



BIO 336-002 – Cell Biology

Spring 2020

Portland State University

Professor: Dr. Marquitta Smith
Class Time: MWF 8:45-9:50 am
Recitation: F 10:10-11:00 am
Classroom: CH 150

Email: marsmi2@pdx.edu
Office: TBA
Office Hours: MW 12-2pm

Course Description

This course will dive into the structure and function of the eukaryotic cell (and maybe a little bit of the prokaryotic cell). We will learn what organelles, proteins, lipids, and signaling pathways allow the cell to survive, replicate, and respond to its environment. We will learn about the evolution of the cell and the history of its organelles. Moreover, we will use our knowledge of the cell and its constituents to understand how therapeutics work in the context of disease. This will be a lecture-based course with the addition of Recitation, which will allow us to dive deep into some of the topics discussed in class.

Learning Objectives

1. Thoughtfully identify individual cellular components.
2. Consider how cellular components work together inside of a dynamic cell.
3. Appreciate how cells adapt to changing environments both as individuals and as a part of cellular communities (tissues, organs, etc).

Course Materials

Textbook: Alberts *et al.*, Molecular Biology of the Cell, 6th Edition. Hardcover, loose-leaf, or electronic versions acceptable.

Note, other editions of these textbooks are *fine*, but they may be missing new information or key figures!

Prerequisites

- a. Principles of Biology (Full year) or equivalent
- b. General Chemistry
- c. Molecular Biology (Bi 334) is not required, but is a *huge* advantage.

Email

Email is my preferred form of communication. When sending emails, include the course number (Bio 336) in the subject line. Please send emails from your university email address. **Only send to my PSU email address – do not send emails through D2L.**

Respect

To ensure that all members of the class feel safe and comfortable, everyone is responsible for courteous conduct. You are welcome to disagree, but not to disparage others.

Assessment

- Exams* will be composed of questions and short answers, fill-in-the-blank, multiple-choice, matching, and diagram formats.
- Comprehensive final exam* will test lecture material from the entire semester.
- Recitation*: Group work & test questions

Grading

Grades in this class will be based on your performance on 3 exams and group work. There will be 2 midterm exams and a final exam. Each midterm exam is worth 50 points, the final exam is worth 75 points, and group work is worth 75 points. Your final grade will be based on the total number of points earned for the quarter:

Exams	50 pts each (100 pts)	Grade	Percentage	Grade	Percentage
Final Exam	75 pts	A	93-100	C	73-77
Recitation Work	65 pts total	A-	90-93	C-	70-73
Total	240 pts	B+	87-90	D+	67-70
		B	83-87	D	63-67
		B-	80-83	D-	60-63
		C+	77-80	F	<60

Recitation

Recitation will be used to clarify concepts covered during lecture and expand the depth of your relationship with the material. Recitation may take many forms, and all group work will occur during recitation. This is an opportunity for students to develop a better understanding of the material, be better prepared for the exams, and have a little fun with the material from lecture.

Makeup & Cheating

Makeup exams are only given under *extreme* circumstances (ex: birth/death in family or illness) that requires medical attention (note from medical professional required). I will determine the format and date of the makeup examination.

Cheating on any examination or quiz will result in a zero. ☹

Exam Policies & Etiquette

Exams will likely involve multiple-choice, written short-answer, and drawing/labeling diagrams. For multiple-choice exams, students will need to provide a scantron sheet. ***Be sure to bring a form SC982-E* scantron sheet to every exam.*** *This is a large form, not the small one and has new features; I have uploaded a PDF of this form for you to see on D2L.

If you take the test in the testing center you MUST get an appointment for the correct day, take the test when the class takes it, and inform me at least one week ahead of time for each test. I recommend reserving the room IMMEDIATELY, space fills up very fast in the testing center.

Any violation of the student conduct code will not be tolerated. A copy of the student conduct code is provided by PSU at the following web address: <http://www.pdx.edu/dos/psu-student-code-conduct>. This class and the tests will be moderately difficult so be prepared for the exam when you arrive. To ensure a fair testing environment no one will be allowed to leave the lecture hall during the exam until they turn in their exam for final grading.

These are closed book exams. Also, *all* portable electronic devices e.g. phones, pagers, calculators, mp3 players, GPS units, Apple watches, etc. must be stowed safely within your book bag or your pockets during the exam. Headphones are not allowed. No exceptions. If you go to the bathroom during the exam, you must leave your exam on your desk. No exceptions.

Course Schedule (note: *subject to change*)

Day	Date	Lecture Topic	Chapter
Mon	March 30	Membrane Structure I: Lipids & Bilayers	Chpt 10
Wed	April 1	Membrane Structure II: Proteins & More Proteins	Chpt 10
Fri	April 3	Membrane Structure: III	Chpt 10
		<i>Recitation: Group Work I (10 points)</i>	
Mon	April 6	Transport Across Membranes I	Chpt 11
Wed	April 8	Transport Across Membranes II	Chpt 11
Fri	April 10	Intracellular Transport I	Chpt 12
		<i>Recitation: Group Work II (10 points)</i>	
Mon	April 13	Intracellular Transport II	Chpt 12
Wed	April 15	Intracellular Transport III	Chpt 12
Fri	April 17	Midterm Exam I (50 points)	Chpt 10-12
		No Recitation	
Mon	April 20	Vesicular Trafficking, Secretion, & Endocytosis	Chpt 13
Wed	April 22	Vesicular Trafficking, Secretion, & Endocytosis	Chpt 13
Fri	April 24	Vesicular Trafficking, Secretion, & Endocytosis	Chpt 13
		<i>Recitation: Group Work III (10 points)</i>	
Mon	April 27	The Mitochondrion	Chpt 14
Wed	April 29	Energy conversion Electron transport	Chpt 14
Fri	May 1	Cellular Communication	Chpt 15
		<i>Recitation: Group Work IV (10 points)</i>	
Mon	May 4	Cellular Communication	Chpt 15
Wed	May 6	Cellular Communication	Chpt 15
Fri	May 8	Midterm Exam II (50 points)	Chpt 13-15
		No Recitation	
Mon	May 11	Cytoskeleton I	Chpt 16
Wed	May 13	Cytoskeleton II	Chpt 16
Fri	May 15	Cytoskeleton III	Chpt 16
		<i>Recitation: Group Work V (10 points)</i>	
Mon	May 18	The cell cycle I – Regulation and Phases	Chpt 17
Wed	May 20	The cell cycle II – Phases II	Chpt 17
Fri	May 22	Apoptosis	Chpt 18
		<i>Recitation: Group Work VI (10 points)</i>	
Mon	May 25	Class Cancelled	
Wed	May 27	Cell interactions I	Chpt 19
Fri	May 29	Cell interactions II	Chpt 19
		<i>Recitation: Group Work VII (5 points)</i>	
Mon	June 1	Cancer	Chpt 20
Wed	June 3	Stem Cells and Tissue Renewal	Chpt 22
Fri	June 5	The Innate and Adaptive Immune System	Chpt 24
		No Recitation	
Fri	June 12	Cumulative Final Exam (75 points) 8:45-9:50AM	All material

UNIVERSITY SERVICES

Portland State is committed to providing an environment free of all forms of prohibited discrimination and sexual harassment (sexual assault, domestic and dating violence, and gender or sex-based harassment and stalking). If you have experienced any form of gender or sex-based discrimination or harassment, know that help and support are available. PSU has staff members trained to support survivors in navigating campus life, accessing health and counseling services, providing academic and on-housing accommodations, helping with legal protective orders, and more. Information about PSU's support services on campus, including confidential services and reporting options, can be found on PSU's Sexual Misconduct Prevention and Response website at: <http://www.pdx.edu/sexual-assault/get-help> or you may call a confidential IPV Advocate at 503-725-5672.

Please be aware that all PSU faculty members and instructors **are required to report** information of an incident that may constitute prohibited discrimination, including sexual harassment and sexual violence. This means that if you tell me about a situation of sexual harassment or sexual violence that may have violated university policy or student code of conduct, I have to share the information with my supervisor or the University's Title IX Coordinator or the Office of Affirmative Action. For more information about Title IX please complete the required student module Creating a Safe Campus in your D2L.

Disability Resource Center (DRC): 116 Smith Center, 1825 SW Broadway, Portland, OR 97201; (503) 725-4150; drc@pdx.edu

Access and Inclusion for Students with Disabilities: PSU values diversity and inclusion; we are committed to fostering mutual respect and full participation for all students. My goal is to create a learning environment that is equitable, useable, inclusive, and welcoming. If any aspects of instruction or course design result in barriers to your inclusion or learning, please notify me. The Disability Resource Center (DRC) provides reasonable accommodations for students who encounter barriers in the learning environment. If you have, or think you may have, a disability that may affect your work in this class and feel you need accommodations, contact the Disability Resource Center to schedule an appointment and initiate a conversation about reasonable accommodations. The DRC is located in 116 Smith Memorial Student Union, 503-725-4150, drc@pdx.edu, <https://www.pdx.edu/drc>.

- If you already have accommodations, please contact me to make sure that I have received a faculty notification letter and discuss your accommodations.
- Students who need accommodations for tests and quizzes are expected to schedule their tests to overlap with the time the class is taking the test.
- For information about emergency preparedness, please go to the [Fire and Life Safety webpage](https://www.pdx.edu/environmental-health-safety/fire-and-life-safety) (<https://www.pdx.edu/environmental-health-safety/fire-and-life-safety>) for information.

Academic Advising: All undergraduate students are assigned a professional academic advisor. Students may schedule 30-minute in-person or phone appointments with their assigned advisor by calling the Smith Advising Center at: 503-725-3822. Location: Smith Memorial Student Union M305.

Campus Resources: <http://www.pdx.edu/faculty-advising/campus-resources>

Student Health & Counseling (SHAC): UCB 200; (503) 725-2800

All regularly enrolled students taking 9 or more credit hours and students who pay the health fee, are eligible to use SHAC. SHAC offers medical, counseling, pharmacy and testing services, and complete dental.

Office of Information Technology: The Helpdesk is located in the basement of Smith. For more information about labs and computing services at PSU, go to: <http://oit.pdx.edu/>

Writing Center: 188F Cramer Hall; (503) 725-3570. The Writing Center offers professional critique of student work for all writing abilities. I recommend repeat appointments with a consistent person.

Learning Center: PSU's Learning Center offers free tutoring. Additionally, academic coaching, Roads to Success, and College Success classes are available. PSU Library, 2nd floor.

Career Services: 402 University Services Bldg.; (503) 725-4005. Advising and career services offers a variety of supportive opportunities for students.

Inclement Weather Information: Every student is personally responsible for verifying weather conditions and the University's operational status prior to coming to campus. PSU procedures for notifying faculty, staff, and students of curtailment or closure include the university website (www.pdx.edu) and the switchboard (503-725-3000).

Child Care: 126 Smith; (503) 725-CARE

Committee for Improving Student Food Security: <http://www.pdx.edu/studentaffairs/cisfs>

Student Homelessness and Economic Crisis: <https://www.pdx.edu/dos/studenthomelessness-and-economic-crisis>

Office of Affirmative Action & Equal Opportunity: Located at 122 Cramer Hall; 503-725-4432.

La Casa Latina: La Casa Latina is a support center at Portland State University. It is designed to be an inviting meeting place for Latino students to study and meet with advisors and mentors. La Casa Latina is located adjacent to PSU's Multicultural Center.

Quiet Prayer and Meditation Lounge: This lounge is open to all students. It is a quiet and tranquil space where students are encouraged to pray, meditate, relax, etc. It is located in the basement of Smith Memorial Union Building (Room 047).

Women's Resource Center: The PSU Women's Resource Center advocates for the best educational and campus experience for all members of our community. We accomplish this by advancing social justice and by working towards a safe and healthy campus. Located in the basement of the Montgomery Housing Building; 503-725-5672

Queer Resource Center: The Queer Resource Center provides students along the sexuality and gender spectrum with the support they need to persist to graduation. The Queer Resource Center's vision is to facilitate a campus environment such that Portland State University is the higher education destination of choice for students, staff, and faculty along the sexuality and gender spectrum. 458 Smith Memorial Student Union; 503-725-9742

Escort Services: The Campus Public Safety Office can be contacted at its non-emergency number, 5-4407, for escort services, free of charge. They will escort students to their bus, car, apartment, or office on campus and up to two blocks off campus.

Sexual Harassment, Sexual Assault, Dating/Domestic Violence, and Stalking: As an instructor, one of my responsibilities is to help create a safe learning environment for my students and for the campus as a

whole. Please be aware that as a faculty member, I have the responsibility to report any instances of sexual harassment, sexual violence and/or other forms of prohibited discrimination. If you would rather share information about sexual harassment, sexual violence or discrimination to a confidential employee who does not have this reporting responsibility, you can find [a list](#) of those individuals or contact a confidential advocate at 503-725-5672. For more information about Title IX please complete the required student module [Creating a Safe Campus](#) in your D2L.