

Professor: Findley Finseth (she/her/hers)

Email: ffinseth@kecksci.claremont.edu

Class time: TR 9:35-10:50

Location: Scripps 201

Office hours: T 11:00-12:00, W 1:30-2:30 (Keck 212)

Overview

The field of Biology is broad and wonderful, and spans the study of single atoms to entire ecosystems. In BIOL043 we will introduce you to the concepts of Biochemistry, Cell and Molecular Biology, Genetics, and Physiology. In Bio 43, we aim to:

- Build a climate of inclusion, respect and caring where we can feel comfortable wrestling with new and challenging concepts.
- Introduce you to foundational ideas and concepts that unify all of Biology.
- Provide an overview of topics in the areas of Biochemistry, Cell and Molecular Biology, Genetics and Physiology to excite, inform, and support your growth as a scientist.

Learning objectives

1. Apply the concepts and principles of biology to solve problems and explain biological phenomena.
2. Critically examine, interpret, analyze and effectively communicate biological discoveries that you encounter in class, as well as the real world.
3. Engage with and interpret data from the scientific literature.
4. Appreciate how molecular interactions define biological processes and outcomes.
5. Recognize that science is a human endeavor and is greatly improved by working collaboratively with scientists from diverse backgrounds and expertise.

Course textbook

Biology, Brooker, Widmaier, Graham, and Stiling, 4th edition, McGraw Hill. The textbook has a website, www.brookerbiology.com, with useful animations, tutorials with quizzes, activities, and interactive self-quizzes designed for each chapter. There are also self-quizzes at the end of each chapter in the book.

Course Sites: Sakai

We will use the course [Sakai](#) site for formal course communications. Here, you will find lecture videos and slides, practice problems and exams, reading guides, problem sets, answer keys, course announcements, and more.

Class readings

Material covered in class will include readings from the textbook and some research articles. Reading guides will be posted by the Monday of each week. These will help guide and target your reading. Prioritize reading the assigned pages before class.

Lab

Be sure you have enrolled in a section of lab. Lab times are posted on Sakai and are generally held on weekday afternoons. Lab policies, protocols, and guides will be posted on Sakai.

We will have in-person labs this semester as long as we can safely do so according to CDC and LA County guidelines. Attendance and completion of weekly laboratory sessions and assignments is required. You must earn at least 50% of the total laboratory points to pass this course. The lab uses a separate Sakai site, "KS BIOL 43L Lab FA21". The lab syllabus, protocols, and other useful documents will be available there. If you have any questions, please reach to our to our Bio43 Lab Coordinator, Mike Brown (mjbrown@kecksci.claremont.edu)

Point distribution:

70% lecture

- 5% Participation
- 10% Problem Sets
- 15% Exam 1
- 15% Exam 2
- 15% Exam 3
- 10% Final exam

30% lab

100% course total

Grading

At least 50% of the available points from the lab and lecture component of the course must be earned to pass the course. A low-grade notice (C- or below) will be sent out following the first exam, as well as throughout the semester, so that we can develop a plan of action.

Grading will be assigned as follows, and will only be adjusted to increase a student's letter grade.

90-100%	A, A-
80-89.99%	B+, B, B-
70-79.99%	C+, C, C-
60-69.99%	D+, D, D-
<60%	F

Attendance

Attendance is mandatory, and I regularly take attendance during class via Sakai. However, I understand that life happens, and you may miss up to three days without affecting your grade (with the exception of exam days, see below). If you miss more than three days, your participation grade will be affected (see below). Low grade notices will be given for consistently poor attendance and may result in the not passing the class.s

Participation (5%)

Class participation points are awarded to encourage your active class participation and engagement. Participation will be assessed in several ways. First, in-class polling and small assignments will contribute to your participation grade. Second, participation will be assessed holistically by three self-assessments, as well as my input. Both frequency and quality of participation will factor into your score. There are numerous ways to participate. You do not need to do all of them to receive full credit. This includes:

- *Attending and engaging in class*
- *Answering live polls during class*
- *Participating in a study group*
- *Note-taking for study group*
- *Attending and engaging with office hours*
- *Completing video, spotlight scientist, or other responses*

In-class polling

We will regularly answer prompts with a live polling application (Polleverywhere). This will help keep track of classroom attendance and engagement. In general, you will get some credit for answering and additional credit for getting the question correct. In-class polling answers will be cross-checked with attendance and credit will only be given when attending in class.

Study groups

Peer-to-peer learning is one of the best ways to increase engagement and retention. To facilitate peer-to-peer learning, I will be placing you in study groups. I will attempt to balance the groups in terms of background experience based on your answers to an introductory class survey.

Scientist Spotlights: Science and society benefit greatly from a community that approaches problems from a variety of creative ways, with each scientist bringing their own unique background and experience to the table. Throughout the semester, we will hear stories related to topics covered in class from different scientists representing a range of identities. After listening, you will be asked to complete a short response.

Problem sets (10 %)

There will be 6 problem sets throughout the course, each worth 2% of your grade. You are encouraged to work in study groups on problem sets, but please write your answers in your own words. Problem sets are designed to help you study the material and work through conceptual issues without a time limit. Your lowest problem set grade will be dropped. Problem sets are due Thursday, at the beginning of class for the weeks posted on the schedule.

Exams (15% Exams 1-3, Final 10%)

Exams will include multiple choice and short answer, with an emphasis on data analysis, problem solving, and applying concepts to unfamiliar scenarios. The final will be multiple choice and/or short answer. The final exam and exam three will be given sequentially during the scheduled final time.

Please note that exam days are fixed. *In-person attendance for exams is mandatory.* In exceptional cases (illness, family emergency), I may allow you to schedule a make-up exam. I will require a note from your dean of student to allow you to take a make-up exam.

You will be responsible only for material that we discuss in class– any information not discussed will not show up on exams. This means you should pay close attention to lectures, take careful notes, attend class when possible, and avoid falling behind on readings.

Inclusivity and equity

We aim to build a climate of inclusion, equity, and respect where we welcome the contributions of all students in order to build an effective learning space. We strive to establish an environment where every student can feel comfortable wrestling with new and challenging concepts. We also recognize that science is a human endeavor and is greatly improved by working collaboratively with scientists from diverse backgrounds and expertise. We do not tolerate acts of harassment or discrimination conducted by anyone. Please contact me and/or your college's Dean of Students or Student Affairs Office if you have any concern.

Late work

Assignments are expected to be turned in on time. However, I understand that situations beyond our control can sometimes cause delays. Therefore, each student is allowed two freebies, where they can turn assignments in up to three days late with no penalty. If you need to use a freebie, please alert me and I will mark it down. After your two freebies have been used, a grade penalty will apply for every 24 hours late (-10% day 1, -25% day 2, -50% day 3, no credit day 4+).

Amendments

I reserve the right to make oral and written modifications to this syllabus as needed. Changes may be emailed, announced during class, or posted on Sakai.

Communications

Please be aware that I do not regularly check email in the evenings and on weekends. Therefore, please plan ahead and contact me during weekday work hours.

Academic accommodations

The Claremont Colleges value diversity and inclusion; we are committed to a climate of mutual respect and full participation. As such, our goal is to create learning environments that are equitable, inclusive and welcoming. If you anticipate or experience any barriers to learning related to a disability or condition, please schedule a time to meet with the Office of Academic Resources and Services (or similar) at your respective college.

ARS will work with you to discuss your experiences and range of options to ensure your full participation in this course. Please note that a student's home campus is responsible for establishing and providing accommodations. You must contact your home institution to establish accommodations. Below is a list of coordinators on the other campuses. Following this meeting, students should meet with me as early as possible.

CMC: AccessibilityServices@cmc.edu
HMC: access@g.hmc.edu
Pitzer: gabriella_tempestoso@pitzer.edu
Pomona: disability@pomona.edu
Claremont Graduate University: disabilityservices@cgu.edu
Keck Graduate Institute: student.accessibility@kgi.edu

Academic conduct

Ethical conduct is central to ensuring an inclusive and productive classroom environment. You are expected to respect the rights of others and are accountable for your own actions. Academic misconduct that impedes learning, including, but not limited to, plagiarism, cheating, copying, and falsifying data, will not be tolerated and will be reported to the appropriate Dean of Students office. Please feel free to ask if you have any questions regarding ethical conduct in the classroom or in science.

Title IX statement

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources at <http://7csexualmisconductresources.claremont.edu>. Please note that other faculty and staff may not have the proper formal training to handle such situations and may not be able to provide confidentiality.

Undergraduate Research in the Keck Science Department

Scientific discoveries are made through research. Undergraduate researchers working in labs at Keck (as well as other colleges and universities) play key roles in asking questions, developing projects, carrying out those projects, analyzing and interpreting the data, and sharing the results widely. Many different students are successful researchers -- there is not just one "type." Successful researchers are often curious about a topic, creative in their thinking and approaches, collaborative in working with other students and faculty, persistent, and passionate. GPA does not define who will be successful in research or who will enjoy doing research. Check out Sakai for a summary of performing research at Keck.

Bio 43 lecture guidelines for COVID-related course disruptions

During this semester, I ask that we all remain mindful of our own health and of broader community health. [Pitzer](#), [Scripps](#), and [Claremont McKenna](#) have adopted a number of policies in line with public health guidelines; these policies are in place to keep us all safe and healthy. Students are expected to follow their home college's policies.

In addition, I expect that all of us will remain masked at all times, even if we meet outdoors or engage in class-related activities or trips. I also ask that any student who is experiencing COVID symptoms, who has been placed in any form of quarantine, or who believes that they have been exposed to COVID-19 please refrain from attending class until they receive clearance from their student health services.

As we navigate the return to in-person learning, we will need to stay flexible and ready to adapt to changing circumstances. Throughout the semester, students and faculty may be in quarantine or isolation mandated by health guidelines. If you receive notification from student health services that you are required to isolate/quarantine, please let me know as soon as possible that you are unable to attend class in person. If you are well enough to participate, I will have Zoom up and running in the classroom so that you can join us remotely, using the Zoom link for our course. If you are not well enough to participate, I will make a Zoom recording available for you. I will work with students who are unable to attend class on accommodations so that they can keep up with coursework.

The Introductory Biology team at Keck has agreed to the following guidelines for attendance, coursework, and classroom modality. These may change as the course progresses.

Scenarios when class members are sick or in quarantine:

1. *A small number of students are ill or in health services-mandated quarantine:*
 - Teach class in person, with live access Zoom for those who are well enough to attend virtually
 - Provide access to a Zoom recording for students who do not feel well enough to attend virtually
2. *A moderate number of students are ill or in health services-mandated quarantine:*
 - Teach class remotely using Zoom for those who are well enough to attend virtually OR Teach class in person, with live access Zoom for those who are well enough to attend virtually (faculty choice)
 - Provide access to a Zoom recording for students who do not feel well enough to attend virtually
3. *A large number of students are ill or in health services-mandated quarantine:*
 - Teach class remotely using Zoom for those who are well enough to attend virtually
 - Provide access to a Zoom recording for students who do not feel well enough to attend virtually
4. *Faculty member is ill or in quarantine:*
 - Teach class remotely using Zoom if the faculty member feels well enough
 - Possible change in course structure (alternate temporary instructor, remote learning, postponement, etc.) if faculty member is too ill to teach remotely