

Bi322 - Cell Biology - Fall 2020

Instructor: Dr. Anne Zemper (she/her/hers)

GE: Janelle Stevenson (she/her/hers)

GE: Tim Wheeler (he/him/his)

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Relevant course times

Lectures: Tuesday and Thursday, 10:15-11:45AM (online via Zoom)

ZOOM LINK IS NEW FOR EACH LECTURE.

ZOOM LINK ON CANVAS SITE.

Discussions: Friday 11am, 12:30pm and 2pm

Office hours:

Annie Zemper

Wednesday noon, online

Tim Wheeler

Monday 2-3p, online

Janelle Stevenson

Tuesday 4-5p, online

In this extraordinary time, I am committed to our course—to experiencing our course material together, learning, questioning, and growing as a class community, even given our physical distance.

We cannot meet in person, but we can:

- Be moved and challenged by these concepts in cell biology and how they apply to the living world (in course materials and big issues/questions);
- Practice patience and flexibility in online learning, which are cross cutting, transferrable skills;
- Engage in ethical dialogue that widens our perspectives and deepens our knowledge;

Affirm our hopefulness about the future by continuing to learn and answer questions/practice skills/examine subjects that are perhaps more relevant now than ever/that give us context to understand our present moment/that help us appreciate the beautiful even in a time of great challenge.]

Email: Please include “Bi322” in the subjectline, so your email can be attended to in time. We will try to answer your email in a timely manner; however, we do not often check our email in the evenings or during weekends.

Website: Canvas - Syllabus, course materials, assignments and grades will be posted.

Required text:

Essential Cell Biology, Fifth Edition (Alberts et al.)

Technical Requirements:

Log into canvas.uoregon.edu using your DuckID to access our class. If you have questions about accessing and using Canvas, visit the [Canvas support page](#). Canvas and Technology Support also is available by phone or live chat:

[541-346-4357](tel:541-346-4357) | livehelp.uoregon.edu

If you face Internet access challenges: companies are offering free access during this challenging time. To learn more about options visit Information Services' [web page on going remote](#).

Online video topic movies will be posted to Canvas and will usually be found on iBiology.org.

Course Description

The cell is an amazing, complex and dynamic unit of life. We will explore various aspects of how eukaryotic cells in particular carry out their many basic functions while interacting with their environment. We will investigate how defects at the cellular level lead to disease states, examine the primary literature, and consider experimental design and analysis.

Course Learning Goals

By the end of the semester, you should be able to:

- Model the dynamic nature of cellular processes, and how a cell receives and responds to information from its environment.
- Explain and compare the structures and functions of organelles.
- Communicate how defects at the cellular level lead to disease states and could be targeted for specific therapies.
- Develop testable hypotheses based on provided information, design experiments to test hypotheses, and analyze and interpret provided data.
- Read, evaluate and synthesize primary literature articles in cell biology.

Our class will communicate through our Canvas site. Announcements and emails are archived there and automatically forwarded to your UO email, and can even reach you by text. Check and adjust your settings under:

Account > Notifications.

Office Hours:

The instructor and GE's will host "live" office hours through Zoom each week, and times and dates are stated above. We also have a running discussion forum on our Canvas called "Class Questions and Answers" for the entire group to ask and answer. I welcome meetings outside my regular office hours, too, knowing that there is considerable uncertainty in all of our lives right now. Just email me to set a time.

If you contact me with a question, I will try to respond within one business day. I typically provide feedback on assignments within one week.

Why should you reach out to me?

Talking with my students about our course material is a true pleasure—confused or excited about something? Wondering how what we're learning relates to current events, career choices, or other classes you can take UO? Please be in touch! **Please also be in touch to tell me how you are doing in these difficult times**—are you having a tough week? Having troubling with some aspect of the course? I would like to strategize with you. You are my student in a term that I suspect you and I will always remember. I will do everything I can to help you succeed.

Grading

Category	%	Point Breakdown
Lecture participation	25%	Polling participation points (15 points/class)
Discussion Assignments	15%	Each Discussion Section is worth 15 points, comprised of homework or group work. See below. (15 points/class)
Final Presentation	15%	Detailed rubric will be provided, 100 total points.
Midterm 1	15%	150 total points.
Midterm 2	15%	150 total points.
Final Exam	20%	200 total points.
Total	100%	1000 total points in the course.

Grade	%
A+	97-100
A	93-96.9
A-	90-92.9
B+	87-89.9
B	83-86.9
B-	80-82.9
C+	77-77.9
C	73-76.9
C-	70-72.9
D+	67-69.9
D	60-66.9
F	0-59.9

Exams: (50% of grade)

There will be two midterms and a final. This accounts for **50%** of your course grade. Exams will be cumulative, because concepts will overlap substantially over the term, but the focus of each exam will be on material covered since the preceding exam. Exams can contain material from class work, assigned online lectures, assigned readings, and discussions, and are multiple choice or true/false.

The exam schedule is listed on the last page. Early exams and makeup exams will NOT be offered, so plan accordingly! As a blanket policy, there will be no exam "regrading" (also referred to exam points adjustments) with the exception of mathematical grading error, or overt mistake on behalf of the grader.

Class preparation and participation: (25% of grade)

It is expected that you complete assigned readings and review any posted sources before attending class.

Polling. There will be three polling questions in every class.

You get three points for an incorrect answer and five points for the correct answer, so a maximum of 15 points are available each class. Polling participation account for 25% of your grade so it's important to be present, pay attention and answer to the best of your ability.

Discussions: (15% of grade)

Discussions will be led by the GEs.

The purpose of the discussion section are three-fold:

1. To give you the chance to relate the lecture topics to developmental defect, diseases and/ or current scientific discoveries.
2. To work through problem sets and/or enrichment video-worksheet pairs that should enhance lecture concepts.
3. In some cases, the discussion will also serve as an exam review period. Each discussion section will count for 15 points garnered via active participation and/or short answer questions.

Final presentation: (15% of grade)

During the last two weeks of class we will have student presentations which focus on a current scientific problem/ innovation related to cell biology OR the cell biological basis for a disease.

Students will work in groups within their discussion cohort to develop these presentations, throughout the quarter. Attendance at these presentations is required.

General policy on participation and assignments:

As the university community adjusts to teaching and learning remotely in the context of the COVID-19 pandemic, course requirements, deadlines, and grading percentages are subject to change. I will be mindful of the many impacts the unfolding events related to COVID-19 may be having on you. Though attendance and participation account for 25% of students' grades, I can develop and post to canvas make-up activities, which may be used up to three times by any student for any reason. During this unusual time, I encourage you to talk with me about what you are experiencing so we can work together to help you succeed in this course.

Barring a specific need for adjustment, graded work from Discussions is always due in this course Sundays at 11:59pm—I hope this regular deadline simplifies what you need to keep in mind about the routine of the course.

No Extra Credit

There will be no opportunities for extra credit. Please do not ask for exceptions.

Academic integrity:

The University Student Conduct Code defines academic misconduct, which includes unauthorized help on assignments and examinations and the use of sources without acknowledgment. Academic misconduct is prohibited at UO. I will report misconduct to the Office of Student Conduct and Community Standards—consequences can include failure of the course. In our remote class, I will ask you to certify that your exams/papers are your own work. Exams are timed and Canvas automatically varies the questions students receive. I will adjust times to support students with accommodations through the Accessible Education Center. If a technological glitch disrupts your exam, don't panic. Take a photo to document the error message you're receiving and then email or call me.

Inclusive Learning:

We aim to build an inclusive learning environment. We understand that our members represent a rich variety of backgrounds and perspectives. We are committed to providing an atmosphere for learning that respects diversity.

While working together to build this community we ask all members to:

- share their unique experiences, values and beliefs.
- be open to the views of others.
- honor the uniqueness of their colleagues.
- appreciate the opportunity that we have to learn from each other.
- value each other's opinions and communicate in a respectful manner.
- keep confidential discussions that the community has of a personal (or professional) nature.

Please notify me if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center at 541-346-1155 or uoaec@uoregon.edu.

Life at College

Life at college can be very complicated. Students often feel overwhelmed or stressed, experience anxiety or depression, struggle with relationships, or just need help navigating challenges in their life. If you're facing such challenges, you don't need to handle them on your own--there's help and support on campus.

As your instructor if I believe you may need additional support, I will express my concerns, the reasons for them, and refer you to resources that might be helpful. It is not my intention to know the details of what might be bothering you, but simply to let you know I care and that help is available. Getting help is a courageous thing to do—for yourself and those you care about.

University Health Services help students cope with difficult emotions and life stressors. If you need general resources on coping with stress or want to talk with another student who has been in the same place as you, visit the Duck Nest (located in the EMU on the ground floor) and get help from one of the specially trained Peer Wellness Advocates. Find out more at health.uoregon.edu/ducknest.

University Counseling Services (UCS) has a team of dedicated staff members to support you with your concerns, many of whom can provide identity-based support. All clinical services are free and confidential. Find out more at counseling.uoregon.edu or by calling 541-346-3227 (anytime UCS is closed, the After-Hours Support and Crisis Line is available by calling this same number).

Discussion and Engagement Guidelines for Remote Participation

1. **Participate and Contribute:** Students are expected to participate by sharing ideas and contributing to the collective learning environment. This entails preparing, following instructions, and engaging respectfully and thoughtfully with others. More specific participation guidelines

and criteria for contributions will be provided for each specific activity.

2. Use Proper Netiquette: Please use good “net etiquette”: identify yourself with your real name and use a subject line that clearly relates to your contribution. Write or speak in the first person when sharing your opinions and ideas but when addressing other students or discussing their ideas, use their names (e.g. "I think red is the most important term in the poem, but I also think Kate is correct that blue is important, too"). Respect the privacy of your classmates and what they share in class. Understand that we may disagree and that exposure to other people’s opinions is part of the learning experience. Good netiquette also means using humor or sarcasm carefully, remembering that non-verbal cues (such as facial expressions) are not always possible or clear in a remote context. In addition, your language should be free of profanity, appropriate for an academic context, and exhibit interest in and courtesy for others’ contributions. Be aware that typing in all capital letters indicates shouting. Certain breaches of netiquette can be considered disruptive behavior.

2. Interact Professionally: Our learning environment provides an opportunity to practice being professional and rigorous in our contributions. As much as possible, use correct spelling, grammar, and style for academic and professional work. Use discussions and activities as opportunities to practice the kind and quality of work expected for assignments. Moreover, seize the chance to learn from others and develop your interpersonal skills, such as mindful listening and awareness of one’s own tendencies (e.g. Do I contribute too much? Too little?).

4. Expect and Respect Diversity: All classes at the University of Oregon welcome and respect diverse experiences, perspectives, and approaches. What is not welcome are behaviors or contributions that undermine, demean, or marginalize others based on race, ethnicity, gender, sex, age, sexual orientation, religion, ability, or socioeconomic status. We will value differences and communicate disagreements with respect. We may establish more specific guidelines and protocols to ensure inclusion and equity for all members of our learning community.

5. Help Everyone Learn: Our goal is to learn together by learning from one another. As we move forward learning during this challenging time, it is important that we work together and build on our strengths. Not everyone is savvy in remote learning, including your instructor, and this means we need to be patient with each other, identify ways we can assist others, and be open-minded to receiving help and advice from others. No one should hesitate to contact me to ask for assistance or offer suggestions that might help us learn better.

Specific guidelines for best practices using Zoom:

1. Please test your video and audio prior to joining a live class session. You can learn more about testing your audio and video by visiting the [UO Service Portal](#).
2. Try to be on time when the meeting starts. It can be distracting to have participants join late.
3. All of us occasionally need to hide video, but know that seeing your faces is a joy to me and, I believe, enriches our ways of relating—when you can, I value video on.

4. That said, please be mindful that others can see you and your surroundings if your video is on. Try to find a quiet setting without lots of noise or busy activities in the background. Please minimize distractions like eating or multitasking.
5. Use a microphone or speak closely to your computer microphone so that others can hear you. If you have video on, try to look at your camera, not the screen, when you are contributing.
6. Mute your audio when you are not actively contributing. When contributing, avoid making other noises such as typing or eating or having side conversations with others that might be present with you.
7. Use chat to pose questions or offer insights “on the side” while others are contributing. The chat can be read by all and should reflect a high standard of respect for our class community.
8. For help and troubleshooting with Zoom, visit the [UO Service Portal](#).

Overview of course, reading, homework, exams and videos (hyperlinked to iBiology.org)

Week	Class	Date	Lectures, Discussions and Exams	Readings, lecture preps, assignments
1	Class 1	9/29	Intro- Features of Cells on Earth	Read 1-37
	Class 2	10/1	Protein Structure and Function	Read 118-169 Watch: <i>Lindquist</i> , PART 2 (iBiology.org)
	Discussion 1	10/2	VISUALIZING THE CELL	FLUORESCENT IMAGING: watch Lippincott-Schwartz PARTS 1 and 3 only (iBiology.org)
2	Class 3	10/6	Chromosomes and Genomes	Read: 173-195, 227-258 Watch: <i>Allis</i>
	Class 4	10/8	Gene Expression	Read: 267-292, 350-362 Watch: <i>Tjian</i> , Part 2
	Discussion 2	10/9	Gene and Genome Evolution	ACTIVITY FROM CHAPTER 9
3	Class 5	10/13	Cellular Membranes	Read: 365-386 Watch: <i>Schekman</i>
	Class 6	10/15	Transport Across Membranes	Read 389-423 Watch: <i>Yan</i> , PART 1
	Discussion 3	10/16	Midterm 1 review	
4	EXAM	10/20	MIDTERM 1	
	Class 7	10/22	Intracellular Protein Transport	Read 495-529 Watch: <i>Schekman</i>
	Discussion 4	10/23	How do we know where they go?	ACTIVITY FROM CHAPTER 15; Group/Final presentation Topics Due
5	Class 8	10/27	Cell Signaling 1	Read 533-570, Watch: <i>Lim</i>
	Class 9	10/29	When Cell Signaling Goes Awry: Cancer	Read: 718-731
	Discussion 5	10/30	Cancer Biology Module	
6	Class 10	11/3	Cytoskeleton	Read: 573-606. Watch: <i>Theriot</i> Parts 1 and 2, NOT 3
	Class 11	11/5	Energy Generation in animal cells	Read: 455-474.
	Discussion 6	11/6	Midterm 2 review	
7	EXAM	11/10	MIDTERM 2	
	Class 12	11/12	Cell Cycle	Read 609-638 Watch: <i>Morgan</i> Part 2
	Discussion 7	11/13	Final Presentation prep	Abstract and annotated bibliography for final presentations due.
8	Class 13	11/17	Apoptosis	Read 639-645
	Class 14	11/19	Meiosis and Inheritance	Read 651-673, Watch: <i>Dernberg</i>
	Discussion 8	11/20	Final Presentation prep	
9	Class 15	11/24	Stem Cells and Tissue Renewal	Read: 709-717
	Class 16	11/26	No Class	Thanksgiving
	Discussion 9	11/27	No Class	Thanksgiving

10	Class 17	12/1	Final Presentations	
	Class 18	12/3	Final Presentations	
	Discussion 10	12/4	Final Exam Review	
11	EXAM	TBA	Week of Dec 7	