

*Luther College is a federated college at the University of Regina. Grounded in the liberal arts tradition, Luther College is committed to personalized education in a community of scholars who value excellent teaching and engaged learning. Luther courses are student-centred and open to students from all faculties and federated colleges at the University of Regina.*

*Luther College respectfully acknowledges that it is physically situated on Treaty Four lands which are the traditional territories of the nêhiyawak, Anihšînâpêk, Nakoda, Dakota, and Lakota peoples and the homeland of the Métis/Michif Nation. Our College considers this shared history to be especially significant as we seek truth and reconciliation. We are reminded that we are all treaty people and are aware of the responsibility we have to one another. We encourage you to engage in your learning with an open mind and an open heart.*

**Course Number: BIOL 150**

**Course Title: Biological Principles**

**Instructor:** Laura Ambrose

**Office:** LC 113

**Term/Year: Fall 2025**

**Times and Locations:**

Lectures: M/W 1:00 to 2:15 pm in LC 211

Labs (refer to lab schedule for dates)

L02 R 8:30 am to 11:15 am in LB 427, start Sept. 18

L03 R 2:30 pm to 5:15 pm in LB 427, start Sept. 18

Lectures are Hyflex: The lectures will simultaneously occur in-person and on Zoom. You are welcome to attend lectures in whichever format you want to on any lecture day. **The lectures will not be recorded**, but the notes from each lecture will be posted on UR Courses.

Lecture exams are in-person on the days listed in the assessment schedule.

**Office Hours are Wednesday from 3:00 pm to 4:00 pm and Thursday from 9:00 am to 11:00 am, or by appointment. I may also be available before and after lectures. And when my office door is open. Or when I am in the lab.**

**Pre-Requisites/Co-Requisites:** None. This course is designed for students who do not intend to be biology majors and who are not in pre-professional health programs. Students cannot receive credit for both BIOL 140 and 150. Students who have credit for BIOL 100 or BIOL 101 cannot subsequently receive credit for BIOL 150. **Please note: if you took high school biology, you will notice overlap in topics covered in your high school class and in this class. If you are interested in a more detailed study of introductory topics in biology, you may want to look at taking BIOL 100 or BIOL 101.** If you have questions about whether this class is the right one for you, please contact the instructor.

Any student who may need accommodations should discuss these with the course instructor and contact the Centre for Student Accessibility at [Student Accessibility | UR Accommodated, University of Regina \(uregina.ca\)](https://www.uregina.ca/student-accessibility/). **Due to the confidential nature of the conversation, please make an appointment to discuss your accommodations or other personal matters.**

### **Course Description:**

This course surveys the unifying principles of biology (cell theory, gene theory, evolution by natural selection, and homeostasis), the process of science, the biological systems of the natural world, and how humans interact with these systems. For all topics, the content starts with the foundation knowledge, builds understanding of the foundation knowledge, and continues to a higher-level understanding that is relevant to the natural world and to humans. In many cases, the historical context of the foundation knowledge is also introduced.

### **Instructor's Bio:**

I have been teaching at the post-secondary level since my graduate school days in 1996. My academic background is in Ecology (undergraduate) and Plant Ecology (graduate). I have worked on projects about spiders, meadow voles, prairie plant communities, nitrogen deposition, and seed banks. More recently, I have been working on the implementation of assistive technologies in the post-secondary classroom, implementation of non-majors biology classes and labs online, the use of AI in teaching and learning, and ways to implement principles of Universal Design for Learning in online and in-person classes..

[https://www.luthercollege.edu/university/academics/faculty-profiles/laura\\_ambrose](https://www.luthercollege.edu/university/academics/faculty-profiles/laura_ambrose)

### **Learning Objectives and/or Outcomes:**

Students will understand and be able to talk about the following:

1. The process of science, how science knowledge is generated, and how to think critically about the science information we read each day.
2. The characteristics and examples of the systems of the natural world, including the individual, populations, communities, ecosystems, and the biosphere.
3. The diversity of microbes, protists, fungi, plants, and animals.
4. Examples of human impact on natural systems.
5. Some examples of Indigenous Ways of Knowing
6. Data collection, data analysis, and drawing conclusions from data collected during an experiment.

### **Meta-skills and/or Capabilities:**

Through lectures, lab activities, and studying, you will develop some meta-skills that will help you in all areas of your life, including academic and professional aspects. Every university class develops these skills, but in this class, you will find emphasis placed on the following meta-skills:

1. Communication. You will read and understand information in a variety of formats, including notes, verbal lectures, verbal instructions, and scientific data. You will also learn to write using biological terminology and in scientific formats.
2. Numeracy. You will begin to understand how scientific data is used to calculate measures of outcomes of scientific experimentation. You will investigate various formats for communicating patterns and trends based on the data and calculations.

3. Teamwork. You will develop skills in working with a group of students in the lab. In most lab periods you will work cooperatively with other students to complete tasks.
4. Personal skills. Success in any university course requires a student to develop time management, goal setting, and work ethic skills.
5. Alongside the academic goals of this course, I hope that you develop yourself as a person of learning and begin to understand how to be successful in university courses, and beyond.

#### **Delivery Mode and use of Zoom and/or UR Courses:**

**This is an in-person course** with an option for attending lectures on Zoom. **Lab attendance, in person, is mandatory. All assessments (lecture exams, lab quizzes, and the final exam) are in-person and mandatory.**

#### **Optional Textbook:**

Textbook: <https://openstax.org/details/books/concepts-biology> This is not required reading. This open-source, peer-reviewed, and free online textbook is a resource you can use to look up topics for background reading, images, or other examples.

Lab Notebooks: available on UR Courses in the Labs section of the course. A copy of each lab notebook is needed on paper or on a tablet. No other devices are to be used in the lab.

#### **Electronic Resources:**

It is expected that you will log in and check UR Courses **at least once per week**. On this course website you will find:

- The lab notebooks
- Lecture notes from class
- Required pre-lab quizzes
- Engagement mark quizzes
- Grades
- Email and discussion forums
- Required video links and documents for learning content

## Class Schedule

Week #	Lecture Dates	Topic	Lab
1	Sep 3	Introduction to course	
2	Sep 8 and 10	Characteristics of Life Unifying Principle: Evolution	
3	Sep 15 and 17	Scientific Process Unifying Principle: Cell Theory	Lab 1 Sep 18
4	Sep 22 and 24	Photosynthesis, Cellular Respiration Unifying Principle: Gene Theory	
5	Sep 29 and Oct 1	Epigenetics, Homework: read Code of Life transcript Science Literacy Workshop <b>in person is best</b>	Lab 2 Oct 2
6	Oct 6 and 8	AI Workshop <b>in person is best</b> <b>Oct 8 Midterm 1, in person, in class</b>	
7	Oct 13 and 15	Oct 13 Thanksgiving <b>no class</b> Oct 15 Unifying Principle: Homeostasis	
8	Oct 20 and 22	Diversity of Life Diversity of Life	Lab 3 Oct 16
9	Oct 27 and 29	Population and Community Ecology Population and Community Ecology	
10	Nov 3 and 5	Nov 3 Population and Community Ecology <b>Nov 5 Midterm 2, in person, in class</b>	Lab 4 Oct 30*
11	Nov 10 and 12	Break week <b>no classes</b>	
12	Nov 17 and 19	Ecosystems Ecosystems	Lab 5 Nov 20
13	Nov 24 and 26	Ecosystems Biodiversity	Make up lab Nov 27
14	Dec 1 and 3	Bring it together: Private Life of Plants video ( <b>in class</b> ) Last Day, course evaluations	

\* Lab 4 is done on your own at the Royal Saskatchewan Museum. In this lab period, you will write the RSM lab quiz, submit your RSM lab notebook, and work on some set up for lab 5. It is expected this lab period will be about 1 hour long.

NOTE: every effort will be made to maintain this schedule, but dates and class content may be subject to change. You will be notified if there are major changes to this outline.

## Lab Schedule

### **Attendance at all labs and completion of the lab work is mandatory**

Please check your semester schedule to determine in which lab section you registered. It is important that you attend the lab section for which you are registered.

Section	Date	Time	Lab #	Topic
L02	Sept 18	8:30 am	1	Microscopes, Cells, Microbial Diversity
L03	Sept 18	2:30 pm	1	Microscopes, Cells, Microbial Diversity
L02	Oct 2	8:30 am	2	Scientific Method, Mealworm food experiment, start wetland
L03	Oct 2	2:30 pm	2	Scientific Method, Mealworm food experiment, start wetland
L02	Oct 16	8:30 am	3	Evolution, Predator-Prey, check wetland
L03	Oct 16	2:30 pm	3	Evolution, Predator-Prey, check wetland
L02	Oct 30	8:30 am	4	RSM quiz *, set up wetland
L03	Oct 30	2:30 pm	4	RSM quiz *, set up wetland
L02	Nov 20	8:30 am	5	Wetland in a bottle
L03	Nov 20	2:30 pm	5	Wetland in a bottle
	Nov 27 **	8:30 am		Make-up lab**
	Nov 27 **	2:30 pm		Make-up lab**

\* This lab is completed at home (pre-lab work) and on your own at the Royal Saskatchewan Museum. **You can do this lab on your own at any point in the semester up to the date of the lab.** In this lab period you will write a lab 4 quiz, set up the second set of wetlands, and check on your growing wetland.

\*\* Permission is required to attend the make-up lab periods. Permission is granted after a missed lab form has been submitted on UR Courses and approved. Review lab notes before lab period to prepare for writing the quiz. There is a deduction of two marks on the quiz for missing lab work.

## Evaluation Components and Due Dates

Evaluation Component	Grade Weight (%)	Due Date
Midterm 1 *	15	Wed Oct 8, in person, in class
Midterm 2 *	15	Wed Nov 5, in person, in class
Final exam **	30	<b>Tentative Wed Dec 17, 9:00 am</b>
Science Literacy in class assignment	2.5	Wed Oct 1, in person is best
AI in class assignment	2.5	Mon Oct 6, in person is best
Lab quizzes ***		
Lab 1	4	Thu Sept 18, in person, in lab
Lab 2	7	Thu Oct 2, in person, in lab
Lab 3	7	Thu Oct 16, in person, in lab
Lab 4	8	Thu Oct 30, in person, in lab
Lab 5	8	Thu Nov 20, in person, in lab
Engagement Quizzes ****	1	Check each quiz
<b>Total</b>	<b>100%</b>	

\* Students are allowed to bring a single 8.5x11 inch/22x28 cm page of notes with writing **on one side**. Excess writing will result in a loss of 1% of the grade achieved for each 10% extra note. Notes are submitted with the exam.

\*\* Students are allowed to bring a single 8.5x11 inch/22x28 cm page of notes with writing **on two sides**. Excess writing will result in a loss of 1% of the grade achieved for each 10% extra notes. Notes are submitted with the exam.

\*\*\* Lab quizzes are open book using the completed lab activity booklet. The completed lab activity booklet is submitted with the lab quiz. Incomplete lab notebooks will result in a loss of 0.5% of the achieved grade on the quiz for each blank answer in the lab notebook.

\*\*\*\* Engagement Quizzes include the Academic Integrity Quiz and the Syllabus Quiz. Check each quiz for closing dates.

## Professional Conduct & Policies

### Accessibility:

The University of Regina wishes to support all students in achieving academic success while enjoying a full and rewarding university experience. The Centre for Student Accessibility upholds the University's commitment to a diverse and inclusive learning environment by providing services and support to enable students with disabilities, health conditions, illnesses, and injuries to approach their studies in an equal and effective manner. Students who need these services are encouraged to register with the Centre for Student Accessibility to discuss the possibility of academic accommodations and other supports as early as possible. The deadline to register and/or request accommodation letters for instructors coincides with the W drop deadline(s) for courses each semester. To register with the Centre for Student Accessibility, please book an appointment with an Accessibility Advisor by calling 306-337-2200 or emailing [student.success@uregina.ca](mailto:student.success@uregina.ca). For further information on what is required to register and receive academic accommodations, please explore the website: [Student Accessibility | UR Accommodated, University of Regina \(uregina.ca\)](https://www.uregina.ca/centre-for-student-accessibility/).

### Academic Honesty:

In this class, you will be held to high standards of academic conduct.

In an exam or quiz, cheating includes:

- copying from someone by looking at their exam or talking to them
- using something you have brought into the exam that you are not allowed to have

For this course you are not allowed to have any electronic devices, including cell phones, smart watches, text messaging devices, translators, or calculators. These items need to remain in your backpack or coat, **separate from where you are sitting to write the exam**. In any case of suspected cheating, notation will be made beside any question attempted at that point, you will continue with the exam, and then any evidence, along with your exam, will be handed over to the Assistant Dean for investigation. Disciplinary action could include zero for the exam, zero for the course or expulsion from the University of Regina. A zero in a course that arises from academic misconduct is marked with a special notation and remains as a permanent record. In all cases, the misconduct is recorded with the University Secretary. Each case of misconduct has an impact on the discipline of further cases of misconduct.

Plagiarism is a form of cheating where you represent someone else's work as your own. This could be an essay, a lab assignment, or any other kind of assignment. It includes copying an answer from a friend during a lab quiz, handing in work from a previous semester, copying directly from a source without indicating it is a quote, or using ideas from a source without indicating the source you used.

If you are unclear about these definitions of cheating and plagiarism, please see me.

This course has been set up to reduce the opportunity for cheating. If you are worried about being prepared enough for an assessment, before you resort to cheating, please reach out. I have great confidence that we can figure out a solution.

Students are allowed to use generative artificial intelligence text software, such as ChatGPT, on assessments where it is indicated it is allowed. Students are expected to complete all course work **without substantial assistance from others, including automated tools**. Unauthorized

use of generative AI is considered a breach of academic integrity. Any suspected cases of academic misconduct will be shared with the Assistant Dean of Luther College for a formal investigation

### **Required Assessments and Late Submission Policy:**

All assessments need to be completed, even if they are late. If you miss an assessment, you need to contact the instructor as soon as possible. Make up assessments will not be possible after the assessment is returned.

**A grade of NP (not passed) is awarded if a student has missed a required assessment.**

### **Attendance:**

**Lecture attendance is strongly encouraged.** Zoom lectures are not recorded. Learning starts in the lecture, continues in the lab, and is solidified with studying. Please note that **attendance is more than showing up during class time. Attendance means being involved in the class by listening, taking notes, and thinking about the class material. Disruption of the learning environment, in the lecture or lab, is grounds for a misconduct investigation.**

**Lab attendance is mandatory** to get credit for this lab-science course. Please reach out to me if you run into a problem on lab day or if you notice you have a lab conflict.

From the UR Undergraduate Calendar:

*Regular and punctual attendance at classes provides a foundation for academic success and is expected of all students. When the persistent lateness or absence of a student jeopardizes the learning or the evaluation of the work of other students in the course, the student may be subject to penalty. One written warning will be provided to a student before action is taken. This includes, but is not limited to:*

- *being dropped from the course (I have never had to do this);*
- *being barred from writing the final exam (I have never done this);*
- *being barred from attending a class or components of a class (this usually only happens when you need skills or content from a previously missed lecture or lab).*

### **Use of Cell Phones and Social Media Policy:**

You are welcome to bring electronic devices to the class that you are going to use in a productive manner conducive to the learning environment. It is expected that you will be engaged with the learning process in such a way that other people, including myself and other students, will not be distracted. *Texting, scrolling, and swiping are more distracting than might be anticipated.* Let me repeat, when you are using technology for non-class or lab related work, it is noticeable and disruptive. Disrupting teaching and learning can be academic misconduct. **Devices are not allowed in the labs. They must be stored in your bag or coat.**

### **Other Policies:**

In large classes there is often a misconception about the impact of talking during lectures. Talking is distracting in both auditory and visual ways. It is distracting to hear people talking and it is distracting to see people in a conversation. Refrain from holding conversations during lectures. **It is important that the classroom and labs be a respectful and safe learning space for everyone, including students, the instructors, and any guests. Please be aware of how your behavior affects others.**



### **Luther College Academic Announcements**

**Fall 2025**

*We are mindful that Luther College resides on Treaty 4 territory. These are the territories of the nêhiyawak, Anihšīnāpēk, Dakota, Lakota, and Nakoda, and the homeland of the Métis/Michif Nation.*

#### ***Services for Students with Disabilities, Health Conditions, Illnesses, and Injuries***

The University of Regina wishes to support all students in achieving academic success while enjoying a full and rewarding university experience. The Centre for Student Accessibility upholds the University's commitment to a diverse and inclusive learning environment by providing services and support to enable students with disabilities, health conditions, illnesses, and injuries to approach their studies in an equal and effective manner. The Centre for Student Accessibility aims to encourage independence, self-advocacy, and equality for all students, while maintaining privacy and confidentiality. Students who need these services are encouraged to register with the Centre for Student Accessibility to discuss the possibility of academic accommodations and other supports as early as possible. The deadline to register and/or request accommodation letters for instructors coincides with the W drop deadline(s) for courses each term. To register with the Centre for Student Accessibility, please book an appointment with an Accessibility Advisor by calling [\(306\) 585-4631](tel:3065854631) or emailing [accessibility@uregina.ca](mailto:accessibility@uregina.ca). For further information on what is required to register and receive academic accommodations, please explore the website: <https://www.uregina.ca/student/accessibility/index.html>

#### ***Student Responsibilities and Course Prerequisites***

Students are responsible for understanding and following the academic regulations outlined in the University Calendar. Please see the Academic Regulations section of the 2025-2026 Calendar (pp. 55 – 66). Ensure that you have the necessary prerequisite for this class. If not, you will not receive credit for it, and you may have difficulty in completing your degree program. Please note unauthorized video or audio-recording of classes is not permitted. If you have a complaint about this course or the instructor, please contact the Academic Dean of Luther College. [2025-2026.pdf](#).

#### ***Attendance***

Regular and punctual attendance is expected of students in their courses. When the persistent lateness or absence of a student jeopardizes the learning or the evaluation of the work of other students in the course, the student may be subject to penalty, including being dropped from the course or being barred from writing the final examination. One written warning will be provided to the student before such action is taken. (Academic Regulation section of the 2025-26 Calendar). Please see the course syllabus for any additional attendance requirements specific to this course.



### *University Email Accounts*

All official university and course-related correspondence is sent to your University of Regina email account. Check it regularly or have your university email forwarded to your preferred email address; see <http://www.uregina.ca/is/student/email/>.

### *Procedures and Dates for Dropping Courses*

All changes to course registration must be made through UR Self Service. Students who are not attending but have not formally withdrawn are still considered to be registered, are liable for fees, and are assigned a failing grade of NP for failing to complete the course. **Non-attendance does not constitute withdrawal.** The 2025-26 Academic Schedule indicates the important dates for adding/dropping courses - see [2025-26.pdf](#).

Last day to add a course and drop a course with no record and receive a 100% refund	September 15, 2025
Last day to withdraw from a course and receive 50% refund	September 29, 2025
<b>Last day to withdraw from a course without a failing grade</b>	<b>November 17, 2025</b>

### *Academic Misconduct – Plagiarism and Cheating*

Note the definitions of plagiarism and cheating in the Student Code of Conduct and Right to Appeal section of the 2025-2026 Calendar (pp. 48 – 55), as well as the potential punishments (which range from a grade of 0 on the test or assignment in question up to expulsion from the University). **If you have any questions about the proper methods of citing sources, the extent to which sources (including internet resources) must be cited, or what might constitute plagiarism, please discuss your questions with your instructor before handing in work.** Please note that when you hand in assignments, it is assumed that you handed in the version you intended to hand in – the excuse that you ‘accidentally’ handed in the wrong file will not be accepted. Note that submitting the same assignment in two different classes is considered academic misconduct.

### *Procedures for Requesting Deferrals of Final Exams or Term Work*

If you are unable to finish your final exam or term work for reasons beyond your control (e.g., illness, accident, death in the family), please contact the Assistant/Associate Dean of the Faculty or College through which you are registered as soon as possible for advice. Procedures for requesting deferral of final examinations or term



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work are outlined in the Academic Regulations section of the 2025-2026 Calendar. If you experience any personal difficulties during the term, for example due to illness or family issues, please discuss your situation with your instructor and/or your Assistant/Associate Dean as soon as possible.

### *University Harassment and Discrimination Prevention Policy*

All members of the University community are entitled to a professional working and learning environment free of harassment and discrimination. For more details, see Respectful University Services under the Student Activities, Facilities, and Support Services section of the 2025-2026 Calendar, and the website [Respectful University Services | University of Regina \(uregina.ca\)](https://www.uregina.ca/respectful-university-services).

Wishing you a successful term!