

Bi322 - Cell Biology - Spring 2018

Instructor: Dr. Anne Powell
GE: Heather Le Bleu
GE: Janelle Stevenson
BULA: Lila Kaye

anniep@uoregon.edu
hlebleu@uoregon.edu
janellea@uoregon.edu
lkaye@uoregon.edu

Time: Classes: Tuesday and Thursday 2-3:20 pm (MCK 229)
Discussion: Wednesday 1, 2, 3pm (KLA 5)

Office hours: Annie Powell	Thursday 2-3pm	Streisinger Gazebo
Heather Le Bleu		
Janelle Stevenson	Tuesday 1:30-2:30	Streisinger Gazebo
Lila Kaye	Weds. 2-3pm	B009 Sci. Library

Email: Please include “Bi322” in the subject line, 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:

Molecular Biology of the Cell, Sixth Edition (Alberts et al.)

Required supplies:

i>clicker (available in the Duck Store): Be sure to register your i>clicker on **Canvas**.

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.

Grading

Category	%	Point Breakdown
Lecture participation /i>clicker	25%	i>clicker points in every class. See i>clicker info. on points below.
Discussion Assignments	15%	Each Discussion Section is worth 20 points, comprised of homework or group work. See below.
Poster Presentation	10%	Detailed rubric will be provided.
Midterm 1	10%	
Midterm 2	15%	
Final Exam	25%	
Total	100	

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 will include both multiple choice and open-ended questions. 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: (25% of grade)

It is expected that you complete assigned readings and review any posted sources before attending class. Lecture homework is due immediately before Class. Discussion homework is due at the beginning of discussion unless otherwise noted.

i>clicker-There will be i>clicker questions in every class. Points will be earned two different ways: (1) 1-point questions: 1 point will be awarded based on participation alone, not on whether the question is answered correctly; (2) 5-point questions: 5 points for the correct answer, 2 point for an incorrect answer. **i>clickers/lecture participation account for 25% of your grade so its important to be present, pay attention and answer to the best of your ability. Lowest i>clicker grade will be dropped.**

Discussions: (15% of grade)

Discussions will be led by Janelle Stevenson (1pm and 2pm) Heather Le Bleu (1pm and 3pm). The purpose of the discussion section is two fold: 1. To give you the chance to relate the lecture topics to developmental defect, diseases and/or current scientific discoveries. 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 . Lowest Discussion Grade will be dropped.

Poster Assignment: (10% of grade)

During the last week of class we will hold a poster session similar to those held at academic conferences. Students will work in groups throughout the quarter to create poster presentations on a the cell biological basis of a disease and therapy. Attendance at the poster session is mandatory.

General policy on missed assignments:

Assignments must be turned in on time and there are no early exams or make-up exams. If you miss a midterm or homework assignment due to unavoidable circumstances your grade will be calculated based on the remaining exams or assignments. If you anticipate an extended absence please contact the instructor.

No Extra Credit

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

Classroom etiquette:

Please arrive on time. Classes and discussions begin promptly on the hour. Please do not leave early as this is disruptive to everyone. If you have an unusual circumstance and must leave early, please inform the instructor, and sit near the exit so your leaving is not disruptive. Finally, please be respectful of your fellow students.

Devices in class:

Research suggests that writing notes on paper helps you learn and study better. But if you have a need or preference to use a laptop, that's fine. Please avoid doing things that aren't related to the class.

Academic integrity:

You are expected to do your own work on homework, discussion section assignments, and exams. Academic misconduct, including cheating and plagiarism, will not be tolerated. You may not use an i>clicker registered to someone else or to allow someone else to use an i>clicker registered to you. You are encouraged to discuss ideas with other students and study together, but do not copy someone else's work or allow anyone to copy yours. All students are expected to conform to the [Student Conduct Code](#). Please note that Instructors are **required** to file a written report of any academic misconduct with the Director of Student Conduct and Community Standards.

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.

If there are aspects of the instruction or design of this course that result in barriers to your participation, please let us know as early as possible, in person or via email. You may also wish to contact [Accessible Education Services](#) in 164 Oregon Hall, by phone at (541) 346-1155 or uoaec@uoregon.edu. We welcome the chance to help you learn, and will work with you to make it a positive experience.

Assigned text and online resources:

Assigned readings are from the 6th edition of Molecular Biology of the Cell (Alberts et al.) There will be at least one copy available in the science library on reserve. The [4th edition of Molecular Biology of the Cell](#) is also freely available for searching online through PubMed books. Please note that there are always some differences in page numbers for assigned readings, topic arrangement and current knowledge between editions. Online video topic movies will be posted to Canvas and will usually be found on iBiology.org. It is essential to complete reading assignments and watch assigned online lectures prior to class as class time will be devoted to applying knowledge, solving problems and group discussions. Details of assigned lecture prep will be posted to Canvas.

Overview of classes, discussions, readings, homeworks and exams

Week	Class	Date	Lectures, Discussions and Exams	Readings, lecture preps, assignments
1	Class 1	4/3	Intro- Features of Cells on Earth	Read 2-40
	Class 2	4/5	Cellular Membranes	Read 565-594. Watch: Schekman
	Discussion 1	4/4	Disc. 1: VISUALIZING THE CELL	FLUORESCENT IMAGING: Lippincott-Schwartz
2	Class 3	4/10	Cell Signaling 1	Read 814-849 Watch: Lim
	Class 4	4/12	Cell signaling 2	Read 850-879 Watch: Lim
	Discussion 2	4/11	Disc. 2: CELL SIGNALING DISEASES	WNT SIGNALING AND CANCER
3	Class 5	4/17	Protein Structure and Function	Read 109-151 Watch: Lindquist
	Class 6	4/19	Cellular transport 1	Read 597-609, 641-664, 669-685 Watch: Yan
	Discussion 3	4/18	Disc. 3: Midterm 1 review	
4	EXAM	4/24	MIDTERM 1	
	Class 7	4/26	Cellular transport 2	Read: 710-748 Watch: Schekman
	Discussion 4	4/25	Disc. 4: TRANSPORT DEFECTS	DISEASE TBA Due: Poster groups/topics
5	Class 8	5/1	Chromosomes and Genomes	Read: 175-216 Watch: Shipiro
	Class 9	5/3	Gene Expression	Read: 369-392, 413-438. Watch: Tjian
	Discussion 5	5/2	Disc. 5: MANIPULATING GENOMES	CRISPR-CAS9! (Doudna)
6	Class 10	5/8	Apoptosis	Read: 1021-1032. Watch: Rosenblatt
	Class 11	5/10	Tissues and Cell Junctions	Read: 1035-1086. Watch: Beckerle
	Discussion 6	5/9	Disc. 6: Midterm 2 review	
7	EXAM	5/15	MIDTERM 2	
	Class 12	5/17	Cytoskeleton	Read: 889-942. Watch: Mitchison AND Drubin
	Discussion 7	5/16	Disc. 7: DISEASE or INNOVATION TBA	Abstract and annotated bibliography for poster due.
8	Class 13	5/22	Cell Cycle	Read 963-977, 1010-1018 Watch: Morgan
	Class 14	5/24	Mitosis	Read:978-995. Watch: McIntosh
	Discussion 8	5/23	Disc. 8: DISEASE or INNOVATION TBA	
9	Class 15	5/29	Meiosis	Read: 1004-1010. Watch: Dernberg
	Class 16	5/31	Stem Cells	Read: 1217-1227, 1239-1251. Watch: Fuchs
	Discussion 9	5/30	Disc. 9: DISEASE or INNOVATION TBA	
10	Class 17	6/5	Poster Presentations	Poster due
	Class 18	6/7	Poster Presentations	Poster due
	Discussion 10	6/6	Disc. 10: Poster/Final review	Poster due
11	EXAM	TBA	week of June 11	

NOTE: Subject to change. Unless noted, readings are Molecular Biology of the Cell 6e, lectures [iBiology.org](http://biology.org).