

TERRITORIAL ACKNOWLEDGEMENT: The University of Regina is situated on the territories of the nêhiyawak, Anihšînāpēk, Dakota, Lakota, and Nakoda, and the homeland of the Métis/Michif Nation. The Regina campus is on Treaty 4 lands, and Saskatoon classes are on Treaty 6 lands.

INSTRUCTOR: Dr. Lori Manzon
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Phone: 306-337-2123

LAB INSTRUCTOR: Karin Rustad
[UR Courses email](#)
Office: LB 414.3
Phone: 306-337-2530

LECTURES: Monday, Wednesday, and Friday from **10:30 - 11:20 am** in **CL 126**

LABS: Please see the [UR Courses BIOL 288 Laboratory](#) page for all lab information.

COMMUNICATION: You can contact me via UR courses email, but you will get a **much faster response** if you email directly at lori.manzon@uregina.ca. Please put the following in the email subject line: **"BIOL 288, Your Name, Your Student Number"**. I will answer emails sent from Monday to Friday between the hours of 9 am – 5 pm. You may email outside of these times, but a response may not come until later.

OFFICE HOURS: Feel free to pop into my office or email me at lori.manzon@uregina.ca to make an appointment (best way to ensure I am available).

COURSE DESCRIPTION: This course will provide you with a comprehensive understanding of cell structure and function. I will balance breadth and depth to help you appreciate the diversity and complexity of cellular processes. We will explore the molecular composition of cellular components and organelles, examining how these molecules and their interactions determine cell structure and function. By the end of this course, you should understand how cellular and molecular processes underpin larger-scale physiological, organismal, and ecological phenomena.

PREREQUISITES: BIOL 100 and 101, and CHEM 104. CHEM 104 can be taken concurrently.

LEARNING OBJECTIVES:

- **Cellular Architecture and Organization:** Students will be able to describe the structural organization of eukaryotic cells and explain how the arrangement and compartmentalization of organelles enable specialized cellular functions.
- **Molecular Foundations of Cell Biology:** Students will be able to identify and characterize the major classes of biological macromolecules (proteins, nucleic acids,

lipids, and carbohydrates) and explain how their chemical properties and interactions determine cellular structure and function.

- **Structure-Function Relationships:** Students will be able to analyze the molecular composition of cell organelles and their components and explain how their structural features enable their specific roles in cellular metabolism, signaling, and homeostasis.
- **Molecular Mechanisms:** Students will be able to explain how molecular interactions and biochemical reactions drive essential cellular processes including energy flow, membrane transport, and cell communication.
- **Critical Analysis of Cellular Complexity:** Students will be able to critically evaluate the relationship between cellular complexity and biological diversity, explaining how variations in cellular organization enable adaptation to different environmental and physiological challenges.

ONLINE RESOURCES: [UR Courses](#) will be updated continually with materials throughout the term. Lecture slides will be available no later than 24 hours before each class.

TEXTBOOK (OPTIONAL): Karp, G., Iwasa, J., Marshall, W. 2019. Karp's Cell and Molecular Biology, 9th Edition. Wiley. Older copies are acceptable.
Open Source Text – [Wong. Cells: Molecules & Mechanisms](#)

OTHER VALUABLE TEXT RESOURCES:

Any other cell biology & introductory biochemistry texts.

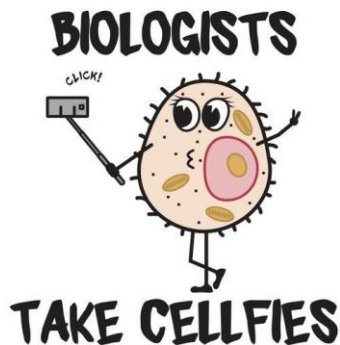
BioLibre Texts—[https://bio.libretexts.org/Bookshelves/Cell and Molecular Biology](https://bio.libretexts.org/Bookshelves/Cell_and_Molecular_Biology)

[NCBI Bookshelf](#)—you must use a search term to access the content; the books cannot be browsed.

Alberts, B., Johnson, A., Lewis, J., Raff, M., Roberts, K., Walter, P. 2002. [Molecular Biology of the Cell, 4th Edition.](#)

Cooper, G.M. 2002. [The Cell, A Molecular Approach, 2nd Edition.](#)

ATTENDANCE POLICY: Lecture attendance is **expected and will improve outcomes** in the course. The slides do not contain all the material that you will be tested on. If you miss a class, please ask a fellow student for their notes. I typically do not provide my lecture notes.



GRADING:

Unit 2 Homework Assignment: Due by 10:30 am on January 9	1%
Unit 3 Homework Assignment: Due by 10:30 am on January 14	1%
*Midterm 1 (Units 1-4): Wednesday, February 4 from 10:30-11:20 am <u>in CL 110</u>	13%
*Midterm 2 (Units 5-6): Wednesday March 18 from 10:30-11:20 am <u>in CL 110</u>	20%
*Laboratory (see Lab UR Courses page for details)	25%
*Final Exam (Cumulative): Friday, April 17 from 9:00 am-12:00 pm <u>Location TBD</u>	40%
	100%

Important notes regarding grades:

- Items marked with * are required course components. You will receive a grade of NP if any of these are not completed.
- Passing grade for the course is **50%**. You do not need to pass the final to pass the course.
- Grades posted on UR Courses are **unofficial grades** that are subject to review and approval.
- Course grades for all students are calculated using the same graded components.
 - **Grades of individual students cannot be arbitrarily changed** by the instructor.
- You have 20 business days from the day you receive your final grade on UR Self-Service to initiate a grade appeal. Please see the [Academic Calendar](#) for how to initiate an appeal.

EXAM MODALITY: All exams will be in-person.

HOMEWORK ASSIGNMENTS: There are two short homework assignments on material that you should already be familiar with from other courses, and you will need to know to understand the remainder of the course. The assignments are on UR Courses and consist of video recordings (~45 minutes each) with questions embedded within the video. I will provide slides that you can use to follow along and add notes. The material in these homework assignments is part of the lecture material that will be on exams.

MISSED EXAMS POLICY:

Midterm Exams: If you miss a midterm exam, contact me immediately. You may be permitted to write a make-up exam under the following circumstances and with the appropriate documentation. Please note that a vacation is not a valid reason to miss exams.

- **Personal illness.** Please complete a [self-declaration of illness form](#). Please note that providing false information is considered **academic misconduct** and is subject to penalty.
- **Death of immediate family member** (parents, siblings, partner, grandparents). Requires a death notice or documentation from funeral home.
- **Sporting competitions.** Coach's note or email.

Please submit the supporting documentation to me **within 48 hours of the exam date**. The value of the midterm **will not be transferred to the final** and there are no opportunities for extra work or assignments to make up the grade.

Final exam: "Deferred" final exams can only be granted by the Associate Dean, Academic (for Faculty of Science students), or by the Deans and/or Associate Deans of other Faculties or Federated Colleges. **The course instructors cannot grant deferred final exams.** See the [Academic Regulations section of the Undergraduate Calendar](#) for details. You will need to fill out a [Request for Deferral Form](#) and submit it to the Dean of your Faculty.

ACADEMIC INTEGRITY: Academic integrity requires that students be honest. Assignments and exams are to help students learn; grades show how fully this goal is attained. Thus, all work and grades should result from a student's own understanding and effort.

Acts of academic misconduct violate academic integrity and are considered serious offences by the University. Examples include, but are not limited to, cheating on tests or exams, plagiarizing, copying from others, falsifying lab results, etc. Instances of academic misconduct will be reported to the Associate Dean Academic for investigation. Full details are provided in the [Undergraduate Academic Calendar](#). Students are encouraged to understand your obligations as a student, as well as your rights.

In this course, you **are not permitted to use generative artificial intelligence (AI) programs** in your homework assignments or exams. Any work suspected of using generative AI will be reported for investigation of academic misconduct.

ACCOMMODATIONS: The Centre for Student Accessibility upholds the University's commitment to a diverse and inclusive learning environment by providing services and support for students based on disability, religion, family status, and gender identity. Students who require these services are encouraged to contact the Centre for Student Accessibility to discuss the possibility of academic accommodations and other supports as early as possible. For further information, please email accessibility@uregina.ca. Please book exam rooms at the ATC as soon as you possibly can.

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definitely-chondria



TENTATIVE LECTURE SCHEDULE: All dates and topics are subject to change, as necessitated by illness, closures, or other unforeseen circumstances.

Week	Topic	Text Chapters	
		Karp	Wong
05-Jan	Unit 1: Introduction to Cell Biology		
	Unit 2: Chemistry of the Cell UR Courses homework & quiz worth 1% Due by 10:30 am Jan. 9	2	
	Unit 3: Biological Molecules I		
12-Jan	Unit 3: Biological Molecules II UR Courses homework & quiz worth 1% Due by 10:30 am Jan. 14		
19-Jan	Unit 4: Membranes	4	
26-Jan	Unit 4: Membranes		
	Unit 5: Metabolism		
02-Feb	Unit 5: Metabolism Midterm #1 (13%; Units 1-4) Wednesday, Feb. 4 from 10:30-11:20 am in CL 110	3, 5	5
09-Feb	Unit 5: Metabolism		
16-Feb	Reading Week - Rest, Relax, Recharge 😊		
23-Feb	Unit 5: Metabolism	8	11
02-Mar	Unit 6: Endomembranes		
09-Mar	Unit 6: Endomembranes		
16-Mar	Unit 7: Communication Midterm #2 (20%; Units 5 & 6) Wednesday, Mar. 18 from 10:30-11:20 am in CL 110	7, 15	13-15
23-Mar	Unit 7: Communication		
30-Mar	Unit 7: Communication		
	Friday, Apr. 3 - Good Friday - no class		
06-Apr	Unit 8: Motility	9	12
13-Apr	Unit 8: Motility		
	Final Exam (40%; Cumulative) Friday, Apr. 17 from 9 am to 12 pm; location TBD		