

Course Syllabus

Teaching Staff:

| | | |
|-------------|---------------|--|
| Instructor: | Chris Day | cdday@ucsd.edu (mailto:cdday@ucsd.edu) |
| IA for C01 | Zach Goldberg | zhgoldbe@ucsd.edu (mailto:zhgoldbe@ucsd.edu) |
| IA for C02 | Junru Lei | jul217@ucsd.edu (mailto:jul217@ucsd.edu) |

Lecture: C00 : Tu/Th 12:30 - 1:50pm WLH 2207

All lectures will be in-person. They will be recorded and posted in the Media Gallery and embedded into the weekly course pages.

Laboratory Schedule: All lab classes will be in-person, unless otherwise stated. See the **full 10 week lab schedule**.

C01 : 2:00 - 5:50 pm York Hall 2310

C02 : 2:00 - 5:50 pm York Hall 2332


Office Hours: TBA

Learning goals:

- Apply knowledge of the theory behind molecular techniques, and the applications of the methodologies in biological research, to explain experimental steps and troubleshoot results
- Apply knowledge of molecular biology concepts relevant to our work to explain and troubleshoot results
- Demonstrate proficiency at basic molecular biology techniques
- Explain the importance of proper controls in designing experiments and interpreting results
- Perform basic lab math skills, statistical analysis, and graphing
- Draw logical conclusions from experimental data and justify conclusions
- Use basic bioinformatics databases and applications

- Learn to find, read, and evaluate primary literature

Learning in this course

This course is designed to be a collaborative environment for everyone to learn together and construct a shared understanding of the material. Active participation both in class and lab is expected. Being able to communicate understanding, and confusion, is critical to success in any discipline, and is very useful for learning¹  <http://www.sciencemag.org/content/323/5910/122.short>.

We like to use class time to work on applying knowledge and troubleshooting your data. Hence, it is expected that you will prepare before coming to class, reviewing basic background information about the lab and/or relevant content. This will be encouraged through regular in-class quizzes.

Instead of memorization, we will focus on developing an understanding of fundamental concepts and as they apply to the experiments. Therefore, tests will include questions that are based on solving problems in new contexts or data interpretation and not necessarily on memorizing facts.

Smith et al., 2009. <http://www.sciencemag.org/content/323/5910/122.short> 
(<http://www.sciencemag.org/content/323/5910/122.short>)


Lab Schedule

Grading

BIMM101 has multiple grading components:

| | |
|-------------------------------|-----|
| 'Weekly' Review Quizzes | 25 |
| Lab notebooks | 10 |
| Molecular Biology Review Quiz | 2 |
| Ligation Lab report | 10 |
| CRISPR Lab report | 25 |
| Final Exam | 22 |
| Professionalism | 6 |
| Total | 100 |

Weekly quizzes: The 30 minute quizzes will be during some of the in-person labs and are meant to reinforce the concepts we cover in lecture as well the skills you learn in lab. There will be seven quizzes, but you may drop the lowest two grades. **It is very important to follow-up in office hours on concepts you are unclear on.**

Lab notebooks: Each student will be assigned an individual digital lab notebook (Google Doc) that you will use for the quarter. These will be shared with you by your IA and it will be seeded with a template. You can see what we expect in the [following example](https://docs.google.com/document/d/1ynU43QH13kaho1nW2SEViYFVqJJBtIDwgpfpKPu_miA/edit?usp=sharing)  [. \(https://docs.google.com/document/d/1ynU43QH13kaho1nW2SEViYFVqJJBtIDwgpfpKPu_miA/edit?usp=sharing\)](https://docs.google.com/document/d/1ynU43QH13kaho1nW2SEViYFVqJJBtIDwgpfpKPu_miA/edit?usp=sharing).

Compete and organized lab notebook entries are a critical part of effective work in a research lab. As such, we expect students to practice good lab notebook entry habits. Please consult the lab manual for what we expect in the lab notebooks, and see an example entry. **Lab notebook entries will be regularly checked** and scored for various components: pre-lab work which often includes a summaries and predictions, in-lab work such as data analysis and discussion of data, and drawing conclusions in the form of an argument: claims, data to support claims, and explanations in the form of a biological or procedural mechanism, troubleshooting results when necessary.

Molecular Biology Review Quiz: A quiz about some background molecular biology and experimental design concepts. Quizzes will be scored for 1 point for completion, and 1 point for correctness (85% correct gets full correctness points). Instructions to take and submit the quiz will be posted on Canvas.

Lab Reports: Guidelines, rubrics, and due dates for the write-up and assignments will be posted on Canvas. The goal of the write-up is to practice presenting and summarizing results, as well as constructing scientific arguments (what you can conclude, evidence to support, and providing reasoning biological/molecular/experimental explanations or hypotheses) in the form of a short journal article.

For the second lab report, a draft will be submitted for peer-review, and then a final version. Check course schedule on Canvas for due-dates.

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. Unprofessional interactions consume time, yet have no meaningful benefits to you, your fellow students, and/or the teaching team. This is even more important in the workplace where being unprofessional to colleagues or supervisors will only discount you. When you are discounted, you will not be invited for new opportunities; be very aware and protective of your network.

Late and missed assignments

Assignments must be submitted on time to be eligible for full credit. Except in the case of medical or family emergencies, late assignments will be subjected to a 10% deduction per day if submitted within 48 hours after the posted due date. Assignments not submitted within 48 hours of the due date will receive a score of 0.

Grades will be based on your percentage in the course:


| | | |
|------------------|-----------------|------------------|
| 97+ = A+ | 94 up to 97 = A | 90 up to 93= A- |
| 87 up to 89 = B+ | 83 up to 86 = B | 80 up to 82 = B- |
| 76 up to 79 = C+ | 72 up to 75 = C | 67 up to 71= C- |
| 60 up to 66= D | Below 60 = F | |

This course is not graded on a curve (i.e. 20% of students getting A, B, C, and such), and the ability to do well in the course is not dependent on others doing poorly.

Lab Expectations


Lab attendance is required – Missing a laboratory session without a reasonable excuse (e.g. medical or family emergency) will automatically result in a 2% deduction in your final course grade. Please be on time for laboratory sessions. Multiple late attendances will result in additional lost points due to lack of professionalism.

Technical Support

For help with accounts, network, and technical issues: <https://acms.ucsd.edu/contact/index.html> 
(<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/> 
(<https://library.ucsd.edu/computing-and-technology/connect-from-off-campus/>)

Academic integrity (<https://students.ucsd.edu/academics/academic-integrity/index.html> 
(<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, cheating on a test, or changing an answer for a re-grade) will be reported to the Academic Integrity Office.

Inclusion and Accessibility

Any student with a disability is welcome to contact us early in the quarter to work out reasonable accommodations to support your success in this course. Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD), which is located in University Center 202 behind Center Hall. Students are required to present their AFA letters to faculty and to the OSD Liaison in the Division of Biological Sciences in advance so that accommodations may be arranged.

For further information

Contact the OSD:

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

Office of Equity, Diversity, and Inclusion:

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

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



Student Resources for Support and Learning

There are many **resources on campus** that are directed to supporting your intellectual development. Do not be shy to make the most of these resources.



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/>  (<https://caps.ucsd.edu/>)

Course Summary:

| Date | Details | Due |
|------------------|---|----------------|
| Mon Sep 26, 2022 |  Mol Bio Review (https://canvas.ucsd.edu/courses/39413/assignments/548402) | due by 11:59pm |
| Fri Sep 30, 2022 |  First Day Survey: Getting to Know You - #FinAid (https://canvas.ucsd.edu/courses/39413/assignments/549491) | due by 11:59pm |
| |  CRISPR Lab Final Report (https://canvas.ucsd.edu/courses/39413/assignments/548397) | |

| Date | Details | Due |
|------|--|-----|
| |  CRISPR Lab Report Draft 1 (https://canvas.ucsd.edu/courses/39413/assignments/548398) | |
| |  Final Comp (https://canvas.ucsd.edu/courses/39413/assignments/548399) | |
| |  Final Part1 (https://canvas.ucsd.edu/courses/39413/assignments/548400) | |
| |  Lab Notebook (https://canvas.ucsd.edu/courses/39413/assignments/548401) | |
| |  Photo Credit (https://canvas.ucsd.edu/courses/39413/assignments/548403) | |
| |  Professionalism (https://canvas.ucsd.edu/courses/39413/assignments/548404) | |
| |  to normalize lab reports (https://canvas.ucsd.edu/courses/39413/assignments/548405) | |
| |  Weekly Quiz 1 (https://canvas.ucsd.edu/courses/39413/assignments/548406) | |
| |  Weekly Quiz 2 (https://canvas.ucsd.edu/courses/39413/assignments/548407) | |
| |  Weekly Quiz 3 (https://canvas.ucsd.edu/courses/39413/assignments/548408) | |
| |  Weekly Quiz 4 (https://canvas.ucsd.edu/courses/39413/assignments/548409) | |
| |  Weekly Quiz 5 (https://canvas.ucsd.edu/courses/39413/assignments/548410) | |
| |  Weekly Quiz 6 (https://canvas.ucsd.edu/courses/39413/assignments/548411) | |
| |  Weekly Quiz 7 (https://canvas.ucsd.edu/courses/39413/assignments/548412) | |

