

Welcome to BILD 1!

Instructor: Dr. Claire Meaders (she/her/hers) (cmeaders@ucsd.edu)

Lectures: COO MWF 10:00-10:50 AM, Galbraith Hall

Student hours: Tu 3:30-4:20 PM (zoom: link on canvas); Fri 3 PM-3:50 PM (in person: HSS 8025)

You have worked hard to be here, congratulations on your achievements and welcome to BILD 1! As your professor I value your health, wellbeing, and learning. Navigating this quarter, the rest of college, and beyond successfully will require hard work and a prioritization of your mental and physical health. This quarter I will challenge you in this course to deepen your understanding and to grow as students. This is an in-person course - we know from extensive educational research that people from all sorts of backgrounds learn best when they are actively engaging with the material through thinking, writing, and discussing.¹ We would like to foster that kind of classroom through encouraging regular in-person attendance for everyone to learn and construct a shared understanding of the material. Class sessions are designed to help you practice applying content through problem-solving, and are an opportunity to get to know the instructional team and your classmates! I'm excited you are here, and hope it will be a wonderful quarter for all.



My role is to help you in this course, and I encourage you to stop by student hours! Student hours are a time when we can chat about course content, UCSD, careers in STEM, anything you want! They are especially useful if you have any confusion about a concept from class. We also have an IA-monitored discussion board (Piazza) through canvas for questions! If you prefer email, I'll try my best to reply within 24 hours - but please write to me from your USCD email account or through canvas, and make sure the subject is "BILD1". Thanks!

Course Information

Course Description: BILD 1 is an introduction to the **structure and function of cells**, both in organisms like bacteria and in organisms like us. We will study the biological molecules present in cells, how cells obtain energy, and how these organisms pass information on to the next generation. In other words, we will deepen our understanding of the essential functions of living things by exploring the physical structures and biological principles that underlie the fundamental unit of all living organisms, the cell. There are no prerequisites, but basic high school knowledge of chemistry is helpful.

This course also aspires to support you in developing basic content knowledge and skills necessary to evaluate new discoveries in the life sciences and to continue to expand your knowledge of biology throughout your life. That requires going **beyond memorization of facts** to acquire an understanding of how and why organisms function as they do, and what happens when the components of organisms do not function properly.

Recommended schedule:

Day	Throughout the week
M: attend class and discussion section (if enrolled in Monday discussion section)	<ul style="list-style-type: none">• Before each class: Preview associated textbook chapter• By the end of the week, complete the textbook homework• Submit discussion section assignment (if you were unable to attend in person)
T: attend discussion section (if enrolled in Tuesday discussion section)	
W: attend class	
F: attend class	

Learning goals: We anticipate that you will learn many things in BILD 1! By the end of the course you should be able to:

- **Content Outcome 1:** Compare & contrast how the structures and elements of prokaryotic cells, eukaryotic cells, and viruses impact how they function.
- **Content Outcome 2:** Explain the relationship between chemical structure and function of molecules such as DNA, RNA, proteins, amino acids, and lipids.
- **Content Outcome 3:** Predict how and when molecules may enter or exit cells through various pathways in the cell membranes.
- **Content Outcome 4:** Analyze how energy is produced and used by cells, including processes such as cellular respiration and photosynthesis.
- **Content Outcome 5:** Explain how cells receive and act on external chemical signals, including the stages of cell signaling and how signals are amplified.
- **Content Outcome 6:** Apply the central dogma to explain how genes give rise to the traits we observe in organisms.
- **Content Outcome 7:** Explain how gene expression can be modulated.
- **Content Outcome 8:** Explain mechanisms that lead to genetic diversity including mutation and meiotic recombination.
- **Content Outcome 9:** Explain patterns and mechanisms of inheritance.
- **Content Outcome 10:** Analyze how the environment interacts with genotypes to produce phenotypes.
- **Competency Outcome 1:** Evaluate claims based on scientific evidence and reasoning.
- **Competency Outcome 2:** Use feedback from exams and assignments to adjust study strategies

All questions on exams, as well as nearly all questions on homework and in-class and in-section activities, will be tied to at least one of these overall learning outcomes.

Learning in this course

We also want you to be able to apply what you learn about biology in whatever context you find yourself in your future. Therefore, instead of memorization, we will focus on developing an understanding of fundamental concepts as they apply to different examples. Exams will include questions that are based on solving problems in new contexts.

Research has also shown that people generally learn best in **collaborative environments**, where they learn together and construct a shared understanding of the material². While talking and working with your colleagues, you may identify gaps in your own knowledge, exercise the communication skills that are crucial in any career, and gain skills in working with colleagues as they learn to identify their confusions, ask questions, and think critically and skeptically about biology. Therefore, **active participation** both in class and discussion section is crucial. To encourage collaboration, class and section activities will be done in groups, and grades will never be assigned on a curve.

We will have many opportunities for you to think about biological concepts in low-stakes ways. This includes: **in-class questions** (graded on participation not correctness); **chapter homework** (with multiple attempts per question); **weekly discussion section problem sets**. Each assignment has been selected with your learning in mind. In addition, the teaching strategies in this course will engage all of you as a community of biologists in the classroom to develop leadership and communication skills as well as support each other in understanding biological concepts.

However, this is not at the expense of your wellbeing - we have built in flexibility into the course should unforeseen circumstances occur during the quarter. Beyond physical health, we will encourage you throughout the quarter to make time for yourselves to recharge, relax, and rejuvenate yourselves with productive or healthy ways to find joy. Taking time to do so will help you with your studying – we learn best when we are in better states of mind! You will see in our grading policies that we drop at least one of each type of assignment, with the goal of your having bandwidth for days when you need them. Finally, while we imagine this quarter may have unique challenges, we will consistently encourage you to celebrate the victories you will have (both large and small!) and to enjoy these moments of college together.

As the quarter progresses, we will use your feedback to adjust the course. Any changes will be to increase flexibility, and will be made with your learning in mind.

¹ Freeman *et al.* 2014. <http://www.pnas.org/content/111/23/8410> ; Theobald *et al.* 2020. <https://www.pnas.org/content/117/12/6476>

Course materials

Required materials: Modified mastering biology (with ebook)

*Your digital course materials are provided by the UC San Diego Bookstore through Canvas and are free for the first two weeks of class. After two weeks, your student account will be automatically charged a special reduced price unless you **opt out**.*

- We recommend **previewing** the relevant chapters before class using **active reading** (reviewing learning objectives and headers and asking questions).
- We will use Mastering Biology for **chapter assignments** that are designed to help you apply the material we have covered in class. These assignments will help deepening your understanding of the content and make connections between concepts. These assignments will not be due until the end of the week of the corresponding lecture, giving you flexibility to preview the questions before class.
- We will be using **Learning catalytics** (included in Mastering Biology) for in-class clicker-type questions. These questions will be graded for participation only, and are designed to help you check in with your understanding about the content.

Lecture slides will be posted on canvas before each lecture, within the weekly overview page in weekly modules.

Lecture recordings will be made available after class through <https://podcast.ucsd.edu/> (search for BILD 1).

Reaching the instructional team:

Student hours and contact information:

- Student hours are a time when you can come ask clarifying questions about the course material or about any other topics! I encourage you to attend student hours rather than email the Instructor or the IA' s for many reasons: 1) This is how we can form a richer **community** and get to know each other; 2) Two, we can **better explain the material** with whiteboards and a conversation. Also, maybe other students have a similar question and we can help each other learn; 3) **You will get a response right away in student hours**, instead of having to wait for emails
- You are encouraged to go to anyone's student hours. We have student hours every day at a variety of times! If these times do not work for you, you may also contact us with your availability for a different time.

See canvas site for information on IA student hours

Piazza:

The class piazza discussion board (on canvas) will be monitored daily for questions – please feel free to post (and answer) questions there. We are all a community learning and working together!

Course Expectations

What I expect from you	What you can expect from me
Be informed. Read this syllabus carefully and completely so you understand the course structure and expectations.	Enthusiasm. To be prepared for each class and to bring my enthusiasm for teaching to each lecture, lab, and office hour meeting.
Be attuned. Keep up with the lecture videos and lab assignments, as each one builds on the previous one.	Responsiveness. To respond to emails within 24 hours. For those that know me, you know I usually respond faster than this. Emails received on weekends may take longer.
Ethical. A good attitude and maintenance of honest and ethical principles towards me, your classmates, and the execution of the course. Please read UC San Diego's Principles of Community and Conduct Code .	Timely feedback. To make every effort to return graded assignments within one week of the submission date and to post solutions or code as soon as is reasonably possible after the submission date.
Integrity. An honest, fair, responsible, respectful, trustworthy, and courageous effort on all academic work and collaboration. Please read UC San Diego's Policy on Integrity of Scholarship . Then, take the integrity pledge!	Integrity. To uphold integrity standards and create an atmosphere that fosters active learning, creativity, critical thinking, and honest collaboration.
Be flexible. Sometimes my schedule gets affected by unavoidable events, necessitating some office hour rescheduling at the last minute.	Reasonable accommodation and understanding for student situations that arise; however, I will not make exceptions for one person that are not available to every other person in the course.

Grading Information

Assignment	Weight
Lecture participation: Learning catalytics assignments	10%
Textbook assignments: Mastering Biology Chapter homework	15%
Discussion section: Attendance or completion of assignments	15%
Chemistry in biology Pre-Assessment quiz Post-Assessment quiz	1% 3%
Exams Highest quiz (18%) Next highest quiz (12%) Lowest quiz (0%) Final exam (24%)	54%
Professionalism	2%
Total	100%
Extra credit (e.g. other surveys)	1%

The following grading scheme will be used. The course is **not** graded on a curve (i.e. 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%; A = 93-97%; A- = 90-93%;
B+ = 87-90%; B = 83-87%; B- = 80-83%;
C+ = 77-80%; C = 73-77%; C- = 70-73%;
D = 60-70%; F = 0-60%

Course components

Lecture participation

Active participation in lecture is important for your learning! Participation includes attending class and participating in **Learning Catalytics questions**. You may submit responses to questions through any electronic device with internet access. These will be graded **only for participation (complete/incomplete)**. **Questions must be completed during in-class synchronous participation**. We will start counting Learning Catalytics participation for points during week 2, so that there is time to practice with the technology. Additionally, **we know that everyone has different circumstances and life events**. Therefore, we will drop the lowest 6 learning catalytics class periods.

These questions are designed to help you engage with the lecture material, to help you identify areas to focus your studying on, and to help me identify areas that I need to spend more time on in lecture. Trying to answer the question before you hear the answer will help you check your own knowledge and better remember the material. That is true even if - actually especially if- you realize you do not know the answer.

For your responses to correctly be associated with your name, **you must register on Learning Catalytics through the Mastering Biology site**. Please be aware that it does not represent your learning if you submit responses for another person, so in that situation we cannot give you or the other person participation points. We appreciate these are challenging times that we are all going through and want to ensure you feel listened to and supported through this process.

Notes on learning catalytics questions:

- This course will require you to use digital devices (laptop, tablet or cell phone) during class time for participation. Research suggests that the human brain is not as excellent at multi-tasking as we think it is. Please be respectful of your classmates and restrict your use of digital devices to course content only. We understand that devices connect us to the world around us and to friends and family (which is wonderful!) but the classroom will be our place to concentrate free of distractions. I and your classmates thank you for your focus, and for not impeding their abilities to learn.
- Research shows that thinking individually before discussing a question helps everyone. We all need differing amounts of time to process information, and there may be times when you have answered a poll question but your peers have not. We ask that you engage with your peers once they are ready to discuss questions, and use the time to review your notes while you wait.

Discussion section participation and section activities

Weekly discussion sections are designed to engage you in applying your knowledge and exercising your skills in collaborative problem solving and data analysis.

Therefore, you will receive full credit for attendance with active participation in section in small groups working on problem sets. The first sections will meet during the first full week of classes. If you are enrolled in a Monday discussion section you can **join any time between 7-9:10 PM (to ensure every student has at least 40 min for the problem set)**, and if you are enrolled in the Wednesday discussion section you can attend any time during the Wednesday times (8-9:10 AM). We acknowledge that there might be extenuating

circumstances preventing you from being able to attend section in a given week. You can submit the problem set by the end of the week on canvas (graded for correctness), and we will drop two discussion section assignments for each student. If you are unable to make it in a given week, please make sure to look at the problem sets (posted online), and attend student hours with any questions!

Section	Day, Time, Location
C01	M 7:00-7:50 PM; Podem 1A18
C02	M 8:00-8:50 PM; Podem 1A18
C03	M 9:00-9:50 PM; Podem 1A18
C04	W 8:00-8:50 AM; Podem 1A19
C05	W 9:00-9:50 AM; Podem 1A19

Chemistry in biology assignments

This year we have a special set of assignments associated with learning the **chemistry behind life**. Cells are made up of molecules like enzymes and DNA, and these molecules are chemicals that follow chemical principles. To understand life, it is crucial to not only understand, but **master** some basic concepts about how molecules interact with each other. **This may seem daunting, but we will support you** by giving you multiple opportunities for practice and demonstrating your proficiency. Although these assignments can be completed in any order, we expect that most students will do the following:

1. Take the **Chemistry in Biology Pre-assessment Quiz**, due at the end of the first full week of class. The purpose of this quiz is to give you a sense of which chemistry topics you already understand or do not understand. If you get a question wrong, it will state the topic and link to a supplemental AChiBE module on that topic. This Quiz is graded on **completion**.
2. Complete an **optional AChiBE module** on topics that are not yet mastered. For each topic, there is a module that contains pre-assessment questions, a video explainer designed by previous BILD 1 students that explains the chemistry topic in a real-world context, and post-assessment questions to help you understand whether you are solid in your learning. These are not graded, and you can answer the questions and watch the videos as many times as you'd like.

3. Come to **student** hours in week 2 to ask about any chemistry concepts that are still sticky after class
4. Take the **Chemistry in Biology Proficiency Assessment**, due at the end of the second week of class. This will have questions that are similar to the pre-assessment and module post-assessment questions to test whether you have mastered the chemistry material.

In order to get full credit on this assessment, you must score at least 90% on it (i.e. get at least 18 out of 20 questions correct). All students who score at least 18/20 will receive 40pts. **Students who do not achieve at least 90% will receive 20pts for the assessment, regardless of their score.** However, you may take the assessment up to 50 times (the questions change slightly each time), and if you score less than 18/20, you are encouraged to review the study materials and contact the teaching team to fully the material. Scores will be adjusted according to these guidelines after the assignment is due.

We believe that everyone can learn this material and that doing so will help you immensely in learning biology. We are here to support you in your journey!

Chapter homework assignments

Each week there will be a textbook homework assignment available on mastering biology. Each assignment can be attempted 3 times. To receive full credit, finish the problem set before 11:59 PM the Sunday the of the week the chapter was assigned. **Similarly to other assignments, we know that everyone has different circumstances and life events. Therefore, we will drop each student's lowest scored textbook assignment.**

Exams

To facilitate developing useful knowledge and skills for the long term, tests in this course will focus on applying knowledge to assess and solve novel problems. Questions will be multiple choice, select all that apply, and short answer. Any material covered in or closely related to each lesson's learning objectives may be tested. For each exam, you will have the opportunity to earn up a percentage of your individual exam score back for filling out a post-exam reflection.

Quizzes

There will be 3 quizzes in this course. Your lowest quiz grade will be dropped. If you miss one of the quizzes, that will be the quiz dropped. We will also weight your quizzes differently based on your performance, with whichever quiz is your highest score being 18% of your final grade and your next highest quiz worth 12% of your grade.

Final exam

Everyone must take the final exam. We understand that given the nature of this quarter, you might not be able to take the exam during its scheduled time. If you need to miss the final exam due to a verifiable, unplanned emergency, you must notify us about the problem as soon as it is reasonable to do so. You must provide adequate documentation (doctor's note, copy of death certificate etc). We will discuss your best options given your circumstances.

Professionalism

This portion of the course grade is intended to motivate students to consider the impact of their actions on their own learning and the learning of others in the course. Professional interactions have meaningful benefits to you, your fellow students, and/or the teaching team. Analogously (similar to) in the workplace, being professional to your colleagues or supervisors will only benefit you! For example, you may be invited for new opportunities that you may or may not have been aware of. Professionalism can be demonstrated through individually demonstrating maturity and professionalism, as well as contributing meaningfully to our course community. **By default, every student is assumed to be professionally mature. Hence, this component is awarded to every student at the beginning of the quarter.** During the quarter, based on observations by the teaching team, which includes but is not limited to one-on-one interactions, electronic communication etc. your professionalism credit may be deducted.

Example interactions with meaningful benefits:

- Developing deeper insight into course material, concepts, biology, and/or society in general
- Working collaboratively to improve in skill building and future opportunities
- Contributing to an inclusive learning environment
- Learning conceptually and meaningfully why full credit was not awarded for an assignment
- Clarifying course material that facilitates deeper learning
- Reporting errors or problems in class, on assignments, or for other course material
- Arriving on-time to discussion sessions and being prepared to work

Example interactions that challenge the classroom community:

- Contributing inequitably to team work
- Harassing and/or bullying the instructional team or other students, either in person or online
- Ignoring the directions or requests from the instructional team

Extra credit

You have several opportunities for extra credit. After each quiz there will be a short canvas assignment consisting of an exam reflection where you are able to identify and further explore any remaining points of confusion and make up for exam points missed. In addition, 1% of course extra credit can be earned by accumulating points through: attending student hours with Professor Meaders or the instructional team; completing short optional Scientist Spotlight assignments (5 available throughout the quarter); and completing course evaluations and/or completing related surveys which aim to improve the course and the educational experiences of your future peers. There are no other opportunities for extra credit beyond what is assigned by the course instructor.

Regrades

If a grading error has been made on a quiz, you should submit a re-grade request via gradescope. Students who submit items for re-grading understand that we may re-grade the entire item and the score may go up or down.

Late assignments

Assignments must be submitted on time to be eligible for full credit. Due to the gradebook structure we are unable to give late credit for learning catalytics questions – if you miss a session, this will count as one of your 6 dropped sessions. We are able to provide partial credit for late assignments for chapter assignments and discussion section problem sets. Partial credit will automatically be applied with late assignments subjected to a 10% deduction per day. **If you need an extension there is an “I need an extension” request form on canvas under the getting started module before the assignment due date. All students are eligible for 3 late assignments, no questions asked.** Assignments must be submitted before the next quiz/final exam associated with the chapter hw/discussion section topic in order to receive full credit (with extensions). Extensions (removal of late penalties) will be applied by the end of the quarter.

BILD 1 Supplemental Instruction

What is SI? Supplemental Instruction (SI) provides an opportunity for students to actively and deeply learn course content by engaging in discussion with peers enrolled in BILD 1. These groups are not meant to be tutoring or review sessions. The Leaders prepare session plans to encourage and guide students in teaching and learning with each other. **It is offered through the Academic Achievement Hub at UC San Diego, and has a separate canvas link.** The Leaders, who have previously taken the course, will provide time and opportunity to work through more complicated concepts and problems that are associated with BILD 1. SG is a peer-led study group program that targets difficult classes. There are several study sessions (per week) outside the lecture. The sessions are designed to help with understanding content and to collaborate with peers who are also taking the course. **Studies have shown that 95% of the students who attended four or more sessions earned a higher grade in their courses and overall GPA.** SI provides you with a session to explain, explore and elaborate what you know. Simultaneously, it allows you to clarify what you might struggle to understand.

Academic Integrity <https://students.ucsd.edu/academics/academic-integrity/index.html>

Integrity of scholarship is essential for an academic community. The University expects that both students and faculty will honor this principle and in so doing protect the validity of University intellectual work. For students, this means that all academic work will be done by the individual(s) to whom it is assigned, without unauthorized aid of any kind. In this course, we need to establish a set of shared values. Following are values* adopted from the [International Center for Academic Integrity](https://www.icai.edu/), which serves as the foundation for academic integrity.

	As students we will...	As the teaching team we will...
Honesty	<ul style="list-style-type: none"> Honestly demonstrate your knowledge and abilities according to expectations listed in the syllabus or in relation to specific assignments and exams Communicate openly without using deception, including citing appropriate sources 	<ul style="list-style-type: none"> Give you honest feedback on your demonstration of knowledge and abilities on assignments and exams Communicate openly and honestly about the expectations and standards of the course through the syllabus and in relation to assignments and exams
Responsibility	<ul style="list-style-type: none"> Complete assignments on time and in full preparation for class Show up to class on time and be mentally and physically present Participate fully and contribute to team learning and activities 	<ul style="list-style-type: none"> Give you timely feedback on your assignments and exams Show up to class on time and be mentally and physically present Create relevant assessments and class activities

Respect	<ul style="list-style-type: none"> • Speak openly with one another while respecting diverse viewpoints and perspectives • Provide sufficient space for others to voice their ideas 	<ul style="list-style-type: none"> • Respect your perspectives even while we challenge you to think more deeply and critically • Help facilitate respectful exchange of ideas
Fairness	<ul style="list-style-type: none"> • Contribute fully and equally to collaborative work, so that we are not freeloading off of others • Not seek unfair advantage over fellow students in the course 	<ul style="list-style-type: none"> • Create fair assignments and exams and grade them in a fair and timely manner • Treat all students and collaborative teams equally
Trust-worthiness	<ul style="list-style-type: none"> • Not engage in personal affairs while on class time • Be open and transparent about what we are doing in class <p>Not distribute course materials to others in an unauthorized fashion</p>	<ul style="list-style-type: none"> • Be available to all students when we say we will be • Follow through on our promises • Not modify the expectations or standards without communicating with everyone in the course
Courage	<ul style="list-style-type: none"> • Say or do something when we see actions that undermine any of the above values • Accept the consequences of upholding and protecting the above values 	<ul style="list-style-type: none"> • Say or do something when we see actions that undermine any of the above values • Accept the consequences of upholding and protecting the above values

* *This class statement of values is adapted with permission from Tricia Bertram Gallant Ph.D.*

All course materials are the property of the instructor, the course, and the 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 and possibly given a score of 0.

Student Resources for Support and Learning

Academic Support

Geisel Library	Research tools and eReserves
Content Tutoring with the Teaching + Learning Commons	Drop-in and online tutoring through the Academic Achievement Hub
Supplemental Instruction with the Teaching + Learning Commons	Peer-assisted study sessions through the Academic Achievement Hub to improve success in historically challenging courses
Writing Hub Services in the Teaching + Learning Commons	Improve writing skills and connect with a peer writing mentor
Learning Strategies Tutoring	Address learning challenges with a metacognitive approach
OASIS	Intellectual and personal development support
Student Success Coaching Program	Peer mentor program that provides students with information, resources, and support in meeting their goals
Academic Integrity	Policy on Academic Integrity of Scholarship and strategies to excel with integrity
Technical Support	Assistance with accounts, network, and technical issues

Student resources

Basic Needs	Any student who has difficulty accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their academic performance, is encouraged to contact: foodpantry@ucsd.edu , basicneeds@ucsd.edu , or call 858-246-2632.
Triton Food Pantry	Emergency food relief program to provide food for students and fight food insecurity. You can get canned food, pasta, beans, and rice as well as fruit and vegetables at the pantry. foodpantry@ucsd.edu
Counseling and Psychological Services (CAPS)	Individual, group, couples, and family psychotherapy services for registered undergraduate and graduate students. Provides services like confidential counseling and consultations for psychiatric services and mental health programming
Community Centers	As part of the Office of Equity, Diversity, and Inclusion the campus community centers provide programs and resources for students and contribute toward the evolution of a socially just campus
Office for Students with Disabilities	Documents students disabilities, provides accessibility resources, and reasonable accommodations
Triton Concern Line	Report students of concern at (858) 246-1111
Blackline	Call and text support, focused on support for Black, Black LGBTQI, Brown, Native and Muslim communities for those in crisis and for reporting anti-Black encounters with police and vigilantes.
Triton transfer hub	Transfer Students: The Triton Transfer Hub is available to meet transfer students' academic, social, and personal needs. Services include 1:1 involvement and academic success support with professional staff, peer coaching, professional and academic workshops, transfer meetups, and more. Within the Triton Transfer Hub you also have access to reservable group & individual study spaces as well snacks and supplies. Take time to meet with a peer coach and learn a little more about the UCSD culture.

It is also helpful to find support and resources for your specific needs. Some of the resources here at UCSD include: APIMEDA programs and services (apimeda.ucsd.edu), the Black Resource Center (brc.ucsd.edu), the Cross-Cultural Center (ccc.ucsd.edu), the LGBT Resource Center (lgbt.ucsd.edu), the Raza Resource Center (raza.ucsd.edu), the Student-Parents Resource page (students.ucsd.edu/well-being/wellness-resources/student-parents), the Student Veterans Resource Center (students.ucsd.edu/sponsor/veterans), the Undocumented Student Services Center (uss.ucsd.edu), and the Women's Center (women.ucsd.edu)

Accessibility

<http://disabilities.ucsd.edu> | osd@ucsd.edu | 858-534-4382

Any student with a disability is welcome to contact me early in the quarter to work out accommodations to support their success in this course. Students requesting accommodations for this course due to a disability should work through the Office for Students with Disabilities (OSD). Instructors will receive Authorization for Accommodations Letters from the OSD online portal. Students are required to discuss accommodation arrangements with instructors and OSD liaisons in the department in advance of any exams or assignments. Whenever possible, we will use universal designs that are inclusive. If you have feedback on how to make the class more accessible, please get in touch!

Inclusion

<https://diversity.ucsd.edu/> | diversity@ucsd.edu | 858.822.3542

<https://students.ucsd.edu/student-life/diversity/index.html>

<https://regents.universityofcalifornia.edu/governance/policies/4400.html>

It is our goal to create a learning environment that supports diversity of thought, perspective, experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, etc.). To help accomplish this:

- If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me during office hours or by appointment. I want to be a resource for you.
- You can also submit anonymous feedback at <https://forms.gle/XiGiP8gbJzCDoYHh9> (which will lead to me making a general announcement to the class, if necessary to address your concerns). If you prefer to speak with someone outside of the course, the Office of Equity, Diversity and Inclusion (diversity@ucsd.edu) is an excellent resource.

I (like many people) am still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone) that made you feel uncomfortable, please talk to me about it. (Again, anonymous feedback is always an option.)

We encourage all of you to participate in discussion and contribute from your perspectives. As a participant in course discussions, you should also strive to honor the diversity of your classmates. If you have feedback on how to make the class more inclusive, please get in touch!

Nondiscrimination and harassment

The University of California, in accordance with applicable federal and state laws and university policies, does not discriminate on the basis of race, color, national origin, religion, sex, gender, gender identity, gender expression, pregnancy (including pregnancy, childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition, genetic information, ancestry, marital status, age, sexual orientation, citizenship, or service in the uniformed services (including membership, application for membership, performance of service, application for service, or obligation for service in the uniformed services). The university also prohibits harassment based on these protected categories, including sexual harassment, as well as sexual assault, domestic violence, dating violence, and stalking. The nondiscrimination policy covers admission, access, and treatment in university programs and activities.

If students have questions about student-related nondiscrimination policies or concerns about possible discrimination or harassment, they should contact the Office for the Prevention of Harassment & Discrimination (OPHD) at (858) 534-8298, <https://ophd.ucsd.edu/>, or <http://ophd.ucsd.edu/report-bias/index.html>

Campus policies provide for a prompt and effective response to student complaints. This response may include alternative resolution procedures or formal investigation. Students will be informed about complaint resolution options. A student who chooses not to report may still contact CARE at the Sexual Assault Resource Center for more information, emotional support, individual and group counseling, and/or assistance with obtaining a medical exam. For off-campus support services, a student may contact the Center for Community Solutions. Other confidential resources on campus include Counseling and Psychological Services, Office of the Ombuds, and Student Health Services.

- CARE at the Sexual Assault Resource Center: 858.534.5793 | sarc@ucsd.edu | <https://care.ucsd.edu>
- Counseling and Psychological Services (CAPS): 858.534.3755 | <https://caps.ucsd.edu>

Letters of recommendation

If you think you may want me to write you a letter of recommendation (or any other instructor), please consider what a good letter would contain and how your actions in the course demonstrate the qualities you will want highlighted in a good letter. When students ask me for a letter of recommendation, I ask them to write to me about how they demonstrated critical thinking, leadership, collaboration, and professionalism. I will be specifically looking for examples of these qualities that I could have noticed during lecture or discussion and student hours – because I use specific examples in letters, I only agree to write letters for students I have talked to during student hours. Be sure to actively participate in the discussions and talk to me during my student hours: ask questions, offer your own ideas; engage with the material we are studying. If you would like to request a letter, please request at this link: <https://forms.gle/JfiutS9CcuQA1rBf7>.

Subject to change policy

The information contained in the course syllabus, other than the grade and absence policies, may be – under certain circumstances (e.g. to enhance student learning) – subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Technical support

For help with accounts, network, and technical issues: <https://acms.ucsd.edu/contact/index.html>

For help connecting to electronic library resources such as eReserves and e-journals:

<https://library.ucsd.edu/computing-and-technology/connect-from-off-campus/>

Elements of this syllabus were adapted from a Winter 2021 BILD 1 syllabus provided by Dr. Melinda Owen, from the UCSD Teaching and Learning Commons, from language provided by the Triton Transfer Hub, and from Dr. Kelly Hoban and Viji Sathy's book "Inclusive Teaching: Strategies for Promoting Equity in the College Classroom"

Course Schedule

Below is the planned course schedule of topics, although this is subject to some change. I will announce any changes in advance. Each Monday please check the "Week # overview" page for details of which weekly assignments will be due, and which sections of textbook chapters to read.

All material will be covered on the final exam

Week	Date	Topic	Relevant textbook chapter
0	Class 1: Sept 29 (Fri)	Welcome to BILD 1! Nuts and bolts of the course; intro to cells	NA
1	Class 2: Oct 2nd (Mon)	Size and scale, introduction to matter and chemical bonds	2.1, 2.2
	Class 3: Oct 4 th (Weds)	Chemical bonds	2.3, 2.4
	Class 4: Oct 6 th (Fri)	Water and life, carbon	3.1, 4.1-4.3
2	Class 5: Oct 9th (Mon)	Introduction to macromolecules (DNA and RNA)	5.1, 5.5
	Class 6: Oct 11 th (Weds)	Macromolecules (proteins)	5.4
	Class 7: Oct 13 th (Fri)	Macromolecules (carbohydrates and lipids)	5.2-3
3	Class 8: Oct 16 th (Mon)	Cell structure and organization	6.2-6.8
	Class 9: Oct 18 th (Weds)	FIRST EXAM: Covers material from classes <u>1-7</u>	
	Class 10: Oct 20 th (Fri)	Membrane structure and function	7.1-7.5
4	Class 11: Oct 23rd (Mon)	Intro to metabolism	8.1-8.3
	Class 12: Oct 25 th (Weds)	Enzymes	8.4-8.5
	Class 13: Oct 27 th (Fri)	Cellular respiration part 1	9.1-9.3
5	Class 14: Oct 30 th (Mon)	Cellular respiration part 2	9.4-9.6
	Class 15: Nov 1st (Weds)	Photosynthesis part 1	-
	Class 16: Nov 3rd (Fri)	Photosynthesis part 2	10.2-10.4
6	Class 17: Nov 6th (Mon)	SECOND EXAM: Covers material from classes <u>8-14</u>	
	Class 18: Nov 8th (Weds)	Cell Signaling	11.1-11.5
	Nov 10 th (Fri)	NO CLASS (Holiday)	
7	Class 19: Nov 13 th (Mon)	Cell cycle and mitosis	12.1-12.3
	Class 20: Nov 15 th (Weds)	Meiosis	13.1-13.4
	Class 21: Nov 17 th (Fri)	Mutations and Cancer	-
8	Class 22: Nov 20 th (Mon)	Mendel and the gene idea	14.1-14.4
	Class 23: Nov 22nd (Weds)	THIRD EXAM: Covers material from classes 15-21	
	Nov 24 th (Fri)	NO CLASS (Holiday)	
9	Class 24 Nov 27 st (Mon)	Genes and the environment	-
	Class 25: Nov 29 rd (Weds)	The chromosomal basis of inheritance	15.1-15.5
	Class 26 Dec 1st (Fri)	The molecular basis of inheritance	16.1-16.3
10	Class 27: Dec 4 th (Mon)	Gene expression pt 1	17.1-17.3
	Class 28: Nov 6 th (Weds)	Gene expression pt 2	17.4, 17.5
	Class 29: Dec 8th (Fri)	Regulation of gene expression	18.2, 18.5
Final exam (cumulative): Section C00 Friday December 15 th 8:00-11:00 AM Location TBD			

University of California, San Diego
Consent to Act as a Research Subject

Assessing the Impact of the Acing Chemistry in Biology Education (AChiBE) Program

Who is conducting the study, why you have been asked to participate, how you were selected, and what is the approximate number of participants in the study?

Melinda T. Owens and Claire Meaders and their research associates are conducting a research study to find out more about how the Acing Chemistry in Biology Education (AChiBE) program affects student learning and experience in the classroom. You have been asked to participate in this study because you are a student in a class that is being studied or used as a control. There will be approximately 2000 participants in this study.

Why is this study being done?

The purpose of this study is to create knowledge that has the potential to improve the learning and educational experience of introductory biology students at UC San Diego and beyond.

What will happen to you in this study and which procedures are standard of care and which are experimental?

If you agree to be in this study, the following will happen:

- Your data from this class including grades, homework and exam submissions, and survey responses will be included in the analysis to determine the effectiveness of the AChiBE program used in this course compared to other similar courses.

How much time will each study procedure take, what is your total time commitment, and how long will the study last?

Your participation involves only agreeing to let us use your data in our analysis. It will require no time on your part above the time you put into this course without agreeing to the study.

What risks are associated with this study?

Participation in this study may involve some added risks or discomforts. These include the following:

1. A potential for the loss of confidentiality. Your instructor will render the data confidential by removing any personally identifying information before it is shared with the research team. Thus, data will only be kept in anonymized form for research purposes. No personally identifying data with people outside our research team. Your instructor will not know whether or not you are participating in this study until after the course is over and final grades are submitted. Research records will be kept confidential to the extent allowed by law. Research records may be reviewed by the UCSD Institutional Review Board.

Since this is an investigational study, there may be some unknown risks that are currently unforeseeable. You will be informed of any significant new findings.

What are the alternatives to participating in this study?

The alternatives to participation in this study are not to participate. If you choose to opt-out of participating in this research study, we will exclude your data from analysis. Whether you participate will have no impact on your experience or grade in the associated class as your professor will not know who is or is not participating in the study until after the term is over.

What benefits can be reasonably expected?

There is no direct benefit to you for participating in the study. The investigator, however, may learn more about how to improve student learning, and society may benefit from this knowledge.

Can you choose to not participate or withdraw from the study without penalty or loss of benefits?

Participation in research is entirely voluntary. You may refuse to participate or withdraw or refuse to answer specific questions on a survey or questionnaire at any time without penalty or loss of benefits to which you are entitled, like grades. If you decide that you no longer wish to continue in this study at any time, simply respond to the online opt-out form here: [link to course-specific opt-out form].

You will be told if any important new information is found during the course of this study that may affect your wanting to continue.

Can you be withdrawn from the study without your consent?

The PI may remove you from the study without your consent if the PI feels it is in the best interest of the study, for example if there is incomplete data or plagiarized responses. You may also be withdrawn from the study if you do not follow the instructions given you by the study personnel.

Will you be compensated for participating in this study?

You will not be compensated for participating in this study.

Are there any costs associated with participating in this study?

There will be no cost to you for participating in this study.

Who can you call if you have questions?

Melinda Owens, Claire Meaders, or one of their associates has explained this study to you and answered your questions. If you have other questions or research-related problems, you may reach Melinda Owens at mtowens@ucsd.edu or (415) 290-8853.

You may call the Human Research Protections Program Office at 858-246-HRPP (858-246-4777) to inquire about your rights as a research subject or to report research-related problems.

Your Consent

If you consent to participate in this study, no action is needed. If you **do not** consent to participate in this study, or you choose to opt-out at any time during the quarter, please submit [this form online](#). Your instructor will not have access to the list of students who opted out until after the term is over.