

Biology 1A

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Lectures delivered online through recorded videos, Labs some simulations (online) and weekly meetings either Mon OR Weds (students will attend once weekly in B201 from 10:30 am to 1:20 pm)

Course Description: Biology 1A is the first semester of a 2 semester series designed for students who are majoring in the Biological or health sciences. College level chemistry (Chem 1A) is a prerequisite. This course is a general overview of the many topics in biology. It will serve as a base for learning more about the specific areas of biology in other courses.

Discussion Topics: (both semesters are listed here)

Bio 1A	Bio 1B
Cell Biology and biochemistry (Ch 1-12)	Biodiversity (Ch 26-34)
DNA and Genetics (Ch 13-21)	Plants form & function (Ch 35-39) Animals, form and function (Ch 40-51)
Animals, form and function (Ch 40, 42-44)	Evolution (Ch 22-25) Ecology (Ch 52-56)

Materials and Technology required:

Textbook: Biology by Campbell, 11th edition

Lab Book: on Canvas site for BIOL 1A and using Labster

“The Double Helix, A personal Viewpoint” by J.D. Watson, published in 1968

Computer with access to Canvas – must have ability to upload files, take exams, record video

Reliable internet (If you have difficulties with any of these let me know)

Student Learning Outcomes Bio 1A

Define the functions of organelles and explain cellular processing including respiration, photosynthesis, mitosis, meiosis and transcription/translation in class discussion and on exams.

Describe the chemical makeup of macromolecules and their importance in the structure and function of the cell.

Explain the importance of DNA as the genetic info and define how it directs the functions of the cell. Integrate knowledge of DNA with the concepts of genetics and biotechnology.

Appraise ethical issues involved with the study of genetics, biotechnology and medicine and express this reasoning in classroom discussions..

Write clear, well organized lab reports. Analyze the results of laboratory experiments and evaluate sources of experimental error.

Format and General Information

Biology is a complex and interconnected subject. Sometimes questions in lecture will lead us to explore topics that do not seem directly related to the subject matter at hand, but are important to explore. Sometimes topics cannot be fully covered until we learn more and can connect things we learned earlier in the semester to things we learn later in the semester

Although most of this course material is based on European science, which was mainly conducted by white men, we value and honor the information gathered by people outside of what might be reflected in your text book. We will be highlighting Biologists and other researchers with a variety of backgrounds and perspectives. We also encourage you to bring your own thoughts to the discussions and class chats. Science is not without bias, in fact much of science has been used to justify biases of dominant culture. We will be discussing scientific bias from the first day of class. If you come across information that you think would be valuable to this class, we encourage you to share it. We (like many people) are still in the process of learning about diverse perspectives and identities. If something is said (by anyone) that made you feel uncomfortable, please talk to me about it. And again, anonymous feedback is always an option

How inclusive is this class? Use this Peralta Equity Rubric to see how all of your course meets the requirements. Let us know what you think and maybe we can work on it with your feedback! Please contact us if you have any questions. Thank you!

Assessment (1000 points):

Exams (400 points)

Midterm exams: (300) There will be 4 exams worth 100 points each. Exams will cover material for lecture and lab. You must be able to recognize and define the terms learned in class, synthesize information from the lecture and answer T/F, multiple choice, fill in or short essay questions. Lab Practicals will form part of the lecture exam grades. You will have images to identify and correctly answer questions about microscope slides, figures or models. The lowest midterm exam score will be dropped. You can use textbook, lab manual and all learning materials posted on canvas but you CANNOT search online, discuss with other people or copy answers from others. Cheating will result in a zero for the exam, possible notification of the Dean and/or failure of the course.

Exams will be timed and you will have a set amount of time once you open the exam. Exam windows will be available for 48 hours to accommodate schedules.

Cumulative Final (100 points)

There will be a cumulative final given during finals week. This will cover material over the whole semester.

Quizzes (120 points)

- Syllabus quiz (10 pts) covers material in this handout and in the orientation module

- Microscope quiz (10 pts) is a review of your microscope knowledge
- Practice quizzes To help you prepare for midterm exams quizzes (5 pts each) for each topic.

Lab Reports (240 points)

Lab reports will be turned in throughout the semester involving sketches, answers to questions, and observations and data analysis of results obtained in class. Late lab reports will be accepted (with a penalty) only until the Exam covering that material is given. Lab reports are due at the beginning of the class or they will be considered late. If you look down a microscope, you are expected to provide a sketch of what you see in the lab report. The expected information to be included in the lab report will be explained at the beginning of class.

Informal Reports: You are required to turn in 10 informal reports throughout the semester. They are graded at 10, 7 or 5 points. These will include sketches and/or questions from the lab manual. Informal reports will be due at the end of the week they were assigned. You are expected to turn in at least 2 informal labs per each exam section.

Formal Reports: You are required to turn in 4 formal reports throughout the semester. These lab reports will be typed and submitted through Canvas. The grading rubric is provided. The expected lab report format includes 4 sections of Purpose, Materials and Methods, Results and Discussion. Formal lab reports are noted on the syllabus with an asterisk (*). They are due 1 week after the lab was completed. Formal lab reports are up to 25 points.

Peer review Prelabs (5 pts) - as a part of the Formal lab report you will be turning in a prelab. You will be paired to review each other's prelabs before you complete the lab(5 pts) . You will do this at least four times throughout the semester.

Other Assignments (180 pts)

Scientist Spotlights (40 points)

Scientists come from a diverse set of backgrounds and work on a variety of problems. You will turn in one scientist spotlight assignment for each unit

Field Trip Report (25 points)

There will be a (virtual) field trip to UC Berkeley Electron Microscope Lab. A report due in the form of a "newspaper article" reporting what you learned on the trip. It will be due 1 week after the field trip.

Seminar Paper (20 points)

There will be a seminar paper due discussing "The Double Helix". The paper will be graded at 20,15, or 10 points. Read the guidelines for the seminar paper.

Genetic Problem Set (50 points)

A genetics problem set that requires you to solve genetics problems and learn concepts given in lecture will be turned in and graded up to 50 points This is a challenging

assignment that is similar to a take home test. No late genetics problem sets will be accepted.

Article and Video Analysis AVA (40 points) Four assignments involve reading an article or watching a video and then answering questions about the information. These articles may address issues of bias in science, science history or interesting new developments. These assignments are noted in Canvas as AVA and the topic. Be sure you turn in the by the “due” date in Canvas.

Grades Page (5 pts) You have a “Keep Track of your Progress Grades Page” to be able to calculate your grade at any time throughout the semester. Do not rely on Canvas. You are encouraged to check your calculations with my records. You are to turn this page in twice. The first time will be complete/incomplete, and the second time for 5 pts.

Discussions: (60 points)

As part of our online learning community participation, you have Discussions to take part on in Canvas. Some are with the whole class and some are within your group. You will be taking a survey so I can get an idea of your schedule. From this, I will be setting up groups after the first week of classes. You can also set up Conferences with each other to create study groups. You will see directions for each discussion with a grading rubric.

Meet your Colleagues (10 pts)

So we can build community in the class, introduce yourself to the class and reply to at least two of your colleagues

Review Discussion posts (40 pts)

As part of our learning community participation, you have Discussions to take part in Canvas. Two per unit section for 5 points each.

Seminar Discussion: (10 pts)

You will participate in a discussion of your seminar paper on the double helix

Grading Scale Your grade is based on points

90 – 100 %	A
80 – 89 %	B
70-79 %	C
60-69 %	D
below 59 %	F

Participation/Class Expectations:

Each person is expected to participate in class regularly through office hours, discussions and virtual interactions with your fellow students and professors. Setting up a schedule when you regularly work on the class is important to your success in the class.

Lectures will be recorded and delivered asynchronously (meaning you can view them whenever works best in your schedule. This portion of the class will be “self paced” within a weekly structure of set due dates for completing review of videos before the related lab experiments.

Labs: this portion of the course will be hybrid with some lab simulations online, and some in person. You will be separated into groups and come into the lab either on Mon or Weds

Important Notes about Contacting Me and Assistance

If you feel lost or confused in this course, please let me know via Canvas email. I will make every attempt to reply within 24- 28 hours except on weekends.

It is our goal to make our courses as accessible as possible to students all of our students. We encourage you to chat with us by the second week of the course regarding any accommodations that will improve your experience in this course. You can also contact the Student Accessibility Services (SAS) Programs for Students at 464-3428 for assistance.

If you have any concerns about the class, please feel free to discuss them with me. If the situation calls for it, the biology department cochairs may be contacted through email. Check out the department website for more information.

Peralta Mask Policy: Faculty, Staff and Students must wear a face covering that covers the nose and mouth while on campus, including in labs and classrooms, regardless of vaccination status.

Careers in allied health, biotechnology, research and clinical labs and other biology fields often require wearing a mask as part of the health and safety regulations of that workplace. Thus, wearing masks is for workplace training as well as health and safety in the ongoing pandemic.

Laney College does not discriminate on the basis of age, race, religion, color, gender identity, gender expression, sexual orientation, ancestry, citizenship, national origin, military or veteran status, disability, marital status, pregnancy, medical condition and immigration status