

Syllabus

PLNT 3570: Fundamentals of Plant Pathology
(Winter 2024)

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COURSE DETAILS

Course Title & Number:	Fundamentals of Plant Pathology
Number of Credit Hours:	03
Class Times & Days of Week:	Lectures: Tuesday & Thursday, 10:00am - 11:15 am Lab: Wednesday: 2-30-5:15pm
Location for classes/labs/tutorials:	Lectures: 108 Animal Science Building Lab: 138 Agriculture Building
Pre-Requisites:	BIOL 1030 (D)

Instructor Contact Information

Instructor(s) Name & Preferred Form of Address:	Dr. Mohammad Sayari
Office Location:	331 Plant Science
Office Hours or Availability:	Tuesday afternoon
Phone No.	431-556-1356
Email:	Mohammad.sayari@umanitoba.ca
Lab Teaching Assistant	Mr. Kamaalpreet Singh (Kamalpreet.singh1@umanitoba.ca)
	Will return a phone call or email-within 48 hrs.
Contact:	Students may contact instructors in person. If unable, use Email.

Course Description

U of M Course Calendar Description

This course is an introduction to the science of plant pathology. Topics include causal agents of plant diseases, symptoms and diagnoses, modes of infection and spread, effects of the environment on disease development, and methods of disease control. This course is a pre-requisite form for more advanced courses in plant pathology.

General Course Description

The students will be introduced to economically important diseases in the prairies they may encounter on crop plants and horticultural trees, the causal organisms, reproductive structures, and how the

environment and the host could contribute to the success of a pathogen and its infection process. This fits extremely well with the curriculum as the course will go through the areas of learning through basic and molecular approaches giving the students the needed background for their Plant Biotechnology degree.

Course Goals

This course will provide students with fundamental knowledge in plant pathology, including:

- Learning about causal agents of plant diseases,
- Learning about plant disease symptoms of economically important plant diseases,
- Learning how pathogens infect plants and spread,
- Learning the effects of the environment on disease expression,
- Learning methods of plant disease control

Course Learning Objectives

The main objective of the course is to help the students understand:

- the principles of host-pathogen interactions and how diseases occur in plants;
- the defense mechanisms plants have against plant pathogens
- how host-pathogen interaction knowledge can be used to reduce and manage diseases.

Textbook, Readings, and Course Materials

No textbook is required for this course. Suggested readings include:

1. Plant Pathology: concepts and laboratory exercises. R.N. Trigiano, M.T. Windham and A.S. Windham, CRC Press 2003
2. Plant Pathology, 5th Edition. G. Agrios. Academic Press, San Diego, CA. 2005.
3. Methods for evaluating plant fungicides, nematicides and bactericides. The American Phytopathological Society (1978)
4. Seed Treatment by K.A. Jeffs, British Crop Protection Council, 1986
5. Soilborne plant pathogens by G.W. Bruehl 1986, MacMillan Publishing Company (New York)
6. Laboratory guide for identification of plant pathogenic bacteria. N.W. Shaad. APS Press, St. Paul, MN, 1980.

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

All technology resources are to be used in a responsible, efficient, ethical and legal manner. The student can use all technology in classroom setting only for educational purposes approved by instructor and/or the University of Manitoba Disability Services.

Student should not participate in personal direct electronic messaging / posting activities (e-mail, texting, video or voice chat, wikis, blogs, social networking (e.g. Facebook) online and offline “gaming” during scheduled class time.

If student is on call (emergency) the student should switch his/her cell phone on vibrate mode and leave the classroom before using it.

Expectations: I Expect You To

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

The policies and services students are expected to follow/utilize are included at the end of this section ([Section 2.5 ROASS](#)).

You are expected 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 Student 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:

Dr. Fouad Daayf holds copyright over the course materials, presentations and lectures which form part of this course. 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 Dr. Fouad Daayf. Course materials (both paper and digital) are for the participant's private study and research only.

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

The instructor will give lectures on fundamental aspects of plant pathology, and provide examples that are relevant to Manitoba and Canada. Laboratory sessions will be given by a Teaching Assistant and will help students gain some hands-on experience. Both the instructor and TA will be pleased to answer questions from students either in or after class. The instructor also welcomes students to drop by during office hours if they have questions, or send an email. The instructor will provide information and answer questions in class prior to each examination.

CLASS SCHEDULE AND COURSE EVALUATION

Date for voluntary withdrawal: March 22, 2023

Date	Class contents and Teaching Strategies	Required Readings or any Pre-class Preparation	Evaluation		
			Type of Assessment	Due Date	Value of Final Grade
Jan 9					
Jan 11					
Jan 16					
Jan 18					
Jan 23					
Jan 25					
Jan 30					
Feb 1					
Feb 06			Presentations	Feb 06	10%
Feb 08			Presentations	Feb 08	
Feb 13			Presentations	Feb 13	
Feb 15					
Feb 27					
Feb 29					
March 05			Mid term		30%

March 07					
March 12					
March 14					
March 19					
March 21					
March 26					
March 28					
April 02					
April 04					
					100% (See details below)

Evaluation		
Type of Assessment	Due Date	Value of Final Grade
Mid-Term	March 05	30%
Presentations	Feb 06-13	10%
Lab reports	Feb 06 and 27, March 12 and 26	10%
Lab Final Exam	April 03	10%
Final Exam	TBA	40%
Total		100%

Grading

Letter Grade	Percentage out of 100	Grade Point Range	Final Grade Point
A+	85-100	4.25-4.5	4.5
A	80-84	3.75-4.24	4.0
B+	75-79	3.25-3.74	3.5
B	70-74	2.75-3.24	3.0
C+	65-69	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

Lab Schedule

Date	Lab Content & Teaching Strategies	Required Readings or Pre-Class Preparations	Evaluation		
			Type of Assessment	Due Date	Value of Final Grade
January 24	Koch's postulate, Media preparation				

January 31	Isolation of plant pathogen from diseased sample		Lab Report	Feb 06	2.5%
Feb 07	Microscopy				
Feb 14	Preparation of pure cultures of pathogens		Lab Report	Feb 27	2.5%
Feb 28	Fungal disease 1 Basidiomycetes				
March 06	Fungal disease 2 Deuteromycetes		Lab Report	March 12	2.5%
March 13	Bacteria and Viruses in plants				
March 20	Plant's defence mechanism		Lab Report	March 26	2.5%
March 27	How can we study host pathogen interactions?				
April 03	Nematodes		Lab Final Exam		10%

Voluntary Withdrawal

Refer to the [Registrar's Office](#) web page and University Calendar for more information. I would be willing to discuss student's progress and strategies for improvement prior the withdrawal date.

ASSIGNMENT DESCRIPTIONS

Lab reports' instructions and grading rules will be provided during lab sessions.

Assignment Feedback

Grades will be communicated to students through UMLearn, or by email, and where necessary, with feedback and/or comments. Comments and grades).

Assignment Extension and Late Submission Policy

Late Assignments

Assignments that are submitted after the stated deadline will be deducted 5% a day of the grade up to the end of the first week and 25% thereafter for each week the assignment is late.

Missed Assignments

Missed assignments will be given a nil mark unless a valid justification is presented. Assignments, reports, or exams which are illegible or poorly written may be subject to refusal or deduction of the final grade.

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)

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: <https://umanitoba.ca/libraries/librarians-and-archivists>. 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)

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)

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)

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