

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-centered and open to students from all faculties and federated colleges at the University of Regina.

Luther College respectfully acknowledges that it is situated on Treaty Four lands and the home of the Métis people. Luther 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

Course Number: BIOL 224 – L01

Course Title: Introduction to medical microbiology

Term/Year: Winter 2026

Times and Locations:

Lectures: TR 1:00-2:15 PM in LC AUD

Labs: W 2:30-5:00 PM (L02/ L03)

R 2:30-5:00 PM (L04/ L05)

R 8:30-11:15 AM (L06/ L07)

Pre-Requisites: BIOL 100 and 101

Instructor Name and Title: Dr. Nicole Hansmeier

Office Location: LC 222

Email: nicole.hansmeier@uregina.ca

Bio: LCUR or IECS website “Hansmeier”

Office Hours: TR after lectures or other times by appointment (scheduled via UR Courses internal email)

Laboratory instructor Name and Title: Ms. Heather Dietz (she/her)

Office Location: LB 414.2

Email: Please use UR Courses email only

Bio: UR website “Dietz”

Office Hours: T 1:00-2:00; W 11:00-12:00; RF 11:00-12:00

Virtual Office Hours: M 3:00-4:00 PM (by appointment scheduled via UR Courses internal email)

Course Description: The intent of this course is to provide a basic introduction to pathogens and the concept of diseases. This course covers bacteria, viruses and eukaryotes, with emphasis on emergent diseases and urgent challenges for public health. The associated laboratory exercises enable students to apply select concepts and to examine them in more detail.

Learning Objectives: By the end of this course, students will be able to: A. Explain the roles of microorganisms in health and disease, and classify infectious agents. B. Describe the principles of disease transmission, epidemiology, and pathogen evolution. C. Identify major bacterial and viral pathogens, their virulence factors, and control measures. D. Understand the structure and function of the immune system, immune responses to infection, and the basis of vaccines. E. Recognize key infectious diseases affecting skin, systemic, and digestive systems. F. Apply safe microbiological practices, including aseptic technique, microscopy, staining, culturing, biochemical testing, and antimicrobial susceptibility assays. G. Analyze laboratory data and relate findings to clinical and public health contexts. Further details please see below.

Meta-skills and/or Capabilities:

- Critical thinking, analysis and comparison
- Information literacy

- Group work
- Interpersonal and written communication
- Laboratory work

Required Readings, texts and accounts:

- *Microbiology* from OpenStax: this is an Open Source Textbook, available for download for free at <https://openstax.org/details/books/microbiology>
- *Microbiology Techniques - multimedia lab manual*: this is available to purchase through TopHat.

Electronic Resources:

Our UR Courses site will be continually updated with lecture notes and supplementary materials, study material, announcements, etc.

To access, log in at <https://urcourses.uregina.ca/login/index.php>, using your uregina.ca username and password.

Winter 2026: Evaluation Components and Due Dates

Evaluation Component	Grade Weight	Due Date
Laboratory	40%	Details see lab schedule
Signed laboratory policy document	0%	Jan 31; if not submitted on time, 5-point penalty on lab grades
Midterm exam	25%	Feb 24, 1:05 – 2:05 PM
Final exam	35%	Apr 16, 2:00 – 3:00 PM
Total	100%	

Grade distribution Laboratory	
Preparation (TopHat aggregate grade)	10 points (4% of course total)
Post-lab quiz (4 at 5 points each)	20 points (8% of course total)
Group Term Unknown Assignment (due 29 March)	20 points (8% of course total)
Final Lab Exam	50 points (20% of course total)
	100 points (40% of course total)

**** It is the student's responsibility to make sure they know the correct time and date of exams, labs or assignments. Getting this information wrong is not a legitimate reason for requesting a deferral. ****

Policies (see Policy document for more details):

Students must complete all the evaluation components to receive a grade in the course. Failure to complete any single course component – exams, or lab – will result in a failing grade of NP (No Pass). Passing grade for the course is 50%.

Students who have a conflict with the time or day of the midterm or final exam, must inform the instructor in writing by Jan 15 otherwise the exams must be written as scheduled without exception. There are no make-up exams.

Grades of a missed lecture midterm exam with valid excuse (e.g. illness, death in family) will be allocated to the final exam.

No-penalty extensions on lab components are not granted unless there is an extreme circumstance for which a **written** request for an extension is accompanied by sufficient written documentation. The extension request and supporting documents must be **provided 24 hours before the due date**.

In fairness to everyone in the class, **the values of the evaluation components will not be adjusted and there are no extra assignments to make up grades for an individual student.**

Grade appeals must be submitted within 20 business days from the day the grade was received. To initiate a grade appeal, procedures listed in the Academic Calendar must be followed.
(<https://www.uregina.ca/registrar/assets/docs/pdf/calendar/2025-2026.pdf>)

Final course grades posted on URCourses are unofficial grades as final grades are subject to review and approval by the Dean.

Please note that 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 <http://www.uregina.ca/gencal/ugcal/>).

Specialized Accommodations:

Students in this course who, because of a disability, may have need for specialized accommodations, should please contact the Centre for Student Accessibility (Riddell Centre 251.15, 585-4631, www.uregina.ca/student/accessibility/) and should discuss these accommodations with the instructor(s). Please note that instructors do not have the authority to arrange for any accommodation independent of the Centre for Student Accessibility. **Accommodation can only be addressed after discussion with the instructor, which needs to be requested by the student.**

Winter 2026: Tentative Schedule (subject to change)

Date	Lecture topic
Week 1 (Jan 6/8)	Introduction to the course; Microbes – friends or foe?
Week 2 (Jan 13/15)	Concept and classification of diseases; Viral pathogens
Week 3 (Jan 20/22)	Epidemiology
Week 4 (Jan 27/29)	Control of pathogens; Bacterial pathogens
Week 5 (Feb 3/5)	Virulence factors and evolution
Week 6 (Feb 10/12)	Diagnostics (review before midterm)
Week 7 (Feb 16/22)	Reading break
Week 8 (Feb 24/26)	Midterm exam (Feb 24); Immune system
Week 9 (Mar 3/5)	Immune system; Complement, inflammation and fever
Week 10 (Mar 10/12)	Adaptive immune system
Week 11 (Mar 17/19)	Vaccines; Immunodeficiency and HIV
Week 12 (Mar 24/26)	Skin and systemic infections
Week 13 (Mar 31/ Apr 2)	Systemic and digestive infections
Week 14 (Apr 7/9)	Digestive infection (review before final exam); Lab tour/ research discussion

Date range by section		Lab number and topic
L02/L04/ L06	L03/L05 /L07	
Jan. 7/8	Jan. 14/15	Lab 0 (in-person) – Introduction to biosafety in the BIOL224 lab
Jan. 14/15	Jan. 21/22	Lab 1 (online) – Introduction to microscopy, aseptic technique and staining
Jan. 21/22	Jan. 28/29	Lab 2 (in-person) – Microscopy and simple staining
Jan. 28/29	Feb. 4/5	Lab 3 (online) – Introduction to differential staining, subculturing and media
Feb. 4/5	Feb. 11/12	Lab 4 (in-person) – Gram staining and streak plating
Feb. 11/12	Feb. 25/26	Lab 5 (online) – Introduction to classical biochemical identification
Feb. 25/26	Mar. 4/5	Lab 6 (in-person) – Biochemical testing*
Mar. 4/5	Mar. 18/19	Lab 7 (online) – Controlling microbial growth
Mar. 18/19	Mar. 25/26	Lab 8 (in-person) – Disc diffusion assays**
Apr. 8/9	Apr. 8/9	Final lab exam

* Mar. 12/13 Lab 6 data collection for all sections (L02/L04 2:30-3:30; L03/L05 4:00-5:00; L06 8:30-9:30; L07 10:00-11:00)

** Apr. 2/3 Lab 8 data collection for all sections (L02/L04 2:30-3:30; L03/L05 4:00-5:00; L06 8:30-9:30; L07 10:00-11:00)

NOTE: Some of our Zoom class sessions may be recorded to support student learning (i.e., for use by enrolled students, who may require certain accommodation). As a result, the University of Regina may collect your image, voice, name, personal views and opinions, and course work under the legal authority of The Local Authority Freedom of Information and Protection of Privacy Act.

Students who participate in a Zoom session with their video on or utilize a profile image are consenting to have their video or image recorded (including anything visible in the background). If you have concerns with such recording, be sure to keep your video off and do not use a profile image. In addition, students who un-mute their microphone during class and participate orally are consenting to have their voices, and personal views and opinions recorded. If you are unwilling to consent to this recording, please do not un-mute your microphone during class. If you have any questions about the collection or use of your personal information, please contact your instructor.

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 semester. 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. 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 2025-26 Calendar under Responsibilities of Students. Ensure that you have the necessary prerequisite for this class. If not, you will not receive credit for it at graduation time, 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.

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 note any specific requirements for attendance in 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.**

Last day to drop a course and receive 100% refund	January 19, 2026
Last day to drop a course without a transcript record	January 19, 2026
Last day to withdraw from a course and receive 50% refund	February 2, 2026
End of grade-of-W drop period	March 16, 2026

Academic Misconduct – Plagiarism and Cheating

Note the definitions of plagiarism and cheating in the Student Code of Code and Right to Appeal section of the 2025-26 Calendar, as well as the potential punishments (which range from a grade of 0 on the test or essay 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 work are outlined in the Academic Regulations section of the 2025-26 Calendar. If you experience any personal difficulties during the semester, 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. See the General Information for Students section of the 2025-26 Calendar for more details.

Wishing you a successful semester!

Think deeply. Act passionately. Live faithfully.

