

Syllabus

PLNT 4270: Plant Disease Control
(Fall 2023)



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COURSE DETAILS

Course Title & Number:	Plant Disease Control - PLNT 4270
Number of Credit Hours:	3
Class Times & Days of Week:	Lectures: 1:30 pm - 2:20 pm, Monday, Wednesday, Friday Labs/Tutorials: 11:30 am - 12:45 pm, Tuesday
Location for classes/labs/tutorials:	Lectures: AGRICULTURE 134 Labs/Tutorials: AGRICULTURE 343
Pre-Requisites:	PLNT 2500 or consent of instructor

Instructor Contact Information

Instructor(s) Name & Preferred Form of Address:	Dr. Mohammad Sayari
Office Location:	Agriculture Building Room 331
Office Hours or Availability:	Make an appointment face-to-face or email
Office Phone No.	204-474-6409 (lab)
Email:	mohammad.sayari@umanitoba.ca
Contact:	Please email or talk to me for appointment
Lab Teaching Assistant:	Anirup Sengupta (sengupt1@myumanitoba.ca)
Office Hours or Availability:	Make an appointment face-to-face or email

Traditional Territory or Land Acknowledgment

When we go to celebrations, we often connect to spirit, be it through sound, at a cultural gathering, listening to the heartbeat of the drum, katajjaq (Inuit throat singing), or a Métis fiddle, instruments made of the land. We as humanity are like those instruments, we are connection to the land, we are land. Land connects and sustains us, and we learn from land that teaches people

responsibility by honoring and acknowledging her gifts. We are all interconnected (Leah Fontaine, 2022).

The current UM Traditional Territories Acknowledgment is as follows:

The University of Manitoba campuses are located on original lands of Anishinaabeg, Cree, Oji-Cree, Dakota and Dene peoples, and on the homeland of the Métis Nation. We respect the Treaties that were made on these territories, we acknowledge the harms and mistakes of the past, and we dedicate ourselves to move forward in partnership with Indigenous communities in a spirit of reconciliation and collaboration.

Equity and Inclusion Commitment

I am dedicated to fostering an environment that is respectful, inclusive, and supportive of all students, regardless of their backgrounds, identities, or experiences. I recognize the importance of embracing diversity as a source of strength and enrichment in our learning community. To uphold this commitment, I pledge to:

Respect Student Identities: I affirm the inherent dignity of every student and acknowledge the unique identities they bring to our classroom. I am committed to creating a space where all individuals feel valued, heard, and respected, irrespective of their race, gender, sexual orientation, ability, socioeconomic status, or any other characteristic.

Combat Oppression: I stand against all forms of oppression, discrimination, and injustice. This includes challenging systemic biases and working to dismantle barriers that hinder learning and personal growth. I am dedicated to engaging in critical discussions that address these issues and empower us to collectively create positive change.

Inclusive Teaching and Learning: I strive to employ teaching strategies that cater to diverse learning styles and backgrounds. I will create an inclusive curriculum that showcases a range of perspectives and experiences. Your voices and contributions are crucial to our learning process, and I am committed to fostering an environment where everyone can participate with confidence.

Removing Barriers: I am here to support you on your academic journey. If you encounter any barriers that impede your learning or participation, please let me know. I am open to discussing reasonable accommodations, adjustments, or any other necessary support to ensure your success in this course.

Connecting with Supports: I understand that each student's path is unique, and challenges may arise that extend beyond the classroom. If you need assistance or guidance, I encourage you to connect with the appropriate resources available at the University of Manitoba, and I am here to help facilitate that process.

Course Description

U of M Course Calendar Description

Diseases attacking field crops and horticultural plants: recognition of symptoms, methods of prevention, alleviation, and control.

General Course Description

Plant diseases have a major impact on crop production and yield. You will learn to diagnose, identify and learn technologies to manage most of the important plant diseases including more innovative and alternative methods. While the emphasis will be on management, the course will teach concepts in plant pathology, different types of plant pathogens, disease epidemiology, several methods of disease management and how they can be wisely used or integrated.

Course Learning Outcomes

This course is designed for you to understand principles of plant disease control, be familiar with major crop disease symptoms, learn host-pathogen interactions, and have the knowledge of plant disease management strategies.

After completing this course, you will be able to:

- Grasp general principles and practices of plant disease control
- Identify disease symptoms and reasons for disease occurrence
- Analyze host-pathogen interactions
- Apply the knowledge of plant disease control for crop disease management

Course Materials

1. Diseases of Field Crops in Canada. 2003. Bailey, Gossen, Gugal, Morrall (Required)
2. Plant Pathology. 2005. 5th Edition. G.N. Agrios (Optional)
3. Diseases and pests of vegetable crops in Canada by Howard, Garland and Seaman (Optional)
4. Any documentation from Manitoba Agriculture on crop recommendation for Manitoba
5. Example websites: <https://www.grainscanada.gc.ca/en>
<https://www.canolacouncil.org/>
<https://phytopath.ca/>
<https://phytopath.ca/publications/>
<http://www.apsnet.org/Pages/default.aspx>

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, 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

The course will be offered in person. You are free to use tablets, cellphones, laptops, etc. in the classroom provided these are used in a responsible, efficient, ethical and legal manner.

CLASS SCHEDULE AND COURSE EVALUATION

This schedule is subject to change at the discretion of the instructor and/or based on the learning needs of the students but such changes are subject to [section 2.8 of the ROASS procedure](#)).

The Department of Plant Science in consultation with the Faculty of Agricultural and Food Sciences has devised a plan so that there is minimal impact on the delivery and content of the course, should the instructor fall sick and is unable to continue lectures in-person. Please be assured that the alternative plan outlining any deviation from the normal mode of instruction will be communicated to you as quickly as possible if/when the need arises.

Date	Class Content & Teaching Strategies	Required Readings or any Pre-class Preparation	Evaluation		
			Type of Assessment	Due Date	Value of Final Grade
September 6	Introduction to this course				
September 8	Plant diseases basics I				
September 11	Plant diseases basics II				
September 13	Plant disease development				
September 15	Genetics of plant diseases II/Bioinformatics 1				
September 18	Genetics of plant diseases II/Bioinformatics 2				
September 20	Fungicide and fungicide resistance				
September 22	Corn diseases				
September 25	Effects of pathogens on plant physiology				
September 27	How plants defend against pathogens				
September 29	How pathogens attack plants				
October 2	National Day for Truth and Reconciliation				
October 4	Potato diseases I				

October 6	Potato diseases II				
October 9	Thanksgiving Day				
October 11	Potato diseases III				
October 13	Canola blackleg disease				
October 16	Presentations I				
October 18	Presentations II				
October 20	Presentations III				
October 23	Presentations IV				
October 25	Canola Verticillium stripe disease				
October 27	Canola Sclerotinia disease				
October 30	Canola clubroot disease				
November 1	Cereal diseases I				
November 3	Cereal diseases II				
November 6	Soybean diseases I				
November 8	Soybean diseases II				
November 10	Mid Term exam				
November 13	Fall term break				
November 15	Fall term break				
November 17	Fall term break / Remembrance Day				
November 20	Sunflower and flax diseases				
November 22	Disease forecasting				
November 24	Molecular markers in plant disease control				
November 27	Phylogenetic in Plant Pathogens				
November 29	New technologies I				

December 1	New technologies II				
December 4	New technologies III				
December 6	Revision for the final exam I				
December 8	Revision for the final exam II				
December 12, or to be determined	Final exam				
					100% (See details below)

Course evaluation and assessment

You are expected to develop skills to identify and diagnose common plant diseases in field crops. You are expected to attend all the 10 labs with the lab TA.

Assignments (15%): There will be 5 assignments, 3% for each.

Lab reports (20%): There will be 10 lab reports, 2% for each.

Presentations (10%): There will be one presentation, 10% of the final grade.

Mid term exam (25%): The mid term exam will cover the content from lectures and labs.

Final exam (30%): The final exam will cover the content from lectures and labs, 30% of the final grade.

Lab Expectations

You are expected to develop skills to identify and diagnose common plant diseases in field crops. You are expected to attend all the 10 labs with the lab TA.

Lab Schedule

Date	Lab Content & Teaching Strategies	Required Readings or Pre-Class Preparations	Evaluation		
			Type of Assessment	Due Date	Value of Final Grade
September 12	Fungal and bacterial isolation		Lab Report	September 19	2%

September 19	Microscopy, identification and slide preparation		Lab Report	September 26	2%
September 26	Inoculum preparation and haemocytometer slide		Lab Report	October 3	2%
October 3	pathogeneicity test on cereal		Lab Report	October 10	2%
October 10	Potato inoculation		Lab Report	October 17	2%
October 17	Resistance vs susceptibility		Lab Report	October 24	2%
October 24	Fungi and Fungicides		Lab Report	October 31	2%
October 31	Biological control		Lab Report	November 14	2%
November 07	Soybean and canola diseases		Lab Report	November 21	2%
November 21	Fungal transformation		Lab Report	November 28	2%

Grading

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

Expectations: I Expect You To

You are expected to review course content prior to each lesson. You are expected to participate in class discussions. You are expected to attend all classes.

I will treat you with respect and would appreciate the same courtesy in return. See [Respectful Work and Learning Environment Policy](#).

I expect you to follow these policies around Class Communication, Academic Integrity, and Recording Class Lectures ([Section 2.5 ROASS](#)).

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 Student Policy:

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

Recording Class Lectures:

No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission from the instructor. Course materials (both paper and digital) are for the participant's private study and research.

Expectations: You Can Expect Me To

I will be in class (or on-line) for 10 minutes prior to the class time to discuss any questions or comments you may have. I am available to discuss course content and answer questions outside of class time. Please email or talk to me for appointment.

Voluntary Withdrawal

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

The voluntary withdrawal deadline for fall term classes is **November 21, 2023**.

Students who do not drop the course by the deadline will be assigned a final grade. Withdrawal of courses will be recorded on official transcript. The instructor is willing to discuss student's progress and strategies for improvement prior the withdrawal date.

Evaluative feedback will be provided to the students prior to the withdrawal date.

Referencing Style

Assignments/Lab reports should use the Plant Pathology reference style.

<https://bsppjournals.onlinelibrary.wiley.com/pb-assets/hub-assets/bsppjournals/13653059/PPA%20Author%20Guidelines%20v2021-05-1619435839.pdf>

Assignment Feedback

You will receive formative (i.e., comments) or summative (i.e., grade) feedback for this course. The feedback will be delivered electronically or via paper.

You will receive the comments/grade on your weekly class log on the Monday of the next week. You will receive the comments/grade on your assignments one week after the date of submission. You will receive the comments/grade on your lab reports in the next week's lab. You will receive the comments/grade on your presentations/reading reports one week after the date of exam.

You will receive a sufficient percentage of your final grade prior to the Voluntary Withdrawal date, which will allow you to make a decision about completing or withdrawing from the course.

Assignment Extension and Late Submission Policy

Late Lab reports /Assignments – You will receive 5% less for each day being late and after one week (being late) a 0% will be assigned if there are no valid reasons (by e-mailing the instructor and TA concerned) for the delay.

Missed Lab reports/Logs/Assignments – A grade of 0 (zero) will be assigned to students who do not hand in a lab report, a weekly class log or an assignment on time without a valid reason.

Missed Exams – A grade of 0 (zero) will be assigned to students who miss an exam without a valid reason or without the consent of the instructor. No rescheduling of an examination will be allowed, regardless of the circumstances.

COURSE POLICIES

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.

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

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.

Section (b) sample: re: A statement regarding mental health that includes referral information:

For 24/7 mental health support, contact the Mobile Crisis Service at 204-940-1781.

Student Counselling Centre

Contact SCC if you are concerned about any aspect of your mental health, including anxiety, stress, or depression, or for help with relationships or other life concerns. SCC offers crisis services as well as individual, couple, and group counselling. *Student Counselling Centre:*

<http://umanitoba.ca/student/counselling/index.html>

474 University Centre or S207 Medical Services

(204) 474-8592

Student Support Case Management

Contact the Student Support Case Management team 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.

Student Support Intake Assistant <http://umanitoba.ca/student/case-manager/index.html>

520 University Centre

(204) 474-7423

University Health Service

Contact UHS for any medical concerns, including mental health problems. UHS offers a full range of medical services to students, including psychiatric consultation.

University Health Service <http://umanitoba.ca/student/health/>

104 University Centre, Fort Garry Campus

(204) 474-8411 (Business hours or after hours/urgent calls)

Health and Wellness

Contact our Health and Wellness Educator if you are interested in [peer support from Healthy U](#) or information on a broad range of health topics, including physical and mental health concerns, alcohol and substance use harms, and sexual assault.

Health and Wellness Educator <https://umanitoba.ca/student/health-wellness/welcome-about.html>

britt.harvey@umanitoba.ca

Live Well @ UofM

For comprehensive information about the full range of health and wellness resources available on campus, visit the Live Well @ UofM site:

<http://umanitoba.ca/student/livewell/index.html>

Section (c) sample: re: A notice with respect to 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 provides copyright resources and support for all members of the University of Manitoba community. Visit <http://umanitoba.ca/copyright> for more information.

Section (d) sample: re: A statement directing the student to University and Unit policies, procedures, and supplemental information available on-line:

Your rights and responsibilities

As a student of 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 [Academic Calendar](http://umanitoba.ca/student/records/academiccalendar.html) <http://umanitoba.ca/student/records/academiccalendar.html> is one important source of information. View the sections *University Policies and Procedures* and *General Academic Regulations*.

While all of the information contained in these two sections is important, the following information is highlighted.

- 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 website for more information including appeal deadline dates and the appeal form <http://umanitoba.ca/registrar/>
- You are expected to view the General Academic Regulation section within the Academic Calendar and specifically read the **Academic Integrity** regulation. Consult the course syllabus or ask your instructor for additional information about demonstrating academic integrity in your academic work. Visit the Academic Integrity Site for tools and support <http://umanitoba.ca/academicintegrity/> View the **Student Academic Misconduct** procedure for more information.
- 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 respectful manner. Policies governing behavior include the:

Respectful Work and Learning Environment

http://umanitoba.ca/admin/governance/governing_documents/community/230.html

Student Discipline

http://umanitoba.ca/admin/governance/governing_documents/students/student_discipline.html and,

Violent or Threatening Behaviour

http://umanitoba.ca/admin/governance/governing_documents/community/669.html

- If you experience **Sexual Assault** or know a member of the University community who has, it is important to know there is a policy that provides information about the supports available to those who disclose and outlines a process for reporting. The **Sexual Assault** policy may be found at:
http://umanitoba.ca/admin/governance/governing_documents/community/230.html
More information and resources can be found by reviewing the Sexual Assault site
<http://umanitoba.ca/student/sexual-assault/>
- For information about rights and responsibilities regarding **Intellectual Property** view the policy [https://umanitoba.ca/governance/sites/governance/files/2021-06/Intellectual Property Policy - 2013_10_01 RF.pdf](https://umanitoba.ca/governance/sites/governance/files/2021-06/Intellectual_Property_Policy_-_2013_10_01_RF.pdf)

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 web site

<http://umanitoba.ca/faculties/>

Contact an **Academic Advisor** within our faculty/college or school for questions about your academic program and regulations <http://umanitoba.ca/academic-advisors/>

Student Advocacy

Contact Student Advocacy if you want to know more about your rights and responsibilities as a student, have questions about policies and procedures, and/or want support in dealing with academic or discipline concerns.

<http://umanitoba.ca/student/advocacy/>

520 University Centre

204 474 7423

student_advocacy@umanitoba.ca