

Syllabus

PLNT 4270: Plant Disease Control
(Fall 2022)



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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: ANIMAL SCIENCE 220 Labs/Tutorials: AGRICULTURE 343
Pre-Requisites:	PLNT 2500 or consent of instructor

Instructor Contact Information

Instructor(s) Name & Preferred Form of Address:	Dr. Shuanglong Huang Shuanglong
Office Location:	Agriculture Building Room 326
Office Hours or Availability:	Make an appointment face-to-face or email
Office Phone No.	204-474-6563 (lab)
Email:	shuanglong.huang@umanitoba.ca
Contact:	Please email or talk to me for appointment
Lab Teaching Assistant:	Jigeesha Mukhopadhyay (mukhopaj@myumanitoba.ca)
Office Hours or Availability:	Make an appointment face-to-face or email

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 Goals

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.

Course Learning Objectives

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

Textbook, Readings, and 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, or a combination of in-person and WebEx. You are free to use tablets, cellphones, laptops, etc. in the classroom provided these are used in a responsible, efficient, ethical and legal manner.

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.

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:

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.

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

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.

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 ROASS](#).

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 7	Introduction to this course				
September 9	Plant diseases basics I				
September 12	Plant diseases basics II				
September 14	Plant disease development				
September 16	Effects of pathogens on plant physiology				
September 19	How plants defend against pathogens				
September 21	How pathogens attack plants				
September 23	Genetics of plant diseases I				
September 26	Genetics of plant diseases II				

September 28	Canola blackleg disease I				
September 30	National Day for Truth and Reconciliation				
October 3	Canola blackleg disease II				
October 5	Canola blackleg disease III				
October 7	Canola Verticillium stripe disease				
October 10	Thanksgiving Day				
October 12	Canola Sclerotinia disease				
October 14	Canola clubroot disease				
October 17	Presentations I				
October 19	Presentations II				
October 21	Presentations III				
October 24	Cereal diseases I				
October 26	Cereal diseases II				
October 28	Corn diseases				
October 31	Soybean diseases I				
November 2	Soybean diseases II				
November 4	Sunflower and flax diseases				
November 7	Fall term break				
November 9	Fall term break				
November 11	Fall term break / Remembrance Day				
November 14	Potato diseases				

November 16	Fungicide and fungicide resistance				
November 18	Disease forecasting				
November 21	Disease resistance breeding				
November 23	Molecular markers in plant disease control				
November 25	Population genetics of plant pathogens				
November 28	Phylogenetic Signal in Plant Pathogens				
November 30	New technologies I				
December 2	New technologies II				
December 5	How do we understand disease triangle for future disease control?				
December 7	Revision for the final exam I				
December 9	Revision for the final exam II				
December 12, or to be determined	Final exam				
					100% (See details below)

Weekly class logs (12%): There will be 12 weekly class logs, 1% for each.

Assignments (18%): There will be 6 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.

Reading reports (10%): There will be one reading report, 10% of the final grade.

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 13	Illustration of plant diseases		Lab Report	September 20	2%
September 20	Fungi and Fungicides		Lab Report	September 27	2%
September 27	Biological control		Lab Report	October 4	2%
October 4	Fungal isolation I		Lab Report	October 11	2%
October 11	Fungal isolation II		Lab Report	October 18	2%
October 18	Canola blackleg pathogenicity test I		Lab Report	October 25	2%
October 25	Canola blackleg pathogenicity test II		Lab Report	November 1	2%
November 1	Canola other disease pathogenicity assessment		Lab Report	November 15	2%
November 15	Cereal diseases		Lab Report	November 22	2%
November 22	Soybean diseases		Lab Report	November 29	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

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 22, 2022**.

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.

ASSIGNMENT DESCRIPTIONS

Weekly class logs (12%): Instructions will be given in the first class.

Assignments (18%): Each assignment requirement will be described detailly throughout the course.

Lab reports (20%): Each lab report requirement will be instructed at each lab.

Presentations (10%): Presentations on a topic closely related to the learning objectives for this course. You will be able to choose the topic of interest two weeks prior to it.

Reading reports (10%): Reading reports on a research paper closely related to the learning objectives for this course. You will be able to choose the research paper of interest two weeks prior to it.

Final exam (30%): Date and location will be notified as soon as possible. There will be one to two classes for revision for the final exam.

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/Logs/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.

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.

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