

# WELCOME TO BILD 2: MULTICELLULAR LIFE!

## WINTER 2022 UC SAN DIEGO

### COURSE INFORMATION

Lecture Time & Location: TATA 3201 Tues/Thurs 9:30 am – 10:45 am

*\*Note: due to the current COVID surge due to the omicron variant the first 2 weeks of the quarter will be remote\**

Time & Location of Discussion Sections:

D01	University Center 301 Rm 122	Monday	8:00 – 8:50 pm
D02	AP&M Rm 2301	Monday	9:00 – 9:50 am
D03	Mandeville Rm B-104	Wednesday	8:00 – 8:50 am
D04	Mandeville Rm B-104	Wednesday	9:00 – 9:50 am
D05	Mandeville Rm B-104	Wednesday	10:00 – 10:50 am

### Instructional Team

Lecture: Steven W. Miller, Ph.D. email: [swmiller@ucsd.edu](mailto:swmiller@ucsd.edu) or use Inbox in Canvas

Twitter: @NaturallySteve

Office Hours: T/Th 11:00 – 11:50 am via Zoom during the first two weeks. TBD for weeks 3-10.

Discussion Sections:

D01	Sharon Lau	<a href="mailto:shlau@ucsd.edu">shlau@ucsd.edu</a>	OH: Tues 12 – 12:50 pm
D02	Matthew Clifton	<a href="mailto:mclifton@ucsd.edu">mclifton@ucsd.edu</a>	OH: Wed 12 – 12:50 pm
D03	Titania Huang	<a href="mailto:t6huang@ucsd.edu">t6huang@ucsd.edu</a>	OH: Wed 4 – 4:50 pm
D04	Katya Marchetti	<a href="mailto:kmarchet@ucsd.edu">kmarchet@ucsd.edu</a>	OH: Wed 2 – 2:50 pm
D05	Joyce Kim	<a href="mailto:jmk003@ucsd.edu">jmk003@ucsd.edu</a>	OH: Mon 3 – 3:50 pm

### Course Materials

Textbook: Lecture content is significantly based upon information contained in either of the two recommended textbooks for this course.

[Biology 2e by OpenStax](#). Available online, as a free pdf, app, or as hardcover textbook for purchase.

Campbell Biology from Pearson Publishing (8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, or 11<sup>th</sup> editions are fine).

## ABOUT BILD2

BILD 2 is an introduction to the development and the physiological processes of animals and plants. In this course, you will deepen your understanding of multicellular organisms, including yourself, by exploring the role of the molecules, cells, tissues, organs, and organ systems that underlie health and disease.

This course 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.

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. You will also have the opportunity to practice scientific writing skills through numerous writing assignments and in-class activities.

**Prerequisite:** BILD 1 or an equivalent course from another college (see <http://web2.assist.org/web-assist/UCSD.html>)

## LEARNING IN BILD2

We anticipate that you will learn many different things in BILD 2! Because of the way we have designed the course, we anticipate that what you will be able to do by the end of the quarter includes, but is not limited to, the following:

- **Demonstrate an understanding of the physiology and basic regulatory concepts** related to the function of the organ systems discussed in this course and the mechanisms that allow organisms to carry out those functions.
- **Predict how a perturbation** of a molecule, cell, tissue, organ, or organ system (like through a disease or experimental manipulation) **will affect its function** and the function of the organism as a whole.
- **Demonstrate a mechanistic (how) and teleologic (why) understanding** of the physiological processes underlying multicellular organisms.
- **Develop critical thinking skills** to be able to think like a biologist and **solve physiologically-relevant problems**.
- **Increase your understanding of your own learning (metacognition)**, including recognizing what topics are easy or difficult for you to learn, learning what study strategies work best for you, and seeking help from instructors and colleagues at appropriate times.

All exam questions, 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.

Note on electronic devices

If necessary, you are welcome to bring laptops or other devices to lecture to take notes. However, research shows that “multi-tasking” on computers is likely to decrease not only your grade but also the grades of people around you who can see your screen!<sup>1</sup> For this reason, we ask that you do not flip between lecture notes and the internet unless as part of an in-class activity. The use of cell phones, computers, or any other electronic devices is not permitted during exams; using such a device during an exam is grounds for receiving a failing grade.

<sup>1</sup> Sana *et al.* 2013. Laptop multitasking hinders classroom learning for both users and nearby peers. <https://www.sciencedirect.com/science/article/pii/S0360131512002254>

## GRADING

The activities, requirements, and assignments that comprise this course are designed to **promote your learning** and facilitate your understanding of biology from different viewpoint and using many different teaching methods. In addition, these assignments give me highly valuable information that allows me to adjust the course to meet your educational needs.

### How your letter grade will be determined

Grade assignments will be based on the percentage of total points earned. We do not decide your grade, but rather **you as a student do the work to earn your grade.**

%	Grade	%	Grade	%	Grade	%	Grade
>97	A+	86-90	B+	74-78	C+	55-65	D
93-97	A	82-86	B	69-74	C	<55	F
90-93	A-	78-82	B-	65-69	C-		

### GRADE COMPONENTS

4 Midterms (lowest score dropped)	30% (10% each)
Final Exam	30%
Canvas Content Quizzes	10%
Homework/Reflection	12%
Final Assignment	10%
Discussion Attendance/Participation	5%
Professionalism	3%
Lecture Attendance/Participation	up to 3% bonus

### Canvas Content Quizzes

These quizzes will be used to encourage you to review and practice the week’s content, consisting primarily of multiple-choice questions. Students will be allowed 2 attempts, with only the highest score counting.

### Homework/Reflection

These weekly activities to supplement lecture will consist of short writing or reflection based upon the lecture content and will be graded upon timely completion unless otherwise specified.

### Final Assignment

The final assignment is designed to promote creative expression while demonstrating conceptual understanding of the course material. The basic theme is imaginary organisms adapted to extreme environment. Refer to assignment instructions posted on Canvas.

#### Exams (4 total, lowest exam score dropped)

Each midterm will consist of multiple choice and free response questions designed to enable students to demonstrate content knowledge and conceptual understanding to novel scenarios. Additional exam details will be provided depending upon the extent of remote learning for Winter 2022.

#### Discussion Section Attendance/Participation

Weekly discussion sections are designed to **engage you in applying your knowledge and exercising your skills** in collaborative problem solving and data analysis. Therefore, part of your score will depend on attendance and participation in section. The first sections will meet the 1st week of class (**week of Jan 3rd**). Similar to lecture participation and attendance, attending at least 80% of sections (8/10) will award you full section participation scores.

#### Professionalism

This portion of the course grade is intended to motivate you to **consider the impact of your actions on your own learning and the learning of others** in the course. Unprofessional interactions consume time yet have no meaningful benefits to you, your fellow students, and/or the teaching team. Analogously in the workplace, being unprofessional to your colleagues or supervisors will only discount you. When you are discounted, you will not be invited for new opportunities that you may or may not be aware of. Professionalism can be demonstrated through individual (described here) and community efforts (described below). The individual component is to account for you personally demonstrating maturity and professionalism.

**By default, everyone is assumed to be professionally mature**, so this component is automatically awarded to you at the beginning of the quarter. During the quarter, based on observations by the teaching team, including but not limited to one-on-one interactions, electronic communication, and follow-up conversations on grades, **your professionalism credit may be deducted** in steps of 1%.

Examples of 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
- Clarifying course material that facilitates deeper learning
- Learning conceptually and meaningfully why full credit was not awarded for an assignment
- Reporting errors or problems in class, on assignments, or other course material

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

- 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
- Asking for course credit when such credit would conflict with stated course policies (such as the policy on late assignments) or when it would be applied inequitably (such as just for you)
- Being disruptive to fellow students in class, in discussion section, or on exams

## **COURSE SCHEDULE OF TOPICS**

Week	Date	Lecture Topic	Reading
1	4-Jan	Introduction/BILD1 review	
	6-Jan	Unit 1.1 - Reproduction	OpenStax Ch 43; Campbell Ch 46
2	11-Jan	Unit 1.2 - Development	OpenStax Ch 43; Campbel Ch 47
	13-Jan	Unit 1.3 - Cancer	OpenStax Ch 10.4, 16.7; Campbell Ch 12.3, 18.5
3	18-Jan	Unit 2.1 - Homeostasis/Metabolism	OpenStax Ch 33; Campbell Ch 40
	20-Jan	<b>Exam 1</b>	
4	25-Jan	Unit 2.2 - Organ Systems	OpenStax Ch 34.1, 35.1, 39.1, 40.1, 41.1, 41.3, 42.1; Campbell Ch 41.1&2, 42.1&5, 43.1, 44.1-2
	27-Jan	Unit 2.3 - Hormones	OpenStax Ch 37; Campbell Ch 45
5	1-Feb	Unit 3.1 - Nutrition/Digestion	OpenStax Ch 34; Campbell Ch 41
	3-Feb	<b>Exam 2</b>	
6	8-Feb	Unit 3.2 - Water Balance	OpenStax Ch 41; Campbell Ch 44
	10-Feb	Unit 3.3 - Plant Transport	OpenStax Ch 30.5; Campbell Ch 36
7	15-Feb	Unit 4.1 - Nerves/Muscles	OpenStax Ch 35; Campbell Ch 48
	17-Feb	<b>Exam 3</b>	
8	22-Feb	Unit 4.2 - Nerves/Muscles pt 2	OpenStax Ch 38; Campbell Ch 50
	24-Feb	Unit 4.3 - Sensory Systems	OpenStax Ch 36; Campbell Ch 49
9	1-Mar	Unit 5.1 - Circulation/Respiration	OpenStax Ch 39, 40; Campbell Ch 42
	3-Mar	<b>Exam 4</b>	
10	8-Mar	Unit 5.2 - Immune System	OpenStax Ch 42; Campbell Ch 43
	10-Mar	What have we learned? Final Assignments	
11	15-Mar 8:00 am - 11:00 am	<b>Final Exam (cumulative)</b>	

## **EDI & PRINCIPLES OF COMMUNITY**

### Diversity and equity statement

It is important for us to make sure that how we teach this course and how we accommodate different student needs reflects the differences of race, ability, sexual orientation, age, and gender identity that enrich our classroom experience and campus. If you have any concerns related to diversity and equity in the course, please contact the instructor.

### UC San Diego Principles of Community (<https://ucsd.edu/about/principles.html>)

As we continue to confront the senseless killings of Breonna Taylor, Ahmaud Arbery, George Floyd and many others, we would like to remind everyone of UC San Diego's Principles of Community. Our campus consists of diverse communities, and we acknowledge that our society carries biases based upon race, ethnicity, sex, gender, and multiple other dimensions. We reject acts of discrimination based on race, ethnicity, sex, gender identity, age, disability, sexual orientation, religion, and political beliefs and will confront and appropriately respond to such acts. We also affirm the right to freedom of expression and promote the open expression of our individuality and diversity within the bounds of respect, courtesy, confidentiality, and sensitivity. Above all, we are committed to the highest standards of civility and decency for everyone because we are supporting and promoting a community in which all people can work and learn together in an atmosphere free of demeaning or abusive treatment. If you have any concerns about what you have experienced in this course, please contact the instructor and/or consider using the resources given below.

### Discrimination and harassment

The Office for the Prevention of Harassment & Discrimination (OPHD) aids students, faculty, and staff regarding reports of bias, harassment, and discrimination. OPHD is the UC San Diego Title IX office. Title IX of the Education Amendments of 1972 is the federal law that prohibits sex discrimination in educational institutions that are recipients of federal funds. Students have the right to an educational environment that is free from harassment and discrimination.

Students have options for reporting incidents of sexual violence and sexual harassment. Sexual violence includes sexual assault, dating violence, domestic violence, and stalking. Information about reporting options may be obtained at OPHD at 858-534-8298, [ophd@ucsd.edu](mailto:ophd@ucsd.edu), or <http://ophd.ucsd.edu>. Students may receive confidential assistance at CARE at the Sexual Assault Resource Center at 858-534-5793, [sarc@ucsd.edu](mailto:sarc@ucsd.edu), or <http://care.ucsd.edu>, or Counseling and Psychological Services (CAPS) at 858-534-3755 or <http://caps.ucsd.edu>.

Students may feel more comfortable discussing their particular concern with a trusted employee. This may be a student affairs staff member, a faculty member, a 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. The university is committed to upholding policies regarding nondiscrimination, sexual violence, and sexual harassment.

## STUDENT RESOURCES

### ACADEMIC SUPPORT

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

### STUDENT RESOURCES

<a href="#">Basic Needs</a>	Provides access to food, housing, and financial resources
<a href="#">Counseling and Psychological Services (CAPS)</a>	Provides services like confidential counseling and consultations for psychiatric services and mental health programming
<a href="#">Community Centers</a>	As part of the <a href="#">Office of Equity, Diversity, and Inclusion</a> the campus community centers provide programs and resources for students and contribute toward the evolution of a socially just campus
<a href="#">Office for Students with Disabilities</a>	Documents student disabilities, provides accessibility resources, and reasonable accommodations
<a href="#">Triton Concern Line</a>	Report students of concern at (858) 246-1111
<a href="#">Office of the Ombuds</a>	The Office of the Ombuds provides a confidential, safe space for students, staff, and faculty to talk about concerns and problem-solve issues arising from interpersonal and group conflict.

## DISCRIMINATION 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](mailto:sarc@ucsd.edu) | <https://care.ucsd.edu>

Counseling and Psychological Services (CAPS): 858.534.3755 | <https://caps.ucsd.edu>

## **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 faculty and students 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. Anyone caught cheating (includes plagiarizing lab reports, copying homework answers, cheating on a test, or changing an answer for a re-grade) will be reported to the Academic Integrity Office.



## **CAMPUS SAFETY REQUIREMENTS AND EXPECTATIONS**

Keeping our campus healthy takes all of us. You are expected to follow the [campus safety requirements](#) and pursue personal protection practices to protect yourself and the others around you. These include:

Participate in the university's daily screening process.

Everyone must complete a [Daily Symptom Survey](#) to access a university-controlled facility.

Participate in the university's testing program.

All students are required to participate in the [COVID-19 Testing program](#) as required by their vaccination status:

- Unvaccinated students with approved exceptions must complete a COVID-19 test twice a week.
- Students who are fully vaccinated must complete a COVID-19 test once a week, for the first four weeks of the quarter.
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Wear a well-fitted face covering that covers your nose and mouth at all times.

Everyone is required to [wear face coverings indoors](#) regardless of vaccination status. If you see someone not wearing a face covering or wearing it incorrectly, then kindly ask them to mask up.

Monitor the daily potential exposure report.

Every day the university will update the potential exposure report with building and some classroom information and the dates of exposure. Download the [CA COVID Notify app](#) to your phone to receive an alert if you have been potentially exposed to COVID-19.

Assist in the contact tracing process.

If you're contacted by a case investigator, it means you have been identified as [close contact](#), please respond promptly. You must assist with identifying other individuals who might have some degree of risk due to close contact with individuals who have been diagnosed with COVID-19.

Contact the instructional team if you are impacted by COVID-19

Please note that due to the ongoing COVID-19 Pandemic, changes may be made in response to new developments and information.

## PRIVACY PRACTICES IN THIS COURSE

This course is a community built on trust; as a learning community, we are collectively responsible for upholding privacy protections. In order to create a community built on trust and the most effective learning experience, our interactions, discussions, and course activities must remain private and free from external intrusion. We have obligations to each other to preserve privacy and cultivate fearless inquiry. We respect the individual dignity of all and will refrain from actions that diminish others' ability to learn.

As your instructor, I am committed to protecting your privacy by only using university-approved course technologies and adhering to the Family Educational Rights and Privacy Act (FERPA) [link to your location's FERPA notice] and Campus Privacy Office guidelines. This includes using your educational data only as allowed by FERPA, for example, for legitimate educational purposes such as submitting your final grades to the registrar's office. Communications in this course are subject to the [UC Principles of Community](#) and the [Electronic Communications Policy](#).

### **Please note the following privacy practices for our course:**

Course platform. This course uses Canvas, which collects information about your engagement with course materials. I will review this information periodically to ensure students are engaged and look for signs of students falling behind. I will also review this information in case of academic misconduct allegations, if relevant.

Online/video classes. Regarding video-conferencing, while I ask, to the extent you are comfortable and able, that you keep your videos on during lessons to aid in the development of our learning community, I also understand that may not always be possible. Know that you will not be penalized for choosing to disable your video during synchronous course sessions. You are welcome to use an appropriate virtual background if you do not want to have your surroundings visible. Be mindful of others who may not wish to be visible or recorded in the background.

You may use your name or a pseudonym on Zoom. Pseudonyms may only be used on this platform with my prior approval. Students with an official FERPA block on directory information with the registrar are not required to use their name or camera during online classes.

Using learning materials. Course materials (videos, assignments, problem sets, etc.) are for use in this course only. You may not upload them to external sites, share with students outside of this course, or post them for public commentary without my written permission. We will not pin or take screenshots of fellow classmates or record sessions during synchronous online sessions or share discussion thread posts from the learning management system unless granted explicit permission to do so. Unauthorized sharing or uploading to exam questions, test answers, or summaries of exams is prohibited.

Using live class recordings. We are recording class meetings to support remote students and to provide everyone in the class with useful study aids. These recordings will be available for review through our learning management system. Students are prohibited from recording the class themselves unless a student has an approved academic accommodation for such recording. The university strictly prohibits anyone from duplicating, downloading, or sharing live class recordings with anyone outside of this course, for any reason.

Sharing student information. You may work on group projects with other students or be asked to review or respond to their work. Other materials and activities may provoke debate, argument, or spirited discussion; some of us may volunteer sensitive personal information. Do not share others' personal information, including class dialogue or performance, on sensitive topics outside of our course community. Student work, discussion posts, and all other forms of student information related to this course should be handled with respect and remain within interactions of this course. You may publicly post your own work, provided it does not violate academic dishonesty policies or show responses to assessments; public posting of group work requires consent from all group members. Research conducted as part of a class is subject to UC research policies and may include sensitive information. Students may not share research information without permission from the instructor.

Sharing course information with others. Do not post images or identifiable conversations that occur in class to social media or to those beyond our learning community. Sharing private information about our course community (including discussions, activities, presentations, student work, etc.) with others for the purpose of inviting external attention, intrusion, ridicule, or harassment is an egregious breach of trust. Violating these principles will be handled according to the [link to applicable academic honor code].

If you have concerns after reviewing these privacy, I invite you to reach out to the instructor.