as part of Laney's Wellness program.

510-464-3535. Depression, anger, grief, anxiety, relationship issues, alcohol/drug addiction, trouble eating/sleeping addressed.