

Remote Learning

In this course, we want to expand on a few principles and values given this unprecedented global situation. The following course statement of values are adapted from Dr. Brandon Bayne at the University of North Carolina – Chapel Hill.

1. Nobody signed up for this, and we are all in this together
 - Not for social distancing, not for the sudden end of our collective lives on campus
 - Not for a remote course, not for learning from home, not for teaching online
 - Not for mastering new technologies, not for varied access to learning materials
2. The humane option is the best option
 - We are going to prioritize supporting each other as humans
 - We are going to prioritize simple solutions that make sense for the most
 - We are going to prioritize sharing resources and communicating clearly
3. We cannot just do the same thing online
 - Some expectations are no longer reasonable
 - Some assignments are no longer possible
 - But we will continue to engage intellectually in ways that make sense given the circumstances
4. We will foster intellectual nourishment, social connection, and personal accommodation
 - Accessible asynchronous content for diverse access, time zones, and contexts
 - Highly encouraged synchronous classes and sections to learn together and combat isolation
 - Discussions on Canvas to create a collaborative learning community
5. We will remain flexible and adjust to the situation
 - Nobody knows where this is going and what we will need to adapt
 - We will adjust along the way with everyone's best interests in mind
 - Everybody needs support and understanding in this unprecedented moment

Return to Learn | Website: <https://returntolearn.ucsd.edu/return-to-campus/fall-2020-plan/index.html>

Campus will continue to monitor the spread of COVID-19, working closely with local, state, and national officials. For the latest updates to the campus community, visit the Current Campus Status page: <https://returntolearn.ucsd.edu/news-and-updates/status/index.html>

Virtual Campus | Website: <https://vcsa.ucsd.edu/student-success/virtual-resources.html>

- In need of access to laptop? Students may be able to request a loaner laptop: <https://eforms.ucsd.edu/view.php?id=490887>
- Some computer labs are open: <https://lablookup.ucsd.edu/>
- Guidance on technology for students, including Canvas and Zoom, trouble-shooting, and resources for internet access: <https://digitallearning.ucsd.edu/learners/learning-remotely/tools.html>

General Resources

New to campus? Check out the New Triton page: <https://newtriton.ucsd.edu/>

| Academic Support | |
|------------------------------------------|--------------------------------------------------------------------|
| Academic integrity | Policy and strategies to excel with integrity |
| Geisel Library | Research tools and eReserves |
| Learning strategies | Metacognitive support to address learning challenges |
| Library guide | Starting point for navigating campus library resources |
| REAL Portal | Internships and other hands-on experiential learning opportunities |
| Student Success Coaching | Peer mentor program with information, resources, and support |
| Technical support | Assistance with accounts, network, and technical issues |
| Writing Hub | Peer writing mentors and support to improve writing skills |

| Student resources | |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Basic needs | Access to food, housing, and financial resources |
| Counseling and Psychological Services (CAPS) | Confidential counseling, consultations for psychiatric services, and mental health programming |
| Community centers | Programs for students and resources toward a socially just campus |
| Equity, diversity, and inclusion | Toward a campus climate of respect, fairness, and cooperation |
| Office for Students with Disabilities (OSD) | Support for students with disabilities, including accessibility resources and reasonable accommodations |
| Triton Concern Line | Support for students of concern at (858) 246-1111 |

Welcome to Introductory Biology Laboratory!

BILD 4 aims to develop an understanding for research in the biology through laboratory experiments. We will work in teams to collect, analyze, and present original data while learning foundational biological concepts and laboratory skills. Data collected in this course will contribute to an on-going research project on soil microbiomes at the Scripps Coastal Reserve on campus.

Learning goals

- Collaborate with one another to learn foundation biological concepts and laboratory skills
- Engage in research and learn to construct scientific arguments based on evidence and reasoning
- Develop and present research proposals in a conference setting
- Learn about research opportunities and other resources on campus

Learning in this course

BILD 4 is designed to be a collaborative environment for everyone to learn together and construct a shared understanding of the material. Active contribution in class and in the laboratory is essential because many ideas that will be developed in these activities cannot be easily captured otherwise. Being able to communicate understanding and articulate confusion is both useful for learning (Smith 2009) and critical to success in any discipline. To encourage collaboration and community building, many activities and assignments will be done in teams, and grades will not be assigned on a curve.

Instead of memorization, we will focus on developing an understanding of fundamental concepts and laboratory skills as they apply to different examples and learn to draw conclusions based on evidence and reasoning. We will utilize class and laboratory time to construct and apply our knowledge, troubleshoot challenging topics, practice problem solving, and develop skills in critical thinking. Assignments will challenge us to think critically about data and experiments.

Course logistics

The core learning components in this course are comprised of collaborative activities, in addition to independent and team work on studying and completing assignments. A substantial portion of learning will be from original research data, and assignments will be designed to support this more complex level of learning. Course materials, announcements, and other important details will be available on the Canvas (<https://canvas.ucsd.edu/>). Please check the course website and your @ucsd email regularly for updates.

We will meet synchronously for both class sessions and laboratory sections for collaborative activities. If you are in a time zone that would preclude you from joining us in real time, there will be asynchronously assignments in lieu of synchronous participation and contribution. To be part of the course, you should already be enrolled in a laboratory section along with the lecture section. You should attend the laboratory section that you are enrolled in, in consideration of the workload of individual instructional assistants. We are also not able to change the maximum number of enrolled students in a section.

References

Smith et al (2009) *Science* 323: 122–124. <http://science.sciencemag.org/content/323/5910/122.short>

Academic integrity | Website: <https://academicintegrity.ucsd.edu/>

Integrity of scholarship is essential for an academic learning community. In this course and at the university, we expect that both students and the instructional team will honor this principle and in so doing protect the validity of our intellectual work. For students, this means that all academic work will be done by the individual to whom it is assigned, without unauthorized aid of any kind. The instructional team will exercise care in planning and collaborating with students on academic work.

When people collaborate to work toward a common goal, shared values must be established so that everyone understands the acceptable ways for working together. In this course, we are using a statement of values to describe the behaviors for maintaining and protecting these values. The statement is open to discussions and possible alterations based on mutual agreements among all students and the instructional team. In collaborative work, each team should discuss these values and agree on mutual expectations.

The following course statement of values is adapted from the Academic Integrity Office:

| | As students, we will ... | As the instructional team, we will ... |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Honesty | <ul style="list-style-type: none"> Honestly demonstrate knowledge and abilities according to expectations Communicate without using deception, e.g. citing appropriate sources | <ul style="list-style-type: none"> Give honest feedback Communicate honestly about expectations and standards through the syllabus and course materials |
| Responsibility | <ul style="list-style-type: none"> Complete assignments on time Be on time and fully contribute to team learning and activities | <ul style="list-style-type: none"> Give timely feedback Be on time and mentally present Create relevant activities for learning |
| Respect | <ul style="list-style-type: none"> Speak openly with one another while respecting diverse perspectives Provide sufficient space for others | <ul style="list-style-type: none"> Respect different perspectives Help facilitate respectful exchanges |
| Fairness | <ul style="list-style-type: none"> Contribute fully and equally to collaborative work Not seek unfair advantage | <ul style="list-style-type: none"> Create fair assignments and exams and grade them in a fair and timely manner Treat all students and teams equally |
| Trustworthiness | <ul style="list-style-type: none"> Focus on relevant work while in class Not distribute course materials to others in an unauthorized fashion | <ul style="list-style-type: none"> Be available to all students when we say we will be Follow through on our promises |
| Courage | <ul style="list-style-type: none"> Say or do something when we see actions that undermine these values Accept consequences for upholding and protecting the above values | <ul style="list-style-type: none"> Say or do something when we see actions that undermine these values Accept consequences for upholding and protecting the above values |

All course materials are the property of the instructor, the course, and University of California San Diego and may not be posted online, submitted to private or public repositories, or distributed to unauthorized people outside of the course. Any suspected instances of a breach of academic integrity will be reported to the Academic Integrity Office for review.

Principles of community | Website: <https://ucsd.edu/about/principles.html>

Our campus is dedicated to learning, teaching, and serving society through education, research, and public service. Our international reputation for excellence is due in large part to the cooperative and entrepreneurial nature of the UC San Diego community. Faculty, staff, and students are encouraged to be creative and are rewarded for individual as well as collaborative achievements.

To foster the best possible working and learning environment, we strive to maintain a climate of fairness, cooperation, and professionalism. These principles of community are vital to the success of the University and the well-being of its constituents. Faculty, staff, and students are expected to practice these basic principles as individuals and in groups.

Accessibility and inclusion | Website: <http://disabilities.ucsd.edu> | Contact: osd@ucsd.edu

Any student with a disability is welcome to contact us early in the quarter to work out reasonable accommodations to support their academic success. Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD). Students are required to discuss accommodation arrangements with the instructor and OSD liaisons in the program in advance of any exams or assignments.

Whenever possible, we will use universal designs that are inclusive. For example, colors used in this syllabus are distinguishable by most colorblind and non-colorblind people, and this font is designed to be dyslexic friendly. If you have feedback on how to make the course more accessible and inclusive, please get in touch!

Discrimination and harassment | Website: <http://ophd.ucsd.edu> | Contact: ophd@ucsd.edu

The Office for the Prevention of Harassment & Discrimination (OPHD) provides assistance to students, faculty, and staff regarding reports of bias, harassment, and discrimination. The mission of OPHD is to educate the entire UC San Diego community about these issues and to assist with the prevention and resolution of these issues in a fair and responsible manner. In collaboration with other UC San Diego resources, OPHD promotes an environment in which all members of the UC San Diego community can work, learn and live in an atmosphere free from all forms of bias, harassment and discrimination.

Students may feel more comfortable discussing their particular concern with a trusted employee, such as a student affairs staff member, faculty member, department chair, or other university official. These individuals have an obligation to report incidents of sexual violence and sexual harassment to OPHD. This does not necessarily mean that a formal complaint will be filed. If you find yourself in an uncomfortable situation, ask for help. Our campus is committed to upholding policies regarding discrimination and harassment.

Grading

Our course has the following grading components: contribution (10%), writing assignments (28%), quizzes (28%), final project (28%), professionalism (2%), and extra credit (0.1%). Because different people may excel in different aspects of the course, the highest component among writing assignments, exams, and the final project for each individual will be scaled from 28% to 32%, bringing the total to 100%. There are no opportunities for extra credit beyond what is assigned.

The general grading scheme is as follows, although it may be adjusted to improve everyone's grades if necessary. Exact boundaries will be determined based on final grade distributions: Because course assessments are not perfectly precise, grade cutoffs will be identified by large gaps in between individual scores. However, our course is not graded on a curve, e.g. 20% of students getting A, B, C, and such. Thus, the ability to do well in this course is not dependent on others doing poorly.

| | | | | | | | |
|----|-----------|----|-----------|----|-----------|---|-----------|
| A+ | 97–100% | B+ | 87–89.99% | C+ | 77–79.99% | D | 60–69.99% |
| A | 93–96.99% | B | 83–86.99% | C | 73–76.99% | F | 0–59.99% |
| A– | 90–92.99% | B– | 80–82.99% | C– | 70–72.99% | | |

Contribution: Active contribution both in class and in laboratory meetings is essential to learning in this course. Contribution is different from attendance or participation. Attendance means that we are merely physically present. Participation means that we have completed the required activities. Contribution involves attendance, participation, and active mental engagement that ultimately results in learning, e.g. thinking through the material, collaborating meaningfully with teammates, asking questions, etc.

There will be many contribution items, including pre-assignments, in-class discussions, laboratory activities, research notebooks, and data sharing. Contributions will be graded for thoughtful completion on a scale 0, 0.5, and 1. Because individuals may have different competing schedules, completing 90% or more of all contribution items will earn the full contribution grade. For example, if there are 40 contribution items, completing 36 or more items will result in 40/40; completing 35 items will result in 35/40.

The best way to learn how to solve problems and deepen our understanding is to work through the class and laboratory activities and discuss them with fellow classmates and the instructional team. To do so, we will discover and construct an understanding together instead of directly giving answers to the problems.

Writing assignments: These assignments will focus on generating figures from data collected by all groups in each laboratory section and drawing conclusions that are supported by evidence and reasoning in scientific arguments. Please see Canvas throughout the quarter for more details.

Quizzes: Quizzes will be cumulative and will focus on the most recent material. To facilitate reflection and learning from quizzes, each quiz will be in two phases: The first phase will be done individually, and the second phase will be the same quiz done again in teams. The individual portion will count for 80% of the quiz grade, and the team portion will count for 20%.

We are using this two-phase testing method for quizzes as people learn more from collaborative work compared to individual work (Gilley 2014). These collaborative testing opportunities allow us to deepen our understanding because we are receiving feedback on our thinking in a very timely fashion, which is critical for learning. It is also an opportunity to practice communicating effectively and collaborating to solve problems.

Project: Our final project will be a research proposal written and presented collaboratively in teams. Each team will identify a topic to study hypothetically and propose experiments to investigate that topic. Please see Canvas throughout the quarter for more details.

Professionalism: This portion of the course grade is intended to engage everyone in considering the impact of their actions on their own learning and the learning of others in the course. Unprofessional interactions consume time yet have no meaningful benefits.

Professionalism can be demonstrated through individual (described in this section) and community efforts (extra credit described in the section below). The individual component is to account for demonstrating maturity and professionalism. By default, everyone is assumed to be professionally mature. Hence, this component is awarded at the beginning of the quarter. During the quarter, based on observations by the instructional team, which includes but is not limited to one-on-one interactions, electronic communication, and follow-up conversations on different correspondence, professionalism credit may be deducted.

Example interactions with meaningful benefits that:

- Developing deeper insight into course material, concepts, biology, and/or society in general
- Working collaboratively to improve in skill building and future opportunities
- Learning conceptually and meaningfully why full credit was not awarded for an assignment
- Clarifying course material that facilitates deeper learning
- Carrying out procedures safely and paying attention to waste disposal in the laboratory

Example interactions that have no meaningful benefits and thus should be avoided:

- Contributing inequitably to team work in class, in section, or on quizzes
- Being disruptive to fellow students in class, in section, or on quizzes
- Harassing and/or bullying other students or the instructional team, either in person or online
- Ignoring the directions or requests from the instructional team, especially in relation to safety
- Neglecting safety in the laboratory and not paying attention to waste disposal in the laboratory

Extra credit: The 0.1% extra credit is based on community professionalism, which can be earned by completing course evaluations and related surveys that are aimed to improve the course and the educational experiences of your future peers. If 90% or more of all students complete CAPEs, instructional assistant evaluations, and other course-based evaluation surveys in a mature and professional fashion (i.e. taking them seriously and providing timely and constructive feedback), 0.1% will be added to everyone in the course. Other than the community professionalism component, there are no other opportunities for extra credit beyond what is already assigned as part of the course by the instructor.

Late or missing assignments: In general, we are unable to accept late or missing assignments because of the size of the course. This means that no late contribution items will be accepted; completing 90% of contribution items will earn the full contribution grade. However, we acknowledge that emergencies do occur. For missed quizzes, writing assignments, or project due to documented short-term illness or serious family emergency, please contact the course instructor as soon as possible or reasonable to do so. We are here to help you succeed in the course!

Regrades: If a grading error has been made, please submit a regrade request to the course instructor within one week of the assignments being returned. Send a message to the instructor with a concise description or explanation for the regrade request. Regrades are submitted with the understanding that the instructional team may: (1) regrade the entire assignment, and (2) compare the submitted paper to a copy of the original assignment. As a result, the overall grade may go up or down or remain the same after the regrade.

Team work: A major goal of the course is to learn to collaborate with others. Unfortunately, despite best efforts and intentions, teams do not always function optimally. Dealing with these challenges is a natural part of the learning experience. Everyone is expected to contribute fully and equitably to team work as part of the university learning community. Please see the [Syllabus: Integrity](#) document for more information.

If significant disputes occur over the relative contribution of individual members of the team, students can submit an appeal. In such cases, the team grade will be multiplied by the number of members in the team, and the points can be divided among individuals based on what each team member agrees that they deserve from their individual efforts. To submit an appeal, all members of the team need to get together and provide the following information in a document: clear and detailed descriptions of each member's contribution, calculations and explanations for how the points should be divided among the members, and signatures from each member with a statement attesting to the fact that everyone in the team has agreed to all information in the appeal document. Please submit the appeal to the course instructor within one week of the assignments being returned.

References

Gilley et al (2014) Journal of College Science Teaching 43: 83–91. <https://jstor.org/stable/43632038>

Meeting times

Please note that dates are listed in US format of month/day; for example, 1/2 means January 2nd. All times are listed in California or Pacific time zone.

| Class | Day | Time | Location | Instructor | Email |
|-------|------|------------|----------|------------|--------------------------------------------------|
| A00 | Tues | 5:00–6:20p | Zoom | Stanley Lo | smlo@ucsd.edu |

| Section | Day | Time | Location | Instructional assistants (click for emails) |
|---------|-----------|-------------|----------|-----------------------------------------------------------------------------------------------|
| A01/A02 | Wednesday | 9:00–11:50a | Zoom | Charis Hales , Lauren Hui , Patrick Zhang |
| A03/A04 | Wednesday | 9:00–11:50a | Zoom | Alex Wen , Hirsh Makhija , Lillian Sau |
| A05/A06 | Friday | 9:00–11:50a | Zoom | Charis Hales , Lauren Hui , Patrick Zhang |
| A07/A08 | Friday | 9:00–11:50a | Zoom | Alex Wen , Hirsh Makhija , Lillian Sau |
| A09/A10 | Wednesday | 1:00–2:50p | Zoom | Avon Yang , Quoc Tran , Yu Yan Kwan |
| A11/A12 | Wednesday | 1:00–2:50p | Zoom | Ji Sun Chin , Katrina Myers , Ruben Hernandez |
| A13/A14 | Friday | 1:00–2:50p | Zoom | Avon Yang , Quoc Tran , Yu Yan Kwan |
| A15/A16 | Friday | 1:00–2:50p | Zoom | Ji Sun Chin , Katrina Myers , Ruben Hernandez |

| Exam | Day | Time | Location |
|-------|--------|-------------|----------|
| 12/18 | Friday | 7:00p–9:59p | Zoom |

Office hours

Consider office hours to be more like study sessions or free-formed fireside chats, where we can talk about anything related to your academic and general experiences on campus. Stop by for just a few minutes or stay for the entire duration – your choice! Join us with your own questions or come and see what other students have questions about. Dr. Lo's office hours are on a rotating schedule, so that more people can have an opportunity to come to office hours without scheduling conflicts. Please feel free to email and set up a separate appointment if the following times do not work for you.

| Week | Day | Date | Time | Location |
|------|----------|-------|------------|----------|
| 0 | --- | --- | --- | --- |
| 1 | Thursday | 10/8 | 4:00–4:50p | Zoom |
| 2 | Thursday | 10/15 | 5:00–5:50p | Zoom |
| 3 | Thursday | 10/22 | 6:00–6:50p | Zoom |
| 4 | Thursday | 10/29 | 4:00–4:50p | Zoom |
| 5 | Thursday | 11/5 | 5:00–5:50p | Zoom |
| 6 | Thursday | 11/12 | 6:00–6:50p | Zoom |
| 7 | Thursday | 11/19 | 4:00–4:50p | Zoom |
| 8 | --- | --- | --- | --- |
| 9 | Thursday | 12/3 | 5:00–5:50p | Zoom |
| 10 | Thursday | 12/10 | 6:00–6:50p | Zoom |

Dine or Coffee with a Prof Program

Campus has a Dine-With-a-Prof or the Coffee-With-a-Prof program in the undergraduate colleges (<https://students.ucsd.edu/academics/advising/academic-success/dine-with-a-prof.html>). Unfortunately, in accordance with campus guidelines, these programs will be not be available until further notice. However, Dr. Lo is still more than happy to have virtue coffee (or tea)! Please feel free to email and set up a time. We can also meet for virtual coffee-with-a-prof in small groups with multiple students.

Calendar

A general outline for the course is provide below. More specific details for each week will be provided on Canvas and in class. We may also adjust the schedule as necessary, while still focusing on learning the important concepts and laboratory skills intended for this course.

| Week | Module on Canvas | Majors assignments |
|------|--------------------------------------------|------------------------------------------------|
| 0 | Introduction | --- |
| 1 | Introduction | --- |
| 2 | Beginning basics | Quiz #1 due Monday 10/19 at 11:59 pm |
| 3 | Beginning basics, research proposal | Writing #1 due Monday 10/26 at 11: 59 pm |
| 4 | Soil properties | Quiz #2 due Monday 11/2 at 11:59 pm |
| 5 | Soil properties, research proposal | Writing #2 due Monday 11/9 at 11: 59 pm |
| 6 | Functional biodiversity | Quiz #3 due Monday 11/16 at 11:59 pm |
| 7 | Functional biodiversity, research proposal | Writing #3 due Monday 11/23 at 11: 59 pm |
| 8 | Genomic biodiversity | --- |
| 9 | Genomic biodiversity, research proposal | Quiz #4 due Monday 12/7 at 11:59 pm |
| 10 | Genomic biodiversity | Writing #4 due in lab section |
| Exam | --- | Project presentation Thursday 12/17 at 7:00 pm |