

BILD 1: The Cell

Instructor: Andrew Cooper (he/him/his)

Office: HSS 1145C

E-mail: a5cooper@ucsd.edu (Include BILD 1 in the subject line)

Lecture Time: MWF 2:00-2:50p YORK 2622

Office Hours: MWF 12:30-1:30p HSS 1145C or by appointment (in-person/Zoom)

Course Learning Objectives:

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

Cognitive Competencies:

- 1) Evaluate claims based on scientific evidence and reasoning.
- 2) Uses feedback from exams and assignments to adjust study strategies.

COVID Safety Regulations:

- Masks must be worn at all times during class. If you notice someone is not wearing a mask or is wearing one incorrectly, kindly ask them to fix their mask or inform the instructor/IA.
- No eating or drinking is allowed in the classroom. If you need a drink, please leave the room as quietly as possible.
- You must complete the Daily Symptom Screener every day that you are on campus and follow its instructions regarding whether or not you can safely come to campus.
- If you are sick or experiencing symptoms do not come to class. Contact the instructor as soon as possible.
- All students are required to participate in the COVID-19 Testing program as required by their vaccination status.

Contacting Me: Please ensure that all e-mails include BILD1 in the subject line and if the matter requires immediate attention include URGENT in the subject line as well. If I do not respond to an e-mail within 24-48 hours, please send it again. I regularly check my e-mail during normal business time (Weekdays 9:00 am-6:00 pm), but more sporadically on the weekend/holidays.

Optional Text: *Campbell Biology, 11th Edition* by Urry, Cain, Wasserman, Minorsky and Reese (Pearson 2016) ISBN 9780134093413. On the class schedule there will be parts of chapters from the text indicated that match with the lecture topics. These readings are not required but can be a good resource if you are confused about certain terms/concepts.

Canvas: All course related information will be posted on our Canvas site. The lecture slides will be posted before lecture. Please check the Canvas site and your UCSD e-mail regularly for any announcements as these will contain essential information.

Podcast: Lecture podcasts will be posted through the traditional podcast site and can be accessed through Canvas.

iClickers: iClickers are required for this course. The frequency in this classroom is AB. You must register your clicker on Canvas by Monday, April 4th. Clicker participation will be counted beginning with the lecture on Wednesday, March 30th.

Instructional Assistants (IAs):

Name	Email
Xiaohui Lyu	xil004@ucsd.edu
Mehreen Manikkoth	mmanikko@ucsd.edu
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Tiffany Theam	ttheam@ucsd.edu

Discussion Sections: Sections begin the week of Monday, April 4th. The content will vary from meeting to meeting, however, active engagement with the material in each section is critical to developing your understanding of the lecture material. A portion of your grade will be based on attendance and active participation in section. Discussion sections will be meeting in person. You are required to attend/participate in your designated discussion time to facilitate potential contact tracing and ensure an equal student:IA ratio among the sections. If you experience extenuating circumstances that prohibit you from attending section, please let me know as soon as possible. I will evaluate these instances on a case-by-case basis. If you predict an ongoing inability to attend scheduled discussion section, please speak with me as soon as possible to work out an alternative.

Assignments: There will be six assignments posted throughout the quarter that will allow you to work with the lecture material and prepare for the exams. On weeks when we have homework assignments, they will be posted at 8:00a on Thursday and will be due at 11:59p on Sunday. The specific post and due dates for each assignment are listed below. You are welcome to work with each other but the words submitted for your assignment should be your own. These assignments will be done directly in Gradescope and will be checked for plagiarism. If you have never used Gradescope before you will need to set-up your account. Follow the "[Joining a Course](#)" instructions looking at "Possibility 2". Our school does not allow the option of signing on with "School Credentials". At the end of the quarter your lowest assignment score will be dropped.

Assignment #1 – Topics 1 & 2	Posted 3/31	Due 4/3
Assignment #2 – Topics 3 & 4	Posted 4/7	Due 4/10
Assignment #3 – Topics 6, 7, & 8	Posted 4/21	Due 4/24
Assignment #4 – Topics 10	Posted 5/5	Due 5/8
Assignment #5 – Topics 11 & 12	Posted 5/12	Due 5/15
Assignment #6 – Topics 14 & 15	Posted 5/26	Due 5/29

Exams: The exam dates are set and will not be changed so plan your semester accordingly. Exam 1 is scheduled for Friday, April 15th and will cover material from Topics 1-5. Exam 2 is scheduled for Monday, May 2nd and will cover material from Topics 6-9. Exam 3 is scheduled for Friday, May 20th and will cover material from Topics 10-13. The Final Exam is scheduled for Friday, June 10th from 3:00-5:00p and will be cumulative (1/3 focused on Topics 1-13 and 2/3 focused on Topics 14-16). If you do better on the Final than one (or more of the exams) then your Final Exam score will replace the lowest Exam score (more details below). All exams will be done online during the regularly scheduled lecture time. The exams will be given through Gradescope and will be checked for plagiarism. While taking the exam you will be logged into Zoom with either myself or an IA so that any issues or questions about the exam can be readily answered. You should have your student ID (or other photo ID) with you and be able to turn on your camera during the exam so that your identity can be verified if asked.

Regrades: Any issues or concerns with grading on an assignment or an exam must be addressed/submitted within one week of grades/feedback being posted. The exact protocol will be explained in more detail once the first assignment is graded.

Lecture Participation Points: Clicker points will be counted starting Wednesday, March 30th. For each class where you answer $\geq 75\%$ of the questions, you will get participation points, if you do not then you will get a zero for the day. You do not need to get the correct answer. For a majority of clicker questions, you will have to submit answers twice (once before and once after discussion) and both of these submissions are required. There will be 25 lectures throughout the semester where clicker participation will be monitored. You only need to earn participation credit for 22 out of the 25 lecture days to earn full credit for lecture participation, meaning you have three “no questions asked” absences in the quarter. If you experience extenuating circumstances that prevent you from attending class for more than those three “no questions asked” absences please email me as soon as possible and we can discuss the possibility of making up those points.

Grading: Grading in this course is not curved, so in theory every person could earn an A! You are not competing with each other for grades, so work together!

	Option 1	Option 2	Option 3	Option 4
Lecture Participation	15%	15%	15%	15%
Discussion Section	15%	15%	15%	15%
Assignments	20%	20%	20%	20%
Exam 1	10%	0%	10%	10%
Exam 2	10%	10%	0%	10%
Exam 3	10%	10%	10%	0%
Final	20%	30%	30%	30%
Total	100%	100%	100%	100%

Letter grades are assigned as follows:
 90-100: A
 80-89: B
 70-79: C
 60-69: D
 Below 60: F

Your final grade will be calculated using each of these possible point distributions and the one that results in the highest grade will be used. No + or – grades are given.

Late Work Policy: For all assignments, those turned in within 24 hours of the due date will be accepted but with a deduction of 20% of the possible points. Assignments submitted more than 24 hours after the due date will not be accepted.

If you experience extenuating circumstances (e.g., you are hospitalized) that prohibit you from submitting your assignments on time, please let me know. I will evaluate these instances on a case-by-case basis.

Disability Access: Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter (paper or electronic) issued by the Office for Students with Disabilities (link to OSD website.) Students are required to discuss accommodation arrangements with instructors and OSD liaisons in the department in advance of any exams or assignments.

Contact the OSD for further information:

858.534.4382 osd@ucsd.edu <http://disabilities.ucsd.edu>

Inclusion: It is our goal to create a learning environment that supports diversity of thought, perspective, experience, and identities. We encourage all of you to participate in discussion and contribute to the field from your perspective. If you have feedback on how to make the class more inclusive, please get in touch!

Office of Equity, Diversity, and Inclusion:

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

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

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

Title IX Compliance: The University recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated. If you have been the victim of sexual misconduct, physical and/or psychological abuse, we encourage you to report this matter promptly. As a member of this community, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. If you want to speak confidentially you may contact the Counseling Center.

The Office for the Prevention of Harassment & Discrimination (OPHD) provides assistance to 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 <http://ophd.ucsd.edu>

Students may receive confidential assistance at CARE at the Sexual Assault Resource Center at: 858.534.5793 sarc@ucsd.edu <http://care.ucsd.edu>

Counseling and Psychological Services (CAPS) at: 858.534.3755 <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 department Chair, a faculty member 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.

Academic Integrity: Students are expected to do their own work, as outlined in the UCSD Policy on Academic Integrity. Cheating and plagiarism will not be tolerated, and I will fail any student caught engaging in academic dishonesty. Any student caught cheating on an exam will receive a failing grade for the course. Plagiarism of any kind will not be tolerated and will result in a failing grade. If you are unsure of what constitutes plagiarism it is your responsibility to seek out clarifying information. The UCSD library website has a series of modules around plagiarism that can be found [here](#).

Writing Center: The Writing Center provides support for undergraduates working on course papers (i.e., laboratory reports and the research proposal) and independent writing projects. Writing mentors can help at any stage of the writing process, from brainstorming to final polishing.

The Writing Center offers: one-on-one appointments for undergraduates with peer writing mentors; group workshops addressing a variety of writing projects, genres, and issues; and Drop-In Zone for quick questions, targeted assistance, and a comfortable writing space. <https://writingcenter.ucsd.edu/>

Basic Needs: Any student who has difficulty accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in this course, is encouraged to contact:

858.246.2632 foodpantry@ucsd.edu basicneeds@ucsd.edu

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/>