

“I never want you to quote me citing my authority as a scientist for your knowing something. If that's what you have to resort to I have failed as an educator.” – 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) |
| Course Format | This is a remote course with all elements conducted online via the course Canvas page (canvas.ucsd.edu) and Zoom |
| Synchronous Course Elements | Lectures: Monday 5-6:20pm (all lectures will be recorded for later viewing) Labs: Your registered lab time (see next table) |
| Asynchronous Course Elements | Quizzes, readings, some group work, writing assignments and other assessments and projects. |

INSTRUCTIONAL ASSISTANTS AND LABORATORY SECTION TIMES::

| Section # | Days | Time | IA's |
|-----------|------|----------|---------------------|
| C01 | Tu | 1p-3:50p | Randy & Khai |
| C02 | Tu | 1p-3:50p | Nisan & Khai |
| C03 | Tu | 1p-3:50p | Jiyoung & Shreyana |
| C04 | Tu | 1p-3:50p | Yu-Chieh & Shreyana |
| C05 | Th | 1p-3:50p | Randy & Khai |
| C06 | Th | 1p-3:50p | Nisan & Khai |
| C07 | Th | 1p-3:50p | Jiyoung & Shreyana |
| C08 | Th | 1p-3:50p | Yu-Chieh & Shreyana |

Instructional Assistants:

| Name | email |
|----------|-------------------|
| Randy | r1tsai@ucsd.edu |
| Nisan | nsverma@ucsd.edu |
| Jiyoung | jiy259@ucsd.edu |
| Yu-Chieh | yul700@ucsd.edu |
| Khai | khd004@ucsd.edu |
| Shreyana | shbolled@ucsd.edu |

Typical Weekly Responsibilities - CHECK THE COURSE CANVAS HOME TAB! This table is NOT comprehensive

| WHAT? | WHERE? | WHEN? |
|-----------------------------|---|--|
| Going to lecture | Zoom (live) Weekly Canvas module (if you watch it later) | Shown live Monday 5-6:20pm for active participation. Can watch cloud recording later. |
| Lab Meeting | Zoom LTI Pro on Canvas | Your scheduled lab time unless you have a conflict. Activities will require live discussion, active participation and small group work. MANDATORY |
| Pre-lab Assignments(if any) | Weekly Module and Research Notebooks | |
| 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.

TEXTBOOK: The lab manual and all pertinent documents will be posted on Canvas.

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 (20%)**, **writing assignments (25%)**, **quizzes (30%)**, **combined poster presentation and writing assignment (20%)**, and **professionalism (5%)**. 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+ | 97-100% | B+ | 87-90% | C+ | 77-80% | D+ | 67-70% | F | 0-60% |
| A | 93-97% | 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 throughout the year. Quizzes focus on material covered during the previous 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 designing a new experiment as a "future direction." It has two parts: a group poster presentation (10% of course grade) and a group poster pdf handout (10% of course grade). 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 85% 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 a documented short-term illness or serious family emergency. In this case, please contact Dr. Reuther as soon as possible or as soon as it is reasonable to do so.

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 functionally 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.

ACADEMIC INTEGRITY

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

Students are expected to do their own work, as outlined in the UCSD Policy on Academic Integrity. Academic misconduct is broadly defined as any prohibited and dishonest means to receive course credit, a higher grade, or avoid a lower grade. Academic misconduct misrepresents your knowledge and abilities, which undermines the instructor's ability to determine how well you're doing in the course. Please do not risk your future by cheating.

Students suspected of AI violations on exams will be invited to Zoom follow-up meetings where they will be asked to (in real time, on video) justify their answers (before the graded exams or solutions are released). If the instructor isn't convinced during the meeting, or the student refuses to participate, they're submitted for AI violations.

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](#), which serve 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 on our teams ● 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 |
| Trustworthiness | <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 Not distribute course materials to others in an unauthorized fashion | <ul style="list-style-type: none"> ● Be available to all students when we say we will be ● Follow through on our promises ● 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 | Provides access to food, housing, and financial resources |
| Counseling and Psychological Services (CAPS) | 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 |

| | |
|---|--|
| Counseling and Psychological Services | Individual, group, couples, and family psychotherapy services for registered undergraduate and graduate students |
| 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 |

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 | <https://care.ucsd.edu>

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

CHILDREN AND VIDEO SESSIONS

You are welcome to have children with you during video sessions as I fully understand that childcare situations may be complicated for many of us at this time. Do your best to participate and engage, but also please get in touch with me if you have any questions or concerns.

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 lab/lecture and office hours. Be sure to actively participate in the discussions, talk to me during the lab/lecture 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.

Therefore, in order to ensure I am able to write substantive, insightful, and informative letters, I am only able to potentially write letters for students who fit the following criteria:

- If you are applying for an undergraduate grant/job/program:
 - You must have received at least a “B-” grade in one of my courses or be actively enrolled and passing one of my courses.
 - You must have met with me more than once outside of class (e.g. office hours/Coffee with a Prof) OR the letter is more than 2 months from being due and we can schedule at least one significant meeting.
- If you are applying for a post-graduate program (e.g. med school, post-bacc program)
 - You must satisfy ONE of the following criteria:
 - You received an “A-” or higher in one course.
 - You took more than one class with me and demonstrated clear improvement.
 - You worked with me as an Instructional Assistant or in some other professional capacity.
 - AND you must ALSO satisfy ONE of the following criteria:
 - We have met and talked multiple times in a way where I was reasonably able to assess your potential for your applied program. Examples include office hours, IA meetings, or Coffee-with-a-prof.
 - The due date for the letter is greater than one academic quarter away and you commit to meeting with me at least once to have a formal conversation.

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/>

Student Resources

UCSD provides online academic support, such as tutoring and writing support, during remote instruction. Other resources such as mental health, technology, food insecurity, are also available for addressing student needs that may have increased due to the pandemic.

This document contains these and other links to support and resources students may be unsure how to access in the remote environment.

Virtual Campus, general links for students (and faculty) to resources:

<https://vcsa.ucsd.edu/student-success/virtual-resources.html>

Technology

- Student in need of access to laptop? Students can request a loaner laptop:

<https://eforms.ucsd.edu/view.php?id=490887>

- Some computer labs are open: <https://lablookup.ucsd.edu/>

- Guidance on technology for students, including Zoom and Canvas, trouble-shooting and resources for internet access:

<https://digitallearning.ucsd.edu/learners/learning-remotely/tools.html>

Learning Support and Strategies

- Student struggling finding strategies to learn remotely?

<https://digitallearning.ucsd.edu/learners/learning-remotely/strategies.html#Stay-engaged>

- Students needing extra content support in specific courses?

- o Content tutoring, for students needing extra support in specific course, including BIBC 102, BILD 1 and 3, BIMM 100.:

<https://aah.ucsd.edu/content-tutoring/online-tutoring.html>

- o Supplemental Instruction and Study Groups, including BILD 1, BILD 2, and BIMM 100:

<https://aah.ucsd.edu/supplemental-instruction-study-group/index.html>

- Students struggling with writing? Writing Support for undergraduate students

<https://writinghub.ucsd.edu/for-undergrads/index.html> and for graduate students

<https://writinghub.ucsd.edu/for-grad-students/index.html>

Student Mental Health

- Student counseling and mental health resources?

<https://wellness.ucsd.edu/CAPS/Pages/default.aspx>

- Faculty concerned about the well-being of a student?

<https://wellness.ucsd.edu/CAPS/crisis/Pages/default.aspx>

Financial Guidance

- Student in need of financial guidance or have questions about their financial aid?

<https://fas.ucsd.edu/>

Email questions to finaid@ucsd.edu.

Virtual Counseling for students Monday through Friday 9AM TO 2PM, and Tuesday

and Thursday 4:30PM to 6:30PM via Zoom at UCSD.ZOOM.US/MY/FASZOOM1.

- Students in need of emergency loan?

<https://basicneeds.ucsd.edu/financial-wellness/index.html>

Resources for Student Experiencing Housing and/or Food Insecurity

- Students struggling meeting basic needs, such as food, hygiene products, or housing insecurity? <https://basicneeds.ucsd.edu/>

- Application forms for Calfresh and Basic Needs Assistance:

<https://basicneeds.ucsd.edu/forms/index.html>

Other Resources, Including Community Centers (Online Offerings Differ)

- Office for the Prevention of Harassment & Discrimination (OPHD): provides assistance to students with concerns about bias, harassment, and discrimination. UCSD is committed to upholding policies regarding nondiscrimination, sexual violence and sexual harassment. Students have options for reporting incidents of sexual violence (e.g. sexual assault, dating violence, domestic violence, and stalking) and sexual harassment. Information about reporting options may be obtained at OPHD at (858) 534-8298, ophd@ucsd.edu, or <http://ophd.ucsd.edu>. Students may also receive confidential assistance at the Sexual Assault Resource Center at (858) 534-5793, sarc@ucsd.edu, or <http://care.ucsd.edu>.

- Office for Students with Disabilities (OSD) works with students who have documented disabilities to provide reasonable accommodations. See <https://disabilities.ucsd.edu/about/index.html>; call 858.534.4382 and/or email osd@ucsd.edu. Students in need of disability accommodations for a UCSD course must provide their instructor with a current Authorization for Accommodation (AFA) letter issued by OSD.

- OASIS: Office of Academic Support and Instructional Services also offers tutoring, writing and mentoring – see <https://oasis.ucsd.edu/>

- Black Resource Center: a campus community center that serves everyone at UC San Diego while emphasizing the Black experience. Promotes scholarship, fosters leadership, and cultivates community through the committed, collaborative effort and support of faculty, staff, and the broader UC San Diego community. <http://brc.ucsd.edu/>

- Cross-Cultural Center: strives for meaningful dialogues and context across all cultures, particularly those of underrepresented or underprivileged backgrounds. Offers supportive and educational services through art, social and educational programs, workshops, and outreach. Welcomes creative venues for enhancing social consciousness and equity.

<http://ccc.ucsd.edu/>

- LGBT Resource Center: provides a visible presence on campus and enhances a sense of connection and community among LGBT faculty, staff, students, alumni and the UC San Diego Community. <http://lgbt.ucsd.edu/>

- Raza Resource Centro: a lively space where students study, meet, write, get tutoring, and most importantly are in community. It is a space where Latina/Chicano organizations hold meetings, events and where culture, arte, and academics

interconnect. <http://raza.ucsd.edu/>

- Student Veterans Resource Center (SVRC): supports military-affiliated students in making the transition to campus life and facilitating their progress toward degree completion. The Center also provides opportunities for peer-to-peer support, mentoring and social networking. See <https://students.ucsd.edu/sponsor/veterans/>
- Women's Center: serves as a resource for the entire campus community while placing the experiences of diverse women at the center through the resources provided, the programming and learning opportunities facilitated, and the dynamic community space created. <https://women.ucsd.edu/>

Note: Syllabus and lecture schedule are subject to modification at my discretion.