BIOL 101 – Organisms in Their Environment

Winter 2026

Territorial acknowledgement: The University of Regina is situated on the territories of the nêhiyawak, Anihšināpēk, Dakota, Lakota, and Nakoda, and the homeland of the Métis/Michif Nation. The Regina campusis on Treaty 4 lands, and Saskatoon classes are on Treaty 6 lands.

	Lecture Instructor: Dr. Ahmed Khairalla	Laboratory Coordinator: Ms. Heather Dietz
Office:	RIC 326	LB414.2
E-mail:	** Please send emails via UR Courses internal email function **only.**	** Please send emails via UR Courses internal email function **only.**
Time:	The class will be delivered face-to-face MWF: 12:30 pm -1:20 pm.	See lab syllabus for more information
Location:	ED Auditorium 106	Laboratory Building 411.2

Note: All times are local Regina time.

Office hours: Dr. Khairalla is available, and students are welcome to stop by whenever their office door is open. Additionally, appointments with instructors can be scheduled via email. Students are encouraged to ask questions at any time!
Please see the **lab syllabus** for **laboratory office hours**.

Course summary and Objectives

Course Description

This course includes a survey of the kingdoms containing bacteria, protistans, fungi, plants, and animals, including the basic structure, diversity, physiology, ecology, and other characteristics of these organisms. It also covers many examples of the interactions among these organisms and their environments.

Course Objectives

1. Students will demonstrate proficiency in understanding the evolutionary features (structural and behavioral) that enabled the expansion and diversification of groups of organisms into different forms occupying different ecological niches.
2. Students will become familiar with the levels of organization within the environment.
3. Students will develop a deeper understanding of how organisms interact with each other and their environment.
4. Students will be able to identify the biotic and abiotic components of an ecosystem and describe how these factors can affect the distribution and abundance of organisms in that ecosystem.

This course is 3:3-3, which means that is it a 3-credit course that includes three hours of lectures and three hours of labs every week. While all the lectures will be in-person, some lab sessions will be in-person, and some will be online. We recommend doing the online labs during your scheduled lab time.

Mode of Instruction and Teaching Strategies

- **Class Delivery**
  All lectures will be delivered in person, via face-to-face instruction at the UofR main campus, with a strong emphasis on student participation and problem solving.
  There will be a lot of chances for discussion in class. The aim of this is to provide the students with opportunities to share their ideas with each other and their instructor. I encourage students to ask questions during these discussions to clarify any concepts with which they are having difficulty. Additionally, the various activities included in lectures, e.g., giving feedback in pairs, small group discussions, gamification activities via Kahoot, and other practical activities will engage students and enable a deeper understanding of the related issues.

- **Term Tests**
  There will be 4 term tests in this course. These four tests will be held in-person, during the scheduled class time (the dates are on the lecture schedule; page 6).

Course Expectations and Policies

- **Attendance Policy**
  Lecture attendance is strongly recommended for optimal learning. Attendance is required for term tests and make-up test (if needed).
  Attendance in all four in-person labs is *mandatory*. If you miss a lab, you will be placed in a make-up lab session.

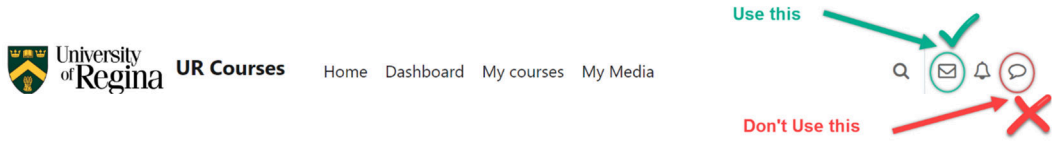
- **Lecture Expectations**
  Every student is expected to be prepared for each class by having read all course materials. Also, everyone is also expected to participate fully in class, contributing to your peers and your own learning. Please be familiar with this Course Outline and its requirements.

- **Lab Expectations**
  Every student is expected to be prepared for each lab by having read all materials provided. Labs are places of active learning; therefore, everyone is also expected to participate fully while in the laboratory.

- **Recording of Materials**
  The lectures/labs will not be recorded due to student privacy concerns, and you may not record any portion of a lecture/lab (either in audio or visual formats) without the prior and explicit written permission of the relevant instructor.

- **Contacting Instructors**

  Students are encouraged to contact the instructor if they have any questions regarding the course or its content, and an appointment can be set up if needed. The preferred method of communication in this course is through the UR Courses Internal email function. Please do not send emails to personal URegina email address during the semester and don't send URCourses "Messages" (chat) (Please refer for the illustration below). Please be patient. Allow a reasonable amount of time to receive a response back – usually 24 hours during the week and longer during weekends.



- **Cheating, Plagiarism, and the Code of Student Conduct**

  This course is governed by the Code of Student Conduct as described in the University of Regina Academic Regulations. Any student caught plagiarizing, cheating, coordinating with other students during exams, using unauthorized sources during exams, misleading or misrepresenting information to any instructor or university official, or participating in any other type of misconduct outlined in the Academic Regulations will be subject to disciplinary action.

- **Technical Support**

  Contact IT Support for any technical assistance (IT.Support@uregina.ca or 306.585.4685).

Required Materials/ Resources

- **Course Websites**

  Two UR Courses sites are available for this course (one for the lectures and the other for the labs) and will be continually updated with supplementary material. Login at https://urcourses.uregina.ca/login/index.php using your uregina.ca username and password.

  Please visit UR Courses before *every class and lab* to ensure you have updated information and access to any extra resources. We regularly post messages on URCourses.

- **Textbook**

  No textbook is required for this course, and a multitude of resources that will help you to study the concepts covered in the course will be uploaded to the UR Courses website. However, many of the concepts provided are adopted from a free, online textbook, which is available in downloadable PDF and online versions: "Biology 2e" (https://openstax.org/details/books/biology-2e)

  All lab materials will be posted to the Lab UR Courses website and are free.

Evaluation

You must achieve at least 50% to pass the course. The mark distribution is as follows:

Assessment	Value	Notes
Term Test #1 (Jan 26)	15%	Covers topics 1-3; 50 minutes
Term Test #2 (Feb 13)	15%	Covers topics 4-6; 50 minutes
Term Test #3 (Mar 16)	15%	Covers topic 7; 50 minutes
Term Test #4 (Apr 6)	15%	Covers topics 8-9; 50 minutes
Laboratory	40%	See lab syllabus
MAKE-UP TEST		**Friday, April 10, during lecture time** The make-up test will ONLY be provided in extenuating circumstances with documented evidence of the circumstances provided to the course instructor immediately and is evaluated on a case-by-case basis. The content and format of the make-up test will be the same as the test that was missed.

Important Dates

Jan. 6	First day of the Winter term
Jan. 26	Term test # 1
Feb. 13	Term test # 2
Feb. 16-22	Winter Reading Week (no classes)
Mar. 16	Term test # 3
Apr. 6	Term test # 4
Apr. 10	Make-up test (if needed)
Apr. 16-29	Final examination period. BIOL 101 will not have a final exam.

Policies and Procedures for Marks and Term tests

- This course **does not have** a **final exam**.
- There will be **four term tests**, all held in **Education Building, Auditorium 106 (ED AUD 106)** during the scheduled class time (12:30 pm -1:20 pm).
- The term tests are to be completed individually and are **NOT open book**.
- The **term tests** are **not cumulative** in terms of specific questions, but you are expected to understand and make connections to concepts covered in previous evaluations.
- Since they are non-cumulative, the term tests cannot replace each other (in other words, **all students are expected to write all four term tests**).

- If a student misses a term test, the student must email the instructor immediately (within **48 hours)** explaining the situation and providing any necessary documentation.
- The **make-up test will ONLY be offered in extenuating circumstances** (e.g., urgent medical appointments, personal emergencies, counseling, or a funeral). Clear, dated documentation of the circumstances must be provided to the course instructor within **48 hours of the scheduled test date, including weekends, not just workdays**. The request will be evaluated on a case-by-case basis.
- **Make-up test(s) for approved students will be held on April 10, during lecture time.**
- **If a student misses a term test and does not receive approval or fails to contact the instructor within 48 hours of the scheduled test time (including weekends), a grade of 0% will be assigned for that test.**

- **"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. Course instructors cannot grant deferred final exams.

- **Grades posted on URCourses are provisional and unofficial**. They are subject to review and approval and may change after final assessment.
- Final marks for the course are based on a total assessment of each student's record. **It is a student's responsibility to make sure that their marks are complete and correct**.

- If there is an issue with one of your grades, you must notify the instructor in writing using the **Grade Re-evaluation Request Form** (the form can be accessed by using the UR Courses website). The completed form MUST be sent in an email to the course instructor **within 7 days** of receiving the grade. Please do not resubmit it to the UR Courses website.
- Students have **20 business** days from the date they receive their grade **to initiate an appeal**. Please refer to the **Academic Calendar** for specific procedures: https://www.uregina.ca/registrar/assets/docs/pdf/calendar/2025-2026.pdf
- This course falls under the Academic Regulations of the University of Regina and the Faculty of Science (these regulations are printed in the General Calendar, available at https://www.uregina.ca/student/registrar/resources-for-students/academic-calendars-and-schedule/undergraduate-calendar/index.html)

- **All students' course grades are determined based on the same graded components and consistent rubric.** Individual grades will not be adjusted on an arbitrary basis.
- **The grading scheme for the course is the same for all students in the course.** There is no opportunity to boost a grade by doing "extra work", and there are no adjustments to grade allocations for the various tests and assignments.
- There are **no alternative assignments** that can be completed by students for the purpose of increasing their final grade.
- **The value of a term test cannot be transferred to any other course component.**
- **Term tests cannot be retaken** under any circumstances.
- **The minimum passing grade for this course is 50%.**

Tentative Lecture schedule

This chart represents an approximate lecture schedule, indicating the order of topics to be covered and the relevant chapters in the online textbook Biology 2e. All dates and topics are subject to change as conditions dictate. You are responsible for understanding the material at the level of detail provided in the lectures.

Date	Topic*	Textbook Chapters
	Introduction to living and nonliving things	
Jan 7	Introduction to the course	
Jan 9	Topic 1: Origin of Life	20
Jan 12	Topic 1: Phylogeny	20
Jan 14	Topic 2: Prokaryotes vs. Eukaryotes I	4,22
Jan 16	Topic 2: Prokaryotes vs. Eukaryotes II	4,22
Jan 19	Topic 2: Prokaryotes vs. Eukaryotes III	4,22
Jan 21	Topic 3: Microbial Nutrition & Host Interactions I	7, 8
Jan 23	Topic 3: Microbial Nutrition & Host Interactions II	7, 8
Jan 26	**** Term test # 1****	
Jan 28	Topic 4: Genetics	16
Jan 30	Topic 4: Biotechnology	17
Feb 2	Topic 5: Viruses I	21
Feb 4	Topic 5: Viruses II	21
Feb 6	Topic 5: Fungi	24
Feb 9	Topic 6: Protists	23
	Plant diversity	
Feb 11	Topic 7: Non-Vascular Plants	25
Feb 13	**** Term test # 2****	
Feb 16-22	WINTER BREAK (no classes)	
Feb 23	Topic 7: Seedless Vascular Plants	25
Feb 25	Topic 7: Seed Plants: Gymnosperms	26
Feb 27	Topic 7: Seed Plants: Angiosperms	26
Mar 2	Topic 7: Plant Reproduction	32
Mar 4	Topic 7: Plant Structure and Function I	30
Mar 6	Topic 7: Plant Structure and Function II	30
Mar 9	Topic 7: Soil and Plant Nutrition	31
	Animal diversity	
Mar 11	Topic 8: Introduction to Animal Diversity	27
Mar 13	Topic 8: Invertebrates I	28
Mar 16	**** Term test # 3****	
Mar 18	Topic 8: Invertebrates II	28
Mar 20	Topic 8: Vertebrates I	29
Mar 23	Topic 8: Vertebrates II	29
	Ecology	

Mar 25	Topic 8: Animal Growth and Reproduction I	43
Mar 27	Topic 8: Animal Growth and Reproduction II	43
Mar 30	Topic 9: Population and Community Ecology I	44, 45
Apr 1	Topic 9: Population and Community Ecology II	45, 46
Apr 3	GOOD FRIDAY HOLIDAY	
Apr 6	****Term test # 4*****	
Apr 8	No BIOL 101 classes	
Apr 10	Make-up test (if needed): Friday Apr. 10 (written in class time)	
Apr 16-29 Final examination period	BIOL 101 will not have a final exam.	

***** This schedule is tentative and may be subject to change as required.

BIOL101 Lab Schedule Winter 2026

Date range by section		Lab number and topic
92, 94, 96, 98	**93, 95, 97, 99**	
Jan. 6-8	Jan. 13-15	Lab 1 (online) – Science literacy and technical skills in biology
Jan. 13-15	Jan. 20-22	Lab 2 (in-person) – Microscopy and measurement
Jan. 20-22	Jan. 27-29	Lab 3 (online) – Introduction to microbes and computational biology
Jan. 27-29	Feb. 3-5	Lab 4 (in-person) – Survey of the microbes
Feb. 3-5	Feb. 10-12	Lab 5 (online) – Introduction to fungi and experimental biology
Feb. 10-12	Feb. 24-26	Lab 6 (in-person) – Survey of the fungi
Feb. 24-26	Mar. 3-5	Lab 7 (online) – Introduction to the plants | Eurocentric vs. Indigenous worldviews
Mar. 3-5	Mar. 10-12	Lab 8 (in-person) – Survey of the plants
Mar. 10-12	Mar. 17-19	Lab 9 (online) – Introduction to biodiversity and field biology
Mar. 17-19	Mar. 24-26	Lab 10 (in-person at RSM) – Saskatchewan biodiversity field trip
Mar. 31 – Apr. 2		**Final lab exam**

Grade distribution:

		Points
Online quizzes (open book)	5 @ 4% each	20
In-lab assignments and quizzes (some open book)	4 @ 5% each	20
Lab exam (closed book)		60

** Signed policy document due Jan. 31 **
(worth no points; failure to submit this on time earns a 5-point penalty)

Important Note

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If any modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the students to check their UofR email and UR Courses website weekly during the term and to note any changes. Changes will be communicated through regular communication channels, such as UR Courses website and/or UofR email.

Late submission of work/missed exam policy: Late submission of work will earn zero and will not receive feedback. If you miss a term test, contact the instructor immediately and provide valid documentation. Deferred" final exams are granted only by the Associate Dean, Undergraduate (for Faculty of Science students), or by the Deans and/or Assistant Deans of other Faculties or Federated Colleges. There are no exceptions.

Academic integrity: Academic integrity requires students to be honest. 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 their obligations as a student, as well as their rights.

Accommodations: Students in this course who may have need for specialized accommodations, should contact the Centre for Student Accessibility (Riddell Centre 229, 585-4631), and must discuss their accommodation letter with their instructor.