"Knowing how to think empowers you far beyond those who know only what to think."
– Neil deGrasse Tyson

Course Information

Course Description	BILD 4 is designed to be a collaborative environment for everyone to learn together and construct a shared understanding of the material. Active participation and contribution in classes and in the laboratory are essential because many ideas and laboratory methods that will be developed in these activities cannot be easily captured otherwise. Being able to communicate understanding, articulate confusion, and defend scientific arguments based on evidence and reasoning is both useful for learning and critical to success in any discipline. To encourage collaboration and community building, many class and laboratory 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. Laboratory reports and the research proposal will challenge us to think critically about data and experiments.
Credits	2
Instructor	Prof. Keefe Reuther Email address: kdreuther@ucsd.edu (**please put BILD 4 in the subject line**)
Synchronous Course Elements	Lectures: Monday 6:30pm-7:50pm YORK 2622 (all lectures will be recorded for both synchronous and asynchronous remote viewing) Labs: Your registered lab time (see next table) including some group work, some writing assignments and other assessments and projects.
Asynchronous Course Elements	Quizzes, readings, some group work, some writing assignments and other assessments and projects.

INSTRUCTIONAL ASSISTANTS AND LABORATORY SECTION TIMES::

Section #	Days	Time	Room	IA's
C01	Tu	1p-3:50p	TATA 2301	Yuwei & Mohnish
C02	Tu	1p-3:50p	TATA 2302	Kaili & Mohnish
C03	Tu	1p-3:50p	TATA 2303	Allison & Maddie
C04	Tu	1p-3:50p	TATA 2304	Sagar & Maddie
C05	Th	1p-3:50p	TATA 2301	Yuwei & Mohnish
C06	Th	1p-3:50p	TATA 2302	Kaili & Mohnish
C07	Th	1p-3:50p	TATA 2303	Allison & Maddie
C08	Th	1p-3:50p	TATA 2304	Sagar & Maddie

Instructional Assistants:

Name	email
Yuwei	yuc408@ucsd.edu
Kaili	kminouye@ucsd.edu
Allison	akifer@ucsd.edu
Sagar	sjparikh@ucsd.edu
Maddie	mobrown@ucsd.edu
Mohnish	malishal@ucsd.edu

Typical Weekly Responsibilities – CHECK THE COURSE CANVAS HOME TAB! This table is NOT comprehensive		
WHAT?	**WHERE?**	**WHEN?**
Going to lecture	York 2622 & Zoom (live) Weekly Canvas module (if you watch it later)	Monday 6:30-7:50pm
Lab Meeting	Zoom LTI Pro on Canvas	Your scheduled lab time. Activities will require live discussion, active participation and small group work. **MANDATORY**
Pre-lab Assignments	Weekly Module and Discussions	Due before your scheduled lab section
Research notebook	Canvas Research Notebooks	Finished within 48 hours of your lab.
Quizzes	Weekly Modules	TBA on Canvas
Writing Assignments	Weekly Modules	TBA on Canvas

LEARNING OUTCOMES:
- Collaborate with one another to learn foundation biological concepts and laboratory skills.
- Apply knowledge of molecular biology concepts and molecular techniques to plan experiments, explain and troubleshoot results.
- Demonstrate proficiency at the basic molecular biology techniques used in the lab.
- Explain the importance of proper controls in designing experiments and interpreting results.
- Perform basic lab math skills, statistical analysis, and graphing.
- Draw conclusions based on evidence and reasoning.
- Use basic bioinformatics databases and applications.
- Find, read, and evaluate primary literature.
- Collaborate with one another to learn foundation biological concepts and laboratory skills.

CONTACT: The best way to contact me is by email: kdreuther@ucsd.edu. On all emails PLEASE put BILD 4 in the subject line to indicate that the email pertains to this course. If you email about anything regarding your status in the course, please include your UCSD username, and PID. If you have questions about course content, it is often faster to email your IA directly.

EQUIPMENT: The lab manual and all pertinent documents will be posted on Canvas. You must have your own lab coat and goggles for the course.

WEBSITE: Everything related to the class is kept on the Canvas site (https://Canvas.ucsd.edu/webapps/login/). **Announcements** of exam room changes and many other important matters will be posted on the Canvas site. Check the site often! **All grades will be posted on Canvas.**

GRADING:

BILD 4 has five grading components: contribution (12%), writing assignments (28%), quizzes (28%), final project presentation (28%), and professionalism (4%). These five grading components add up to 100%, and final grades will be determined based on percentages out of 100%. There are no opportunities for extra credit beyond what is assigned as part of the course.

The general grading scheme is as follows, although it may be adjusted to improve everyone's grades if necessary. BILD 4 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+	96-100%	B+	87-90%	C+	77-80%	D+	67-70%	F	0-60%
A	93-96%	B	83-87%	C	73-77%	D	63-67%		
A-	90-93%	B-	80-83%	C-	70-73%	D-	60-63%		

Contribution: Active participation both in lecture and laboratory sections is essential to learning in this course. There will be many contribution items, including pre-laboratory assignments, synchronous and asynchronous discussions and activities, laboratory notebooks and data collection. Contributions will be graded for thoughtful completion. 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. 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, every student in the course will be awarded 2 additional contribution points.

Writing assignments: There will be 3-4 writing assignments. The 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 on these assignments.

Quizzes: There will be short quizzes given every other week. Quizzes focus on material covered during the previous 2 weeks in lecture and lab. The lowest quiz score of the quizzes will be dropped. The last quiz given during the last lecture will be cumulative and cannot be dropped. A study guide will be provided for this final quiz.

Poster project and final report: The final course project will be on a hypothetical experiment of your group's design. This will involve finding an experiment and using that as inspiration for your own project. Please see Canvas throughout the quarter for more details on these assignments.

Professionalism: All problem sets, mini-papers and exams MUST be original and completed on your own, without the help of other students or from work posted illegally on websites specific to this course (i.e. contract cheating). Group work is only acceptable when explicitly noted. All problems sets/assignments/exam/etc. are otherwise open book/note/internet.

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 individually demonstrating maturity and professionalism, as well as contributing meaningfully to our online. 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, following deadlines, and follow-up conversations on grades, your professionalism credit may be deducted.

Example interactions with meaningful benefits:
- Following the course and university rules of Academic Integrity
- 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
- Completing the work expected of you by posted deadlines
- Keeping up with reading information distributed by the instructor and IA's

Example interactions that have no meaningful benefits and thus should be avoided:
- Harassing and/or bullying the instructional team or other students.
- Asking questions when the information is already available or will eventually be known
- Ignoring the directions or requests from the instructional team

Additional enrollment and waitlist policies are available online
(https://biology.ucsd.edu/education/undergrad/course/waitlist.html).

Late or missing assignments:
No late contribution items will be accepted, as completing 90% of all the contribution items will earn the full contribution grade. No late assignments will be accepted for the writing assignments or the poster project, except in the case of an emergency. In this case, please contact Dr. Reuther as soon as possible or as soon as it is reasonable to do so. SERIOUSLY - no matter what, please email me! I want you to get all the points you deserve.

Group work:
A major goal of the course is to learn to collaborate with others. Unfortunately, despite best efforts and intentions, groups 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 group work as part of the university learning community. If significant disputes occur over the relative contribution of individual members of the group, please bring them up with Dr. Reuther.

OVERALL COURSE EXPECTATIONS

What you can do to support your success in the course:	What I will do to support your success in the course:
Read the syllabus and stay current with course information	Be prepared and bring my enthusiasm for teaching to each session. Provide all materials and course information in the time you need it.
Keep up with readings and lab assignments, as each one builds on the previous one.	Respond to emails within one working day, and provide timely feedback on assignments / submissions.

Contribute to the learning environment with [fairness, cooperation, and professionalism](#)	Establish a learning environment with fairness, cooperation and professionalism, and will take action if these principles are violated.
Treat your classmates, instructional assistants and myself [honestly and ethically](#)	Treat you honestly and ethically, and will address any concerns you might have
Commit to excel with integrity. Have the courage to act in ways that are honest, fair, responsible, respectful & trustworthy. Please read UC San Diego's [Policy on Integrity of Scholarship](#) and take the [integrity pledge](#)!	Uphold integrity standards and create an atmosphere that fosters active learning, creativity, critical thinking, and honest collaboration.
Manage your time, so you can stay on track with the course and complete tasks on time	Only assign work that is vital to the course, and will work to meet the standard credit hour allotment for the course.
Communicate with me if you determine that a deadline cannot be met due to extenuating circumstances	Consider requests for adjustments and will make reasonable exceptions available to all students when approved

TECHNICAL SUPPORT

First, check the list of video help guides on Canvas to see if your question is addressed. For help with using RStudio or Jupyter Notebooks, please contact your Instructional Assistant.

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/

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:
- o Unvaccinated students with approved exceptions must complete a COVID-19 test twice a week.

o   Students who are fully vaccinated must complete a COVID-19 test once a week, for the first four weeks of the quarter.

o

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.

CAMPUS POLICIES

- **[UC San Diego Principles of Community](#)**
- **[UC San Diego Policy on Integrity of Scholarship](#)**
- **[Religious Accommodation](#)**
- **[Nondiscrimination and Harassment](#)**
- **[UC San Diego Student Conduct Code](#)**

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.

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

Learning and Academic Support	
Ask a Librarian: Library Support *Chat or make an appointment with a librarian to focus on your research needs* **Course Reserves, Connecting from Off-Campus and Research Support** *Find supplemental course materials* **First Gen Student Success Coaching Program** *Peer mentor program that provides students with information, resources, and support in meeting their goals* **Office of Academic Support & Instructional Services (OASIS)** *Intellectual and personal development support*	**Writing Hub Services in the Teaching + Learning Commons** *One-on-one online writing tutoring and workshops on key writing topics* **Supplemental Instruction** *Peer-assisted study sessions through the Academic Achievement Hub to improve success in historically challenging courses* **Tutoring – Content** *Drop-in and online tutoring through the Academic Achievement Hub* **Tutoring – Learning Strategies** *Address learning challenges with a metacognitive approach*

Support for Well-being and Inclusion	
Basic Needs at UCSD *Any student who has difficulty accessing sufficient food to eat every day, or who lacks a safe and stable place to live is encouraged to contact:* foodpantry@.ucsd.edu	basicneeds@ucsd.edu	(858) 246-2632 **Counseling and Psychological Services** *Confidential counseling and consultations for psychiatric service and mental health programming* **Triton Concern Line** *Report students of concern:* (858) 246-1111 **Office for Students with Disabilities (OSD)** *Supports students with disabilities and accessibility across campus*	**Community and Resource Centers** **Office of Equity, Diversity, and Inclusion** *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* (858).822-.3542	diversity@ucsd.edu **Get Involved** *Student organizations, clubs, service opportunities, and many other ways to connect with others on campus* **Undocumented Student Services** *Programs and services are designed to help students overcome obstacles that arise from their immigration status and support them through personal and academic excellence*

PRIVACY PRACTICES IN THIS COURSE

(From https://cio.ucop.edu/privacy-tips-for-your-syllabus/)

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) https://catalog.ucsd.edu/about/policies/notification-of-rights/index.html 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.

Please note the following privacy practices for our course:

Course platform. This course uses Canvas, Datahub, Zoom, and Gradescope, 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.

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.

<u>Sharing course information with others.</u> 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.

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

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 class and office hours. Be sure to actively participate in the discussions, talk to me during the lab and my office hours: ask questions, offer your own ideas and interpretations of your results, bring interesting facts/papers that are connected to the material we are studying. If you don't actively show the qualities that are needed to write a good letter, it will be hard for me to write a letter that is meaningful and useful.

SUBJECT TO CHANGE POLICY
Due to unforeseen circumstances, minor aspects of this syllabus may change. This includes changes to scheduling, grading values, and policy. It is the responsibility of the instructor and instructional assistants to announce changes with reasonable notice in multiple formats (e.g. lecture and Canvas announcements, email, etc.). It is the responsibility of the student to make note of these changes and communicate with the instructor if you have questions or concerns about the changes.