



UM | Faculty of Agricultural
and Food Sciences

Syllabus

FOOD 4150 Food Microbiology/FOOD 7240

(Fall 2026)



University
of Manitoba

Department of Food and Human Nutritional Sciences

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f. Activity Assessment: Students must prepare a written HACCP plan, maximum 15 pages, 1.0- line spacing. Only one student per team should submit the assignment. Please use tables or flow diagrams when deemed appropriate.	Error! Bookmark not defined.
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COURSE DETAILS

Course Title & Number: Food Microbiology 4150

Number of Credit Hours: 3

Class Times & Days of Week: MWF 9:30 am – 10:20 am

Location for classes/labs/tutorials: EITC E2 Rm: 105: Lectures
Ellis Building – 241 Student Laboratory
B01: Monday 2:30 - 3:55 pm
B02: Monday 4:00 - 5:25 pm
B03: Tuesday 2:30 - 3:55 pm
B04: Tuesday 4:00 – 5:25 pm
B05: Tuesday: 10- 11:25 am

Prerequisites: There are no formal prerequisites for this course. However, an introductory microbiology course is strongly recommended, as several topics assume prior familiarity with fundamental microbiological terminology, principles, and laboratory concepts. Students without this background may need to independently review foundational microbiology concepts to ensure they are adequately prepared for the course material.

This is an intensive course that requires a high level of academic maturity and personal responsibility. Students are expected to demonstrate effective time management, teamwork, organization, and the ability to meet deadlines. Strong written communication skills are also important, as students will be required to prepare comprehensive laboratory reports that clearly present and interpret experimental results, integrate relevant scientific literature, and communicate conclusions using appropriate scientific writing conventions.

Students in their first or second year are encouraged to carefully consider whether they have the necessary academic background and experience to meet these expectations. The course content, laboratory work, and written assignments are generally designed at a level more appropriate for students in their third or fourth year of study.

Instructor Contact Information

Instructor(s) Name & Preferred Form of Address: Claudia Narvaez-Bravo, please address me as Dr. Narvaez or Professor Narvaez.

Office Location: 238 Ellis Building.

Office Hours or Availability:	By appointment. I am generally available in my office, located at Ellis Building, room 238. I can be reached by prior arrangement, as I may be working in my research lab. To make an appointment, please use the UML email system.
Office Phone No.	204-474-6658
Email:	Claudia.narvaezbravo@umanitoba.ca <i>Note:</i> All email communication must conform to the Communicating with Students university policy.
Contact:	By email
Teaching Assistant (TA) and Markers	Email
Sarah Cromb (TA)	crombs@myumanitoba.ca
Office Ellis building, room 260	
Julia Kellestine (TA)	kellestj@myumanitoba.ca
Daniel Mayboca (Marker)	maybocad@myumanitoba.ca
	By email, previous appointment

Course Description

U of M Course Calendar Description

Relationships of microorganisms to the processing and spoilage of food.

General Course Description

FOOD4150 explores the essential roles microorganisms play in food production, safety, and quality. This course provides a comprehensive examination of the microbial ecology of foods, emphasizing both beneficial microbes and those associated with spoilage and foodborne illnesses.

Students will gain an in-depth understanding of the complex interactions within food systems, from pre-harvest through post-harvest stages. Topics include the characteristics and mechanisms of foodborne infections and intoxications, the behaviour and survival of microorganisms and contaminants in food-processing environments, and the impact of pathogens, spoilage organisms, and microbial toxins on food safety.

The course also covers fundamental food preservation and processing techniques relevant to microbial control. Students will learn how to detect foodborne pathogens and interpret microbial indicators of safety and quality. Good Manufacturing Practices (GMP), Standard Operating Procedures (SOP), and Hazard Analysis Critical Control Points (HACCP) will be introduced.

The laboratory component offers hands-on experience in conventional and rapid microbiological methods for analyzing microbial indicators and foodborne pathogens in food products and food processing facilities (environmental). Students will practice techniques for enumerating and identifying bacteria relevant to food safety and quality.

Food microbiology is essential not only for protecting public health but also for supporting food trade, sustainability, and food security. By the end of this course, students will understand the integral role of

microorganisms in food preservation, safety, human health, and biotechnology, and will be well prepared for careers in food microbiology and food safety.

Course Goals

Food microbiology is an exciting field, technologically dynamic, and fundamental to food development, food production, and public health. It assists us in answering questions arising from food production and food technology disciplines, supporting a multibillion-dollar food industry. Food Microbiology not only ensures the quality and shelf life of various food products but also guarantees that these products are safe for the consumer. The production of food under food safety parameters and regulations requires more than just memorizing knowledge. The food microbiology field requires critical thinking, integration of knowledge, and innovative approaches to problem-solving. This course will help students develop these skills throughout, using a variety of teaching methods, including lectures, group discussions, case studies and other classroom activities. This course will combine classroom lectures with a laboratory environment on the fundamentals of food microbiology and food safety. Additionally, the student's written skills will be improved through multiple writing assignments, including laboratory reports.

General Course Learning Objectives

- Define microbial food spoilage, food quality, food safety and the factors affecting the growth and control of microorganisms in food
- Identify relevant beneficial, pathogenic and spoilage microorganisms in foods and the conditions under which they grow
- Articulate the use of hurdle technology and food preservation to control foodborne pathogens in food systems.
- Describe the conditions under which relevant pathogens are commonly destroyed or controlled in foods
- Discuss the principles of food preservation and to describe the different food preservation methods.
- Describe the role of beneficial microorganisms in food processing, preservation and safety, and their potential health benefits
- Explain the causes of foodborne microbial diseases and predict the pathogens that can grow in any given food during different stages of the food production system
- Explain the different factors that take place during food processing and how food can be contaminated in the food continuum (pre- and post-harvest level)
- Identify potential hazards and food safety issues in specific foods
- Describe routes of physical, chemical, and biological contamination of foods
- Recognize and articulate the importance of SSOP, GMP and HACCP in the food industry
- Discuss methods for controlling physical, chemical, and biological hazards
- Apply laboratory techniques to identify microorganisms in foods
- Apply rapid microbiology techniques to assess food safety and quality

- Demonstrate the use of appropriate lab techniques commonly used in the food microbiology laboratory
- Work effectively as a team in designing and using food microbiology laboratories and in-class activities

Note: Specific learning outcomes will be delivered in each lecture

Foundational Knowledge Content Areas for Dietetic Education

This dietetic education program is an accredited program by the Partnership for Dietetic Education and Practice (PDEP) and prepares students for eligibility for registration with a provincial dietetics regulatory body.

Highest level achieved: 1= demonstrate broad knowledge; 2= demonstrate comprehension; 3= analyze, interpret and apply knowledge.

Content Area	Foundational Knowledge	Cognitive Complexity Level
Communication	Strategies for effective written communication	3
	Strategies for effective interpersonal communication	3
Food	Physical properties and chemical composition of food	2
	Food preservation, storage, and packaging	1
	Foodborne illness	2
Food Service Systems	Quantity food production and distribution	2
	Hazard Analysis and Critical Control Points (HACCP)	2
Interprofessional Collaboration	Interprofessional communication	2
	Team functioning	1
	Collaborative leadership	1
Management	Organizational behaviour and development	1
Microbiology	Classification of microbes	1
	Microbes in food safety	2
	Host-vector spread of infection and risk management	2
	Microbes in food production including prebiotic and probiotics	1
Professional Practice in Dietetics	Ethical conduct	3
	Reflective practice	2
	Professional development	1
	Decision making	2

Textbook, Readings, and Course Materials

Recommended textbook: Food Microbiology. An Introduction. Edited by Thomas J. Montville and Karl R. Mathews (2017). 2nd Ed. ASM Press.

Note: the textbook is available online. You can also use older editions that can be found at the university library. You can also revise the material in other microbiology books:

- Modern Food Microbiology, edited by Jay J.M., Loessner, M.J. and Golden, D.A. (2005), 7th ed. Springer, New York, NY.
- Food Microbiology: Fundamentals and Frontiers, edited by Doyle, M. P., and Beuchat, R. L. (2007) 3rd ed. ASM Press, Washington, DC

[University of Manitoba Libraries](#)

FOOD4150 Laboratory Manual: Available at UML under the content tab.

Supplementary readings

- A Guide to Writing in the Sciences. Gilpin, A.A., Patchet-Golubev, P. University of Toronto Press 2000.
- Lab Math: A Handbook of Measurements, Calculations, and Other Quantitative Skills for Use at the Bench By Dany Spencer Adams. <http://www.amazon.ca/Lab-Math-Measurements-Calculations-Quantitative/dp/0879696346>
- Compendium of Methods for the Microbial Examination of Foods. Edited by Downes, F.P. and Ito, K. (2001) 4th ed. American Public Health Assoc.

Using Copyrighted Material

Please respect copyright. We will use copyrighted content in this course. I have ensured that the content I use is appropriately acknowledged and is copied in accordance with copyright laws and university guidelines. Copyrighted works, including those created by me (videos, PowerPoint slides, laboratory manual, etc), are made available for private study and research and must not be distributed in any format without permission. Do not upload copyrighted works to a learning management system (such as UM Learn), or any website, unless an exception to the *Copyright Act* applies or written permission has been confirmed. For more information, see the University's Copyright Office website at <http://umanitoba.ca/copyright/> or contact um_copyright@umanitoba.ca.

Course Technology

Students are required to have regular access to a laptop or other compatible device for this course. A laptop will be necessary for accessing UML, completing online assessments, participating in interactive activities, and writing the midterm exams. It is the students' responsibility to ensure that their devices are fully functional, up to date, and fully charged before class sessions and assessments. Students are strongly encouraged to install and test any required software, including the Respondus LockDown Browser, in advance to prevent technical issues during exams

This Fall 2026 term; I will be using both iClicker and Mentimeter as student response systems during class.

Please ensure you download and install the iClicker Student App on your smartphone before the first class. These interactive tools will allow everyone to engage with the material, contribute to in-class discussions, and provide real-time feedback on your understanding. For Mentimeter, you will only need a code that I will provide with the lecture.

iClicker will be used to record attendance and participation. You will receive bonus marks for active participation through iClicker. For the course management, I will be using UM Learn. Lectures will be available at least 24 h before the lecture.

If you encounter any technical issues with iClicker or Mentimeter, it is your responsibility to contact the ITS Service Desk for support. Please note that I am not a technician and do not have the expertise to troubleshoot technical problems. I'm also unable to follow up individually with multiple students experiencing system-related issues.

Midterm exams will be held in the classroom during the scheduled lecture time. Students are required to complete the exam online through UML using the Respondus LockDown Browser. A fully charged laptop (Windows 10 or 11, or macOS — ensure compatibility) with a functional camera, or an alternative compatible device, is required to take the exam.

Students are strongly encouraged to install and test the Respondus LockDown Browser on their device well before the exam date to avoid technical issues. Additionally, please ensure you complete the LockDown Browser practice quiz before each midterm to familiarize yourself with the system and verify functionality.

Additionally, the use of other technologies (e.g., tablets, cellphones, laptops) is permitted in the classroom when related to lecture materials/classroom activities. It is the general policy of the University of Manitoba that all technology resources be used in a responsible, efficient, ethical, and legal manner.

GenAI tools:

Students may choose to use generative artificial intelligence (genAI) tools as they carefully work through the assignments in this course. This use must be documented in an appendix for each assignment. The documentation should include which tool(s) were used, how the tool(s) were used, and how the result(s) from the genAI were incorporated into the submitted work.

Expectations: I Expect You To

The student is expected to attend all lectures and lab sessions and to participate actively in the course. Active participation involves engaging with the material by listening attentively and responding to questions during class (perfection is not expected—this is a learning environment); keeping up with lecture content and completing assignments on time; and proactively seeking help when the course material is unclear. Support to students is available throughout the term from the course instructor, one technician, two grader-markers and two teaching assistants (TAs), who are available to assist you.

PowerPoint presentations summarize only a portion of the knowledge and content that needs to be covered in this course. You are expected to supplement the material presented in class with assigned and independent reading. A list of recommended textbooks is provided on page 8 of the syllabus. Selected textbook chapters and additional resources are also posted in UML to support your understanding of specific topics and facilitate learning. Please take the time to regularly navigate UML, review the available resources, and complete the recommended readings.

Videos will be provided (available in UML) for the lab component, and please read your lab manual before you check the videos, as this will facilitate your learning.

Attendance and active participation are important contributors to student success in this course. Attendance at lectures is not mandatory; however, in-class assignments and activities can only be completed for credit by students who are present when they are administered. Bonus marks may also be awarded for attendance. These marks are non-negotiable and are awarded only to students who are present in class. If you are unable to attend a lecture for any reason, you do not need to notify or email the instructor regarding your absence.

Attendance at all laboratory sessions is mandatory.

I will be in the classroom at least 10 minutes before the lecture starts, so you can ask a quick question or discuss any class-related issues with me. I will treat you with respect and will appreciate the same courtesy in return. For more information regarding a respectful work and learning environment, please visit the following link:

Please See [Respectful Work and Learning Environment Policy](#).

I expect you to follow these policies around Class Communication, Academic Integrity, and Recording Class Lectures.

Class Communication:

You are required to obtain and use your University of Manitoba email account for all communication between yourself and the University. All communication must comply with the Electronic Communication with Students Policy:

http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html.

Academic Integrity:

Each student in this course is expected to abide by the University of Manitoba [Academic Integrity principles](#). Always remember to reference the work of others that you have used. Also be advised that you are required to complete your assignments independently unless otherwise specified. If you are encouraged to work in a team, ensure that your project complies with the academic integrity regulations. You must do your own work during exams. Inappropriate collaborative behavior and violation of other Academic Integrity principles, will lead to the serious [disciplinary action](#). Visit the [Academic Calendar](#), [Student Advocacy](#), and [Academic Integrity](#) web pages for more information and support.

Refer to specific course requirements for academic integrity for individual and group work such as:

- I. Group projects are subject to the rules of academic dishonesty;
- II. Group members must ensure that a group project adheres to the principles of academic integrity;
- III. Students should also be made aware of any specific instructions concerning study groups and individual assignments.
- IV. The limits of collaboration on assignments should be defined as explicitly as possible; and
- V. All work should be completed independently unless otherwise specified.

Recording Class Lectures:

Videos covering the laboratory sessions will be provided by the instructor. The provided course materials (both paper and digital) are for the participant's private study and research. Lecture material is the professor's intellectual property.

Recording of class lectures is strictly prohibited unless prior approval has been obtained from the instructor or an accommodation has been arranged through Student Accessibility Services (SAS).

Student Accessibility Services:

The University of Manitoba is committed to providing an accessible academic community. [Students Accessibility Services \(SAS\)](#) offers academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

Student Accessibility Services

520 University Centre

Phone: (204) 474-7423

Email: Student_accessibility@umanitoba.ca

Expectations: You Can Expect Me To

You can expect me to be on time and prepared for class.

You can expect me to be available for consultations on a regular basis.

Email is my preferred method of communication; you can expect to receive a response to any email within 24 hours on **weekdays**. On weekends, you may not receive a response, so please plan accordingly.

During weekdays, if you have a question that cannot wait for an appointment, you may send an email. I will be happy to answer it; however, please ensure you are asking a relevant question (i.e., one that you cannot find the answer to or gain an understanding of after reviewing the class notes, videos, or textbook). I would be happy to offer brief advice on the class material or an assignment.

All assignments handed in on time will be graded and returned within two weeks of the due date. Late assignments will be graded as time permits.

You can expect me to treat all of your questions and comments with respect and to take your concerns seriously. Please do not wait until the end of the term to raise concerns about your grade or to ask for additional marks to pass the course. At that stage, there may be little or no opportunity to improve your standing. Your final grade will reflect the quality, effort, and consistency of the work you complete throughout the course.

If you are experiencing ongoing health concerns and require repeated absences or extensions, please contact Student Accessibility Services (SAS). Only students registered with SAS are eligible to receive the needed accommodation. Please note that instructors are not qualified or authorized to discuss personal health matters or make accommodation decisions independently.

CLASS SCHEDULE AND COURSE EVALUATION

Note: The lecture or laboratory schedule is subject to change, students will be notified in advance.

Fall term: Sept 9 to Dec 11, 2026

Date	Topics, Readings, Assignments
Sept 9	Microbiology: basic review. Reading: Montville, Section 2. Pages 15, 18, 19, 20, 21, 22, 23
Sept 11	Microbiology: basic review continues
Sept 14	Microbiology: Sample Reception and preparation for microbiological analysis, enumeration. Reading: Montville, Chapter 4: Detection and enumeration of microbes in food.
Sept 16	Indicator microorganism. Standards, guidelines and specifications
Sept 18	Methods to detect coliforms, fecal coliforms and <i>E. coli</i> . Reading: Compendium of Methods for Microbial examination of foods. 4th Ed. 6.4. Most Probable Number Techniques
Sept 21	Continuation Methods to Detect Coliforms, fecal coliforms and <i>E. coli</i> . Reading: Compendium of Methods for Microbial examination of foods. 4th Ed. 6.4. Most Probable Number Techniques
Sept 23	Yeast and molds
Sept 25	Hurdle Technology. Mandatory reading: Montville, Chapter 2. Microbial Growth, survival and death in foods
Sept 28	Spoilage introduction, Meat, poultry and seafood. Book reading Montville: Chapter 21. Page 299-306.
Sept 30	Meat, poultry and seafood
Oct 2	Meat, poultry and seafood continue
Oct 5	Milk and Dairy Products/fruits and vegetables Book reading Montville: Chapter 21. Pages 309-322.
Oct 7	Group Activity: Hurdle Technology and Hazard Analysis.
Oct 9	Group Activity: Hurdle Technology and Hazard Analysis Presentations
Oct 12	Thanksgiving Day

Oct 14	Control of microorganisms in foods: Chemical preservation/ Modified Atmosphere Packaging.
Oct 16	Control of microorganisms in foods: Food Preservation: High-temperature processing, Low-temperature preservation. Book reading Montville: Chapter 27. Pages 432-445
Oct 19	Bio-preservation Book reading Montville: Chapter 26. Pages 419-431
Oct 21	Midterm 1: The exam will cover all course material delivered up to and including October 9. It will be an in-person, written, closed-book examination administered using LockDown Browser. Labs: 1 - 3.
Oct 23	Foodborne Intoxications and Toxico-Infections: <i>Staphylococcus aureus</i> and <i>Bacillus cereus</i>
Oct 26	Foodborne Intoxications and Toxico-Infections: <i>Clostridium botulinum</i> and <i>Clostridium perfringens</i>
Oct 28	Foodborne infections: <i>E. coli</i>
Oct 30	Foodborne infections: <i>Salmonella</i> , <i>Campylobacter</i> & <i>Listeria monocytogenes</i>
Nov 2	Emerging and Opportunistic Foodborne Pathogens: <i>Cronobacter</i> & <i>Cyclospora</i>
Nov 4 Sarah Cromb	Foodborne Infections: <i>Shigella</i> , <i>Yersinia</i> , <i>Vibrio parahaemolyticus</i> , <i>Norovirus</i> , and Hepatitis A virus
Nov 6	Invited lecturer: "Foodborne Disease Surveillance and Outbreak Response in Canada" Celine Nadon, PhD. Chief, Enteric Diseases National Microbiology Laboratory Public Health Agency of Canada
Nov 9-13	Fall Break
Nov 16	Finishing foodborne pathogens lectures
Nov 18	Molecular methods for foodborne pathogen detection: Introduction to PCR
Nov 20	Biofilms in the Food Industry
Nov 23	Cleaning and sanitation.
Nov 25	Sanitation and Standard Operating Procedures (SSOP) and Good Manufacturing Practices
Nov 27	SSOP & GMP continue
Nov 30	Lecture: Food Hygiene Monitoring
Dec 2	HACCP: Introduction, Hazard Analysis and Critical Control Points

Dec 4	HACCP: Biological, chemical and physical hazards, Critical limits, Monitoring procedures, corrective actions. HACCP: Verification, record keeping and documentation procedures
Dec 7	Remaining material or review
Dec 9	Remaining material or review
Dec 11	Midterm 2 will cover all course material presented after Midterm 1. The midterm exams are not cumulative. In person. Written exam. Closed book-Lockdown. Labs 4-8.

NOTE: Textbook: Matthews, K.R., Kniel, K.E., and Montville, T.J. (2017). *Food Microbiology: An Introduction*. Wiley. You can use older or newer editions. But make sure you find the relevant content.

Food Microbiology in-person Lab Schedule

Labs are mandatory

Laboratory	Date	Lab Report Due Date
Lab# 1 Serial dilution	Monday Sept. 14 Tuesday Sept. 15	No report
Lab #2 Petrifilm - Standard Plate Count Method - Yeast and Mold - Coliform & <i>E.coli</i>	Monday Sept. 21 Tuesday Sept. 22	Sept. 29
Lab #3 Most Probable Method (MPN)	Monday Sept. 28 Tuesday Sept. 29	Oct. 6
Lab #3 Most Probable Method (MPN) continued	Monday Oct. 5 Tuesday Oct. 6	Oct. 13
No Lab (Thanksgiving)	Monday Oct. 12 Tuesday Oct. 13	
Lab #4 Enterococci & Staph aureus	Monday Oct. 19 Tuesday Oct. 20	Oct. 27
Lab #5 Bacillus cereus	Monday Oct. 26 Tuesday Oct. 27	Nov. 3
Lab #6 Salmonella	Monday Nov. 2 Tuesday Nov. 3	Nov. 10
No Lab (Fall break)	Monday Nov. 9 Tuesday Nov. 10	Nov. 17

Lab #7 Molecular Rapid Detection Methods	Monday Nov. 16 Tuesday Nov. 17	Nov. 24
Lab #8 ATP	Monday Nov. 23 Tuesday Nov. 24	Dec. 1
Laboratory Practicum	Monday Nov. 30 Tuesday Dec. 1	

Important Note: Students are permitted to miss only one lab session during the term. Lab sessions are highly resource-intensive and specifically designed to provide hands-on training in essential laboratory techniques. Due to the learning outcomes' nature, they cannot be rescheduled or substituted, and the intended learning outcomes cannot be achieved through alternative assignments.

If a student misses a lab, the corresponding lab report cannot be submitted, and 10% of the total course grade will be forfeited.

Missing two or more lab sessions will result in withdrawal from the course, as each lab is tied to specific, non-transferable activities and learning outcomes.

Additionally, students must pass the lab component to pass the course as a whole.

If you must miss a lab for a valid reason, you may request to attend another group's session. This must be arranged in advance with the instructor or technician. Please note that labs are only offered on Mondays and Tuesdays, so rescheduling options are limited.

Normal lab procedures: All students must wear a lab coat or smock and closed-toed shoes at all times when working in the food microbiology laboratory.

Evaluation		
Type of Assessment	Due Date	Weight
Mid-Term 1 **	9:30-10:20 am, Oct 21, 2026	25
Mid-Term 2 **	9:30-10:20 am, Dec 11, 2026	20
Lab Reports	For due dates, please check the Food Microbiology lab schedule below (page 14)	25
Group Assignments		
Group Assignment	Hurdle Technology (Group) Oct 7	15
Practicum lab exam*	Nov. 30 & Dec. 1 (regular lab session hours* this test is in-person in the lab)	15
Total marks		100

**Students registered with SAS who require a quiet environment to complete the lab exam should contact the TAs to arrange an alternative exam day. We will ensure that appropriate accommodations are provided.*

****Midterm exams will be held in the classroom during the scheduled lecture time. Students are required to complete the exam online through UML using the Respondus LockDown Browser. A fully charged laptop (Windows 10 or 11, or macOS — ensure compatibility) with a functional camera, or an alternative compatible device, is required to take the exam.**

Students are strongly encouraged to install and test the Respondus LockDown Browser on their device well before the exam date to avoid technical issues. Additionally, please ensure you complete the LockDown Browser practice quiz before each midterm to familiarize yourself with the system and verify functionality.

Lab Expectations

Before coming to the lab, please ensure that you have read the FOOD 4150 lab manual. Lab videos are also available and will be delivered asynchronously. Asynchronous learning enables you to access and complete these materials at your convenience. However, it is your responsibility to watch the lab videos and meet the course requirements within the provided timeframe.

Once you are in the lab, all students are expected to follow safety procedures and work in a manner that observes aseptic techniques. All students are required to wear lab coats (you must bring your clean lab coat) or a smock and closed-toed shoes at all times when working in the micro food lab.

Lab coats must be worn at all times when you are in the lab, including when checking your lab results. IF YOU ARE NOT WEARING A LAB COAT, YOU WILL NOT BE PERMITTED TO ENTER THE LAB

WE DO NOT RENT LAB COATS!

Grading Scale

Note: Grades will not be curved. The course assessment is designed to give you multiple opportunities to succeed and improve throughout the term. When assigning letter grades, percentages ending in a decimal of 0.5 or higher will be rounded to the nearest whole number, while those ending below 0.5 will be rounded down. For example, a final percentage of 89.5 to 89.9 will be rounded to 90, resulting in an A. Conversely, a final percentage of 70.4 will be rounded to 70, resulting in a C+.

Exam revisions will happen 7 calendar days after you receive your grade, midterm paper, and lab report.

This rule applies to all students; there are no exceptions.

Letter Grade	Percentage out of 100	Grade Point Range	Final Grade Point
A+	95-100	4.25-4.5	4.5
A	86-94	3.75-4.24	4.0
B+	80-85	3.25-3.74	3.5
B	72-79	2.75-3.24	3.0
C+	65-71	2.25-2.74	2.5
C	60-64	2.0-2.24	2.0
D	50-59	Less than 2.0	1.0
F	Less than 50		0

Voluntary Withdrawal

Last Date to Drop without Penalty: Last date to drop and have the course excluded from transcripts; VWs will be recorded on transcripts for courses dropped after this date. There will be no refunds for courses dropped after this date.

Fall Term.....Sept 22, 2026

Last date to withdraw and not receive a final grade; students cannot withdraw from courses after this date.

Fall Term classes.....Nov 24, 2026

Please refer to Ask the [Registrar's Office](#) web page for more information.

Assignment Extension and Late Submission Policy

Laboratory Reports:

You will have a total of eight lab periods, in which you must hand in a total of seven laboratory reports. Lab reports 2-8 are mandatory and must be handed in by ALL students:

- Lab.2. Petrifilm for indicator microorganisms (standard plate count, yeast and moulds and coliforms and *E. coli*)
- Lab.3 Most Probable Number (MPN)
- Lab 4 Enterococci & *Staphylococcus aureus*
- Lab 5 *Bacillus cereus*
- Lab.6 *Salmonella*
- Lab 7. Molecular rapid detection methods
- Lab 8. Hygiene monitoring: ATP testing system

- A portion of the laboratory will be evaluated in the midterm exams. A practicum exam (15%) will be administered at the end of the laboratory sessions.
- Each student will write their report (not a group activity).
- Each student must hand in their report using UML. Reports sent by email will not be graded. You are responsible for uploading your report to the correct folder.
- Only typed reports, electronic files, Word or PDF, will be accepted.

Labs are mandatory!

Note: A detailed rubric for laboratory reports assessment is available at UML.

Attendance and Participation Policy:

Regular attendance is essential for success in this course. Students are expected to attend most of the lectures, labs, and in-class group activities. Absences may negatively impact your understanding of the material and your ability to participate in group work. If you miss a class, it is your responsibility to catch up on any content covered and obtain notes from a classmate, as the instructor **will NOT provide individual recaps**.

In-class group activities cannot be made up, and missing participation may negatively impact your grade. If you anticipate an absence for a valid reason, you must notify the instructor and your team in advance.

Make-up exams will only be considered for legitimate, documented reasons and must be requested in advance by submitting a self-declaration form. Make-up exams will be scheduled at the instructor's discretion. Please note that midterm exams for make-ups won't be the same exam the whole class took.

Attendance Bonus Policy:

Students can earn bonus marks based on their attendance throughout the course. The purpose of these marks is to encourage consistent participation. At the end of the term, bonus marks will be added to the grade of Midterm 1 or Midterm 2 (whichever has the lower score).

Bonus marks are fixed, non-negotiable, and awarded according to the following scale:

- **90–100% attendance:** +3 bonus marks
- **80–89% attendance:** +2 bonus marks
- **70–79% attendance:** +1 bonus mark
- **Below 70% attendance:** No bonus marks

Attendance will be tracked using the iClicker app. It is the student's responsibility to ensure that the app is set up correctly, functioning properly, and used consistently during class. The instructor is not responsible for resolving technical issues related to the app and cannot retroactively adjust attendance records due to malfunction or user error. Students are encouraged to verify their iClicker activity regularly to avoid missing attendance credits.

Important Note on Participation and Responsibility:

Engaging in class by attending regularly and asking questions is essential to your success in this course. If you are not attending lectures or participating throughout the term, there is very little the instructor can do to support you. Students who do not attend class should not expect to receive additional help at the end of the term. Requests for assistance or grade adjustments made at that point (end of the term) will not be accommodated. Consistent engagement from the beginning is the best way to ensure you stay on track and receive the support you need.

If you plan to travel during the Fall term, please note that lab sessions cannot be made up under any circumstances. If you miss a lab due to travel, you will lose the marks for the corresponding lab report, and there are no make-up for them.

If you miss more than one lab and are unable to attend another group's session (labs are only

offered on Mondays and Tuesdays), you may be required to withdraw from the course. Please note that labs cannot be made up, as they are an essential component of the course.

Groups Activities

Group Activity: Hurdle Technology: Intrinsic–Extrinsic Factors and Hazard Analysis

Assessment: Group activities, instructor evaluation, and peer evaluation sheets.

Main topic: Intrinsic–extrinsic factors affecting microbial growth / Hurdle technology / Hazard analysis.

Content:

- Intrinsic–extrinsic factors affecting microbial growth
- Hurdle technology
- Hazard analysis (biological, chemical, and physical hazards relevant to assigned food product)

Purpose:

To facilitate understanding of hurdle technology and its importance in food preservation and safety, while also integrating hazard analysis to strengthen critical thinking and application of food safety concepts. Students will:

- Apply hurdle technologies to different types of food products.
- Conduct a hazard analysis to identify key safety risks in the assigned food.
- Share knowledge within groups and among classmates.
- Work collaboratively and exercise critical thinking skills.

Procedure:

- a. This activity will be conducted during lecture time (see class schedule).
- b. The class will be organized into groups (assigned at random through UM Learn). To find your team members, go to UM Learn → Communications → Groups. The instructor will assign a specific food product to each group, and the details will be uploaded into your UM Learn group files after the third week of classes.
- c. The instructor will provide a short introduction, including the activity explanation, expectations, and hazard analysis overview.
- d. Using lecture time, groups will:

- Review intrinsic and extrinsic factor definitions and list components in each category.
- Review the concept of hurdle technology and its relevance in food preservation.
- Describe the specific food product and its characteristics (e.g., ingredients, shelf-life, type of processing, preservatives, packaging, storage, and likely microbial groups—pathogens, spoilage organisms, beneficial microbes).

Conduct a hazard analysis: identify potential **biological hazards** (pathogens such as *Salmonella*, *Listeria*, or *E. coli*), **chemical hazards** (residues, allergens, additives), and **physical hazards** (foreign materials such as glass or metal fragments) associated with the product. Discuss how hurdle technology can be applied to control or mitigate these hazards.

e. Students may use iPhones, iPads, computers, peer-reviewed papers, textbooks, and class notes to gather information.

f. **Sharing information:** Groups will explain:

- If a hurdle approach is used for their food product, what intrinsic/extrinsic factors are targeted and why.
- What hazards are most relevant to the product and how hurdle technologies help reduce or eliminate these risks.

Selected groups will present their findings to the class (5–8 minutes). Instructor feedback will allow groups to adjust before submission.

g. **Conclusion:** The instructor will summarize the main points of the lecture and highlight how intrinsic/extrinsic factors, hurdle technology, and hazard analysis are interconnected in food safety.

h. **Assessment:** Each group must prepare a written summary (4-5 pages, single-spaced) including:

- Description of the assigned food product
- Identification of intrinsic/extrinsic factors
- Application of Hurdle Technology
- Hazard analysis of the food product, including flow diagram.

The summary will be submitted on UM Learn (Assignments) within seven days of the in-class activity. Only one member per group submits on behalf of the group.

Note: All students must complete the peer evaluation sheets (available in UM Learn). These should be submitted to the **same Dropbox folder** used for the main assignment. Please be aware that, since the Dropbox is shared within your group, **all group** members will be able to view each other's peer evaluations.

Note: All references must be appropriately cited with in-text citations. Lecture materials should not be used as references; instead, please refer to textbooks, government websites, or relevant scientific papers for such content.

Note: The rubrics for assessments are available at UML.

Referencing Style

All written assignments (group activities summary) and lab reports in this course shall include an in-text citation. Reference Style: International Journal of Food Microbiology:

<https://www.elsevier.com/journals/international-journal-of-food-microbiology/0168-1605/guide-for-authors>

All publications cited in the text should be presented in a list of references following the text of the manuscript.

All citations in the text should refer to:

1. Single author: the author's name (without initials, unless there is ambiguity) and the year of publication;
2. Two authors: both authors' names and the year of publication;
3. Three or more authors: first author's name followed by 'et al.' and the year of publication.

Citations may be made directly (or parenthetically). Groups of references should be listed first alphabetically, then chronologically.

Examples: "as demonstrated (Allan, 1996a, 1996b, 1999; Allan and Jones, 1995). Kramer et al. (2000) have recently shown "

List: References should be arranged alphabetically by authors' names and should be as full as possible, listing all authors, the full title of articles and journals, publisher and year. Note that journal names are to be abbreviated. The manuscript should be carefully checked to ensure that the spelling of authors' names and dates are the same in the text as in the reference list.

Examples:

Reference to a journal publication:

Oguro, M., Imahiro, S., Saito, S., Nakashizuka, T., 2015. Mortality data for Japanese oak wilt disease and surrounding forest compositions. Mendeley Data, v1. <http://dx.doi.org/10.17632/xwj98nb39r.1>

Ono, K., Yamamoto, K., 1999. Contamination of meat with *Campylobacter jejuni* in Saitama, Japan. Int. J. Food Microbiol. 47, 211-219.

Reference to a book:

Strunk Jr, W., White, E. B., 1979. The Elements of Style, third ed. Macmillan, New York. Reference to a chapter in an edited book:

Kramer, J.M., Gilbert, R.J., 1989. *Bacillus cereus*. In: Doyle, M.P. (Ed.), Foodborne Bacterial Pathogens. Marcel Dekker, New York, pp. 22-70.

Caddick, M.X., 1994. Nitrogen metabolite repression. In: Martinelli, S.D., Kinghorn, J.R. (Eds.), *Aspergillus: 50 Years on, Progress in Industrial Microbiology*, vol. 29. Elsevier Science, Amsterdam, pp. 323-353.

Assignment Feedback

Feedback on students' performance will be provided: formative (i.e., comments) and summative (i.e., grade) will be delivered electronically through UML.

Note: Be aware that you have two graders. They will mainly be grading lab reports. If you have questions regarding their marking, please contact the graders. If you are still not satisfied, please contact me, Dr. Narvaez, so I can look at it.

Assignment Extension and Late Submission Policy

1. *Late Assignments:*

Assignments (electronic papers and hard copies) are considered late if they are not submitted by the day, they are due. For each day, the assignment is late (including weekends), a 10% deduction from the grade will be applied.

2. *Makeup exams or absence:*

Regular attendance is important for success in this course. Attendance will be recorded during all lectures and laboratory sessions. Make-up exams, extensions for assignments, or accommodation for absences on required course days will be considered only with the instructor's approval and for legitimate reasons. Please note that laboratory sessions cannot be made up due to the nature and scheduling of the laboratory activities.

Group Work Policies: You are expected to participate in group work in a professional, respectful, and collaborative manner and to contribute fairly to the completion of assigned activities. At the end of the group activity, you will have an opportunity to complete a peer evaluation of your group members. Individual marks may be adjusted based on peer feedback regarding participation, contribution, reliability, and teamwork.

Peer evaluations must be completed honestly, fairly, and respectfully. Ratings should reflect each member's actual contribution; therefore, it should not be assumed that every group member will necessarily receive a perfect rating. When there is consistent feedback from multiple group members indicating that an individual did not contribute adequately, for example, if three members of a four-person group independently assign a failing evaluation to the same member, the instructor may adjust that student's individual mark accordingly. Depending on the extent of non-participation, the adjustment may range from a partial deduction to a mark of zero for the group activity.

Important Note on submissions: Please ensure that you submit each assignment to the **correct designated folder in UML**. It is your responsibility to verify that your work has been uploaded to the appropriate folder. Assignments submitted to the wrong folder and subsequently resubmitted after the deadline will be considered late.

Assignments and peer evaluations will not be accepted by email, with no exceptions. Peer evaluations are **mandatory** and must be submitted through the designated folder in UML. Failure to submit the required peer evaluation will result in a **5% deduction from the assignment grade**.

In the case of final exams, be advised that only the Dean's Office, not individual instructors or Departments, are able to grant deferred examinations. We are not having a final exam in this course.

UNIVERSITY SUPPORT OFFICES & POLICIES

Instructors shall provide to every student the information on university support offices and policies in [Schedule "A"](#) within the first week of classes, either through a paper copy and/or via the university's student information system (i.e., Aurora, UM Learn, or such other university information system as may be approved by the university from time to time).

Schedule “A”

Section (a) sample re: A list of academic supports available to Students, such as the Academic Learning Centre, Libraries, and other supports as may be appropriate:

Writing and Learning Support

The Academic Learning Centre (ALC) offers services that may be helpful to you throughout your academic program. Through the ALC, you can meet with a learning specialist to discuss concerns such as time management, learning strategies, and test-taking strategies. The ALC also offers peer supported study groups called Supplemental Instruction (SI) for certain courses that students have typically found difficult. In these study groups, students have opportunities to ask questions, compare notes, discuss content, solve practice problems, and develop new study strategies in a group-learning format.

You can also meet one-to-one with a writing tutor who can give you feedback at any stage of the writing process, whether you are just beginning to work on a written assignment or already have a draft. If you are interested in meeting with a writing tutor, reserve your appointment two to three days in advance of the time you would like to meet. Also, plan to meet with a writing tutor a few days before your paper is due so that you have time to work with the tutor’s feedback.

These Academic Learning Centre services are free for U of M students. For more information, please visit the Academic Learning Centre website at: <http://umanitoba.ca/student/academiclearning/>

You can also contact the Academic Learning Centre by calling 204-480-1481 or by visiting 205 Tier Building.

University of Manitoba Libraries (UML)

As the primary contact for all research needs, your liaison librarian can play a vital role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you may have, regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you in-person. A complete list of liaison librarians can be found by subject: <http://bit.ly/WcEbA1> or name: <http://bit.ly/1tJ0bB4>. In addition, general library assistance is provided in person at 19 University Libraries, located on both the Fort Garry and Bannatyne campuses, as well as in many Winnipeg hospitals. For a listing of all libraries, please consult the following: <http://bit.ly/1sXe6RA>. When working remotely, students can also receive help online, via the Ask-a-Librarian chat found on the Libraries’ homepage: www.umanitoba.ca/libraries.

UM Policies

As a student at the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.

The University of Manitoba (UM) website's [Governing Documents](https://umanitoba.ca/governance/governing-documents) (<https://umanitoba.ca/governance/governing-documents>) is one important source of information, in particular the Academic and Students sections. The Student Advocacy office can also help you understand policies and procedures; find their information in the UM Learner Supports section below.

Academic Calendar

The [Academic Calendar](https://umanitoba.ca/registrar/academic-calendar) (<https://umanitoba.ca/registrar/academic-calendar>) is the University's official publication containing course descriptions, program and graduation requirements, as well as UM and faculty/school-specific rules, regulations and policies. In particular, familiarize yourself with the sections *University Policies and Procedures* and *General Academic Regulations*.

Academic Integrity

In addition to reviewing your instructor's academic integrity policy listed in their syllabus, you are expected to view the *General Academic Regulation* section within the [Academic Calendar](https://umanitoba.ca/registrar/academic-calendar) (<https://umanitoba.ca/registrar/academic-calendar>) and specifically read the regulation pertaining to Academic Integrity. Ask your instructor for additional information about demonstrating academic integrity in your academic work, and consult the following UM resources for more information and support:

- [Academic Integrity](https://umanitoba.ca/student-supports/academic-supports/academic-integrity) (<https://umanitoba.ca/student-supports/academic-supports/academic-integrity>)
 - [Student Resources](https://umanitoba.ca/student-supports/academic-supports/academic-integrity#resources-to-conduct-academic-work-with-integrity) (<https://umanitoba.ca/student-supports/academic-supports/academic-integrity#resources-to-conduct-academic-work-with-integrity>)
 - [Academic Misconduct and How to Avoid It](https://umanitoba.ca/student-supports/academic-supports/academic-integrity#academic-misconduct-and-how-to-avoid-it) (<https://umanitoba.ca/student-supports/academic-supports/academic-integrity#academic-misconduct-and-how-to-avoid-it>)
- [Student Advocacy Office](https://umanitoba.ca/student-supports/academic-supports/student-advocacy) (<https://umanitoba.ca/student-supports/academic-supports/student-advocacy>)

Copyright

All students are required to respect copyright as per Canada's *Copyright Act*. Staff and students play a key role in the University's copyright compliance as we balance user rights for educational purposes with the rights of content creators from around the world. The [Copyright Office](https://umanitoba.ca/copyright/) (<https://umanitoba.ca/copyright/>) provides copyright resources and support for all members of the University of Manitoba community.

Grade Appeals

If you have questions about your grades, talk to your instructor. There is a process for term work and final grade appeals. Note that you have the right to access your final examination scripts. See the [Registrar's Office](https://umanitoba.ca/registrar/grades/appeal-grade) (<https://umanitoba.ca/registrar/grades/appeal-grade>) for more information including appeal deadline dates and the appeal form.

Intellectual Property

For information about rights and responsibilities regarding intellectual property view the [Intellectual Property Policy](https://umanitoba.ca/governance/governing-documents/governing-documents-university-community#intellectual-property) (https://umanitoba.ca/governance/governing-documents/governing-documents-university-community#intellectual-property)

Program-Specific Regulations

For information on regulations that are specific to your academic program, read the section in the Academic Calendar and on the respective [faculty/college/school](https://umanitoba.ca/academics) website (https://umanitoba.ca/academics).

Respectful Work and Learning Environment

The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected to conduct yourself in an appropriate and respectful manner. Policies governing UM community behaviour include:

- [Respectful Work and Learning Environment](https://umanitoba.ca/about-um/respectful-work-and-learning-environment-policy) (https://umanitoba.ca/about-um/respectful-work-and-learning-environment-policy)
- [Student Discipline](https://umanitoba.ca/governance/governing-documents-students#student-discipline) (https://umanitoba.ca/governance/governing-documents-students#student-discipline)
- [Violent or Threatening Behaviour](https://umanitoba.ca/governance/governing-documents-students#violent-or-threatening-behaviour) (https://umanitoba.ca/governance/governing-documents-students#violent-or-threatening-behaviour)

The UM website, [Engaging in Respectful Conduct](https://umanitoba.ca/student-supports/respectful-conduct) (https://umanitoba.ca/student-supports/respectful-conduct), includes more details about expectations for behaviours related to university activities.

Sexual Violence Policies

The UM has several policies and procedures that deal with the rights and responsibilities of the University community with regards to all forms of sexual violence. For a comprehensive list of policies and associated resources, visit the [Sexual Violence Resource Centre's information page](https://umanitoba.ca/student-supports/sexual-violence-support-and-education/sexual-violence-get-informed) (https://umanitoba.ca/student-supports/sexual-violence-support-and-education/sexual-violence-get-informed). Please note that there are many supports available in addition to these policy documents (see UM Learner Supports).

Voluntary Withdrawal

Voluntary withdrawal (VW) is a way for students to leave a class without academic penalty once the Registration Revision Period has ended. If you opt to voluntarily withdraw from a course, you will not be eligible for a refund and, if applicable, will still be required to pay any outstanding tuition fees for the course. On your transcript, the course you have withdrawn from will be listed; however, "VW" will appear in lieu of a grade. If you do not drop a course before the VW deadline, you will receive a final grade in the course on your transcript.

Please note that there are separate deadlines for dropping a course early in a term during the Registration Revision Period. Dropping a course means you are removing that course from your schedule, will not be charged tuition fees for that course, and the course will not appear on your transcript.

The Registrar's Office website, [Withdraw from a Course](https://umanitoba.ca/registrar/withdraw-course) (<https://umanitoba.ca/registrar/withdraw-course>), includes more information on the different ways in which you can withdraw from a course and important dates and deadlines to do so.

UM Learner Supports

Below you will find a select list of important supports for learners at the UM, both academic supports and otherwise. For a complete listing of all learner supports at the University of Manitoba, visit the [Student Supports website](https://umanitoba.ca/student-supports) (<https://umanitoba.ca/student-supports>).

Academic Advising

Contact an [Academic Advisor](https://umanitoba.ca/student-supports/academic-supports/academic-advising) (<https://umanitoba.ca/student-supports/academic-supports/academic-advising>) for support with degree planning and questions about your academic program and regulations.

Academic Learning Centre (ALC)

The [Academic Learning Centre](https://umanitoba.ca/student-supports/academic-supports/academic-learning) (<https://umanitoba.ca/student-supports/academic-supports/academic-learning>) offers one-to-one tutoring, groups study sessions and workshops, as well as video and tip-sheet resources to help you throughout your academic program. All Academic Learning Centre programming, supports, and services are free for UM students.

Make an appointment for [free one-to-one tutoring](https://umanitoba.ca/student-supports/academic-supports/academic-learning/tutoring-group-study#individual-tutoring) (<https://umanitoba.ca/student-supports/academic-supports/academic-learning/tutoring-group-study#individual-tutoring>).

Content tutors (over 90 UM courses) can help you understand concepts and learn problem-solving strategies. **Study skills tutors** can help you improve your skills such as time management and goal setting, reading and note-taking, as well as learning and test-taking strategies. **Writing tutors** can give you feedback on your academic writing, whether you are just getting started on a written assignment or already have a draft. **English as an Additional Language** specialist, Antoanela Denchuk, is available for one-to-one tutoring to help you improve your English-language academic writing skills. Use the drop-down menu, read the tutor biographies, and make an appointment for tutoring on the [Academic Learning Centre schedule](https://manitoba.mywconline.com/) (<https://manitoba.mywconline.com/>).

Attend [Supplemental Instruction \(SI\)](https://umanitoba.ca/student-supports/academic-supports/academic-learning/tutoring-group-study) (<https://umanitoba.ca/student-supports/academic-supports/academic-learning/tutoring-group-study>) sessions in historically difficult courses (including Chemistry, Engineering, and Computer Science). These free weekly review sessions are facilitated by a peer mentor who has previously taken the course and provide an opportunity to discuss course content, ask questions, compare notes, solve practice problems, and develop study strategies. See online for a list of SI courses and meeting times.

Register for an [Academic Success Workshop](https://umanitoba.ca/student-supports/academic-supports/academic-learning/academic-success-workshops) (https://umanitoba.ca/student-supports/academic-supports/academic-learning/academic-success-workshops), where you can learn strategies to improve your writing and studying. More information on topics, dates, and registration, are found online.

Register for [Faculty of Graduate Studies Grad Steps Workshops](https://umanitoba.ca/graduate-studies/student-experience/graduate-student-workshops) (https://umanitoba.ca/graduate-studies/student-experience/graduate-student-workshops). These workshops are specifically designed for students working towards **Master's degrees or PhDs**. More information on topics, dates, and registration can be found online.

Access the Academic Learning Centre's collection of [videos and tip sheets](https://umanitoba.ca/student-supports/academic-supports/academic-learning#tip-sheets-for-writing-and-study-skills) (https://umanitoba.ca/student-supports/academic-supports/academic-learning#tip-sheets-for-writing-and-study-skills) to help you with many of the academic tasks you'll encounter in university.

Contact the Academic Learning Centre by calling 204-480-1481 or emailing academic_learning@umanitoba.ca. Bannatyne students can contact the Bannatyne Student Services office at 204-272-3190.

Basic Needs

It can be difficult to learn and succeed in courses when you are struggling to meet your or your family's basic needs. Several UM and community resources are listed below if you would benefit from support with regards to housing, food, finances, and/or childcare:

- *Housing*
 - [UM Housing](https://umanitoba.ca/housing) (https://umanitoba.ca/housing)
 - [Winnipeg Rental Network](https://www.winnipegrentnet.ca/) (https://www.winnipegrentnet.ca/)
 - [Manitoba Residential Tenancies Branch](https://www.gov.mb.ca/ccs/rtrb/) (https://www.gov.mb.ca/ccs/rtrb/)
 - [HOPE End Homelessness Winnipeg Services & Supports](https://umanitoba.ca/housing) (https://umanitoba.ca/housing)
- *Food*
 - [U of M Food Bank](https://umanitoba.ca/financial-aid-and-awards/u-m-food-bank) (https://umanitoba.ca/financial-aid-and-awards/u-m-food-bank)
 - [Food Matters Manitoba](https://foodmattersmanitoba.ca/find-emergency-food-in-winnipeg/) (https://foodmattersmanitoba.ca/find-emergency-food-in-winnipeg/)
- *Finances*
 - [UM Financial Aid and Awards](https://umanitoba.ca/financial-aid-and-awards) (https://umanitoba.ca/financial-aid-and-awards)
 - [Manitoba Student Aid](https://www.edu.gov.mb.ca/msa/) (https://www.edu.gov.mb.ca/msa/)
- *Child Care*
 - [UM Child Care](https://umanitoba.ca/about-um/child-care) (https://umanitoba.ca/about-um/child-care)
 - [Manitoba Child Care Subsidy](https://bit.ly/3yG3ijy) (https://bit.ly/3yG3ijy)
 - [Manitoba Child Care Association](https://mccahouse.org/looking-for-child-care/) (https://mccahouse.org/looking-for-child-care/)

English Language Centre

The [English Language Centre \(ELC\)](https://umanitoba.ca/english-language-centre) (<https://umanitoba.ca/english-language-centre>) provides courses, tests, accommodations and individual support to students whose first language is not English in order to support academic success and participation in the University of Manitoba community.

Health and Wellness

Physical, mental, emotional, and spiritual health and wellness play a critical role in student success. See all of UM's resource on their [Health and Wellness](https://umanitoba.ca/student-supports/student-health-and-wellness) (<https://umanitoba.ca/student-supports/student-health-and-wellness>) website, and make note of several specific UM and community supports listed below.

Winnipeg Urgent Physical and Mental Health Care

If you are an adult experiencing a mental health or psychosocial crisis, contact the [Klinik Community Health](https://klinik.mb.ca/crisis-support/) (<https://klinik.mb.ca/crisis-support/>) 24/7 crisis line at 204-786-8686, visit the [Crisis Response Centre](https://sharedhealthmb.ca/services/mental-health/crisis-response-centre/) (<https://sharedhealthmb.ca/services/mental-health/crisis-response-centre/>) located at 817 Bannatyne Avenue, or contact the Mobile Crisis Service at 204-940-1781.

To speak with a nurse for guidance on what health-care path to take for the issue you are facing or for general information about health resources available in Manitoba, contact [Health Links](https://misericordia.mb.ca/programs/phcc/health-links-info-sante/) (<https://misericordia.mb.ca/programs/phcc/health-links-info-sante/>) at 1-888-315-9257 (toll free).

If you need urgent medical care, visit the Winnipeg Regional Health Authority's [Emergency Department & Urgent Care Wait Times](https://wrha.mb.ca/wait-times/) webpage (<https://wrha.mb.ca/wait-times/>) for a list of locations and current wait times.

Student Counselling Centre (SCC)

The [Student Counselling Centre](https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc) (<https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc>) provides free counselling and mental health support to UM, English Language Centre, and International College of Manitoba (ICM) students. We are open year-round, Monday through Friday from 8:30 am to 4:30 pm. Our commitment is to offer a support service to every student who contacts us.

Visit the SCC's [For Urgent Help](https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc#for-urgent-help) (<https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc#for-urgent-help>) webpage or the urgent care resources listed above if you require immediate support.

Visit the SCC's [Our Services](https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc#for-urgent-help) (<https://umanitoba.ca/student-supports/student-health-and-wellness/student-counselling-centre-scc#for-urgent-help>) webpage for more information on

accessing a variety of services including individual counselling, counselling workshops and groups, support resources, and learning disability assessment services.

The SCC is located at 474 UMSU University Centre (Fort Garry Campus).

Health and Wellness Office

Students often juggle multiple demands, and we recognize that it can be difficult to find balance. For any changes you want to make to your health and wellness, the Health and Wellness Office at the University of Manitoba would like to support you in your journey. We are here to help you take control of your own health and make your own decisions. We are a judgment-free space and we avoid labels whenever possible. For more information, please visit the [Health and Wellness Office](https://umanitoba.ca/student-supports/health-wellness) (<https://umanitoba.ca/student-supports/health-wellness>) website.

Spiritual Care and Multifaith Centre

Spiritual care services are available to all, whether you identify as spiritual, atheist, religious or agnostic. [Spiritual Services](https://umanitoba.ca/student-supports/spiritual-services) (<https://umanitoba.ca/student-supports/spiritual-services>) also offer specific denominational support for certain religious groups and by Indigenous Elders-in-Residence.

Student Support Case Management (SSCM)

Contact the [Student Support Case Management team](https://umanitoba.ca/student-supports/academic-supports/student-advocacy/case-management) (<https://umanitoba.ca/student-supports/academic-supports/student-advocacy/case-management>) if you are concerned about yourself or another student and don't know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team.

University Health Service (UHS)

The [University Health Service](https://umanitoba.ca/student-supports/health-wellness/university-health-service) (<https://umanitoba.ca/student-supports/health-wellness/university-health-service>) offers a full range of medical services to students, including psychiatric consultation, via two health clinics:

- Fort Garry Campus: (204) 474-8411, ACW-Lot temporary trailer (behind the Isbister building)
- Bannatyne Campus: (204) 474-8411, P309 – Pathology Building

Student Services at Bannatyne Campus

Student Services at Bannatyne Campus (SSBC) offers a full range of mental health supports to students and residents in the Rady Faculty of Health Sciences, along with other academic and personal supports. Visit the [SSBC website](https://umanitoba.ca/student-supports/student-services-bannatyne-campus) (<https://umanitoba.ca/student-supports/student-services-bannatyne-campus>) for a list of services available.

Indigenous Students

Staff, faculty and Elders are well-equipped to ensure your university experience is as beneficial, accessible, and successful as possible. Visit the Indigenous [Student Experience](https://umanitoba.ca/indigenous/student-experience) (<https://umanitoba.ca/indigenous/student-experience>) website for more information on the supports and services available.

International Students

The transition to a new country and a new academic system can be both exciting and overwhelming. The International Centre (IC) is here to help you settle into life at University of Manitoba. Visit the [International Students](https://umanitoba.ca/current-students/international) website (<https://umanitoba.ca/current-students/international>) for more information.

Sexual Violence Support and Education

Sexual violence affects people of all ages, sexual orientations, genders, gender identities, abilities and relationship statuses. At the U of M, we are committed to ensuring a respectful work and learning environment for all. We want to build a safe and inclusive campus community where survivors of sexual violence know they can receive the supports they need to succeed, both academically and personally.

The [Sexual Violence Resource Centre](https://umanitoba.ca/sexual-violence) (<https://umanitoba.ca/sexual-violence>), located at 537 UMSU University Centre (Fort Garry campus) provides support, resources, information and referral services for any student, faculty or staff member who has been affected by sexual violence.

Student Accessibility Services (SAS)

The University of Manitoba is committed to providing an accessible academic community. [Student Accessibility Services](https://umanitoba.ca/student-supports/accessibility) (<https://umanitoba.ca/student-supports/accessibility>) offers academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g., mental health, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation. SAS is located at 520 University Centre (Fort Garry Campus).

Student Advocacy

[Student Advocacy](https://umanitoba.ca/student-supports/academic-supports/student-advocacy) (<https://umanitoba.ca/student-supports/academic-supports/student-advocacy>) is a safe place for students. We help you navigate university processes and advocate for your rights as a student at UM. If anything in your personal or academic life is affecting your studies, contact our confidential intake assistant by phone (204-474-7423) or email (stadv@umanitoba.ca).

University of Manitoba Libraries (UML)

As the primary contact for all research needs, your liaison librarian can play a vital role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you may have, regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you in-person. A [complete list of liaison librarians](http://bit.ly/WcEbA1) (<http://bit.ly/WcEbA1>) can be found by subject.

In addition, general library assistance is provided in person at 19 University Libraries, located on both the Fort Garry and Bannatyne campuses, as well as in many Winnipeg hospitals. For a listing of all libraries, please consult the [UM Libraries and Departments](https://libguides.lib.umanitoba.ca/c.php?g=298526) (<https://libguides.lib.umanitoba.ca/c.php?g=298526>) webpage. When working remotely, students can also receive help online, via the Ask-a-Librarian chat found on the [University of Manitoba Libraries' homepage](https://umanitoba.ca/libraries/) (<https://umanitoba.ca/libraries/>)