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Syllabus

PLNT 4510: Advanced Cropping Systems
(Winter 2021)

Faculty of



UNIVERSITY
OF MANITOBA

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COURSE DETAILS

Course Title & Number:	PLNT 4510 Advanced Cropping Systems
Number of Credit Hours	3
Pre-Requisites:	PLNT 2510 Crop Production or by permission of the instructor

Instructor Contact Information

Instructor(s) Name & Preferred Form of Address: Dr. Yvonne Lawley, Assistant Professor, Department of Plant Science (Students are welcome to address me by name as either Yvonne or Dr. Lawley)

Office Hours or Availability: Office hours will be held for 1 hour after class on Tuesdays from 2:30 to 3:30. Students can register for a time slot using the appointments function in WebEx on UMLearn. If you have a schedule conflict with this office hour period or need help on a different day, contact Dr. Lawley by email to set up an appointment at a mutually agreeable time.

Office Phone No. 204-474-6504

Email: Yvonne.Lawley@umanitoba.ca
I will return email within 24-48 hours Monday to Friday

Note: All email communication must conform to the [Communicating with Students](#) university policy. You must use your University of Manitoba email for all correspondence in this course.

Contact: During the pandemic with remote learning at the University of Manitoba, email is the most reliable way to contact Dr. Lawley. If you have several questions or questions that require more explanation to answer, I encourage you to sign up for a virtual meeting in WebEx during office hours.

COURSE DESCRIPTION

U of M Course Calendar Description

Examination and analysis of sustainable Prairie cropping systems. Emphasis will be placed on systems that optimize the benefits of crop rotation, integrate crops and livestock, conserve soil and water resources, and enhance biodiversity. Current, historical, and emerging crop production systems from the Prairies and other regions of the world will be discussed. Includes experiential learning through farm interviews and/or field tours and/or guest speakers. May not be held with PLNT 3510. Prerequisite: PLNT 2500 (D).

General Course Description

This course is the capstone course for the agronomy program. It teaches you to think about agriculture from a systems perspective. It integrates information learned throughout your degree and focuses on learning how to use this knowledge to solve agronomic problems. This course will give you a broader understanding of the evolution of prairie cropping systems from the past to the present and looking towards the future.

This is a “big picture” course that focuses on synthesizing information. You will be learning content and skills in a different way than many of your previous courses. In previous agronomy classes you likely focused on content:

- The steps to growing a successful wheat crop,
- The physical, chemical, and biological methods of weed control,
- Disease cycles and how to control pests by breaking the weakest link,
- The form and rate of fertilizer applications to optimize canola yield,
- Soil management practices to minimize soil erosion

This class focuses on learning how to link this information together to identify and evaluate the pieces as part of a larger cropping system. You will be using the knowledge gathered throughout your degree program and your observation skills to learn about the world around you. You will practice making informed decisions about agronomic problems. You will be asked to question the current assumptions we make about agriculture and consider how it is likely to change in the future. You will be evaluated on your ability to describe and define agricultural systems, contrast similarities and differences, synthesize information, make observations, and problem solve.

Course Goals

The goal of this course is to understand crop production within a systems context, learn about the diversity of prairie and international cropping systems, and to practice applying acquired knowledge and observation skills to solve agronomic problems both large and small.

Course Learning Objectives

1. Define and describe the components of cropping systems.
2. Apply systems thinking to identify and solve an agronomic problem.
3. Discuss the potential consequences of changes to cropping system components to the overall function of a system.
4. Apply knowledge and use observation skills to identify and solve agronomic problems
5. Describe current and historical cropping systems of the Canadian Prairies.
6. Gain awareness of the diversity of cropping systems in the Canadian Prairies and North America.
7. Explain the technological and biological breakthroughs that have contributed to the productivity and problems of current cropping systems.
8. Identify the limitations and challenges of current cropping systems.
9. Describe emerging alternative agronomic technologies and cropping systems
10. Define sustainable agriculture and the metrics used to compare the sustainability of cropping systems.

COURSE MATERIALS AND TECHNOLOGY

Required textbook: There is no textbook for this course. Required readings for this course will be posted on UMLearn. <https://universityofmanitoba.desire2learn.com/d2l/home>

Supplementary readings: If you are struggling with a particular course subject, contact the professor for specific suggestions of supplemental material.

Required materials: This is a remote learning course. You will require a computer with speakers and high speed internet connection to access UM Learn and WebEx. You will require a computer with a webcam and microphone in order to complete class assignments and tests.

POLICIES

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

See the end of this document for a list of other University policies and services students are expected to follow/utilize ([Section 2.5 ROASS](#)).

Group Work Policies: Team and group work skills are qualities that most employers are looking for in job candidates. Treat the group work term project and group discussion in this course as an opportunity to develop and document these skills for use in future job application and interviews. All group members should exchange contact information (ex. email, phone) at the start of a project so that you can get in contact with each other outside of class. If a problem cannot be resolved within the group, please contact the professor sooner rather than later (ie - not the day before the project is due) to help facilitate a solution. Please be aware of the policy on Inappropriate Collaboration described under the Academic Integrity section of the syllabus.

Student Accessibility Services:

The University of Manitoba is committed to providing an accessible academic community. Please contact Dr. Lawley by email to set up a meeting time if you have accessibility questions or concerns within the course. [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

Recording Synchronous Sessions/Online Lectures

The lecture part of synchronous classes presented by Dr. Lawley will be recorded and posted in UMLearn for students to view after class. In class and small group discussion sessions with **not** be recorded or posted.

The course materials are copyrighted by Dr. Yvonne Lawley, 2021. No audio or video recording of this material, lectures, or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission of Dr. Lawley. Course materials (both paper and digital) must not be posted on internet site and are for the participant's private study and research, and must not be shared. Violation of these and other Academic Integrity principles, will lead to serious disciplinary action.

COURSE SCHEDULE

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](#). During the pandemic, this course schedule may change if unforeseen circumstances arise and if access to public schools and child care is impacted.

Unit	Topics	Dates
1	Introduction to course and systems thinking Definition, system goals, system diagrams,	Jan 19-21
2	History of Prairie Cropping Systems: Fallow-wheat, green revolution, no-till	Jan 26-Feb 11
3	Cropping Systems Tool Box: Crop-livestock integration, biofuels, soil health, cover crops, precision agriculture	Feb 16-March 4
4	Current Cropping Systems in Manitoba Term Project Presentations	March 9-11
5	Case Studies Intercropping, Carbon Farming, Digital Agriculture	March 23 – April 8
6	Course Wrap Up Paradigms, review, role of agronomists, sustainability metrics, course evaluation	April 13-15

VOLUNTARY WITHDRAWAL

The last day for voluntary withdraw from this course is March 31st. Students who do not drop the course by the deadline will be assigned a final grade. Withdrawal from courses will be recorded on your official transcript. See the [Registrar's Office](#) web page for more information. I am willing to discuss your progress and strategies for improvement prior the withdrawal date.

COURSE ASSESSMENT

ASSIGNMENT DESCRIPTIONS: It is recommended that the syllabus contain the details for all of the assignments in your course. However, if the details are not provided, a statement must be included in the syllabus of whether assignment instructions, grading rules, or rubrics will be provided ([Section 2.5 ROASS](#)).

Clearly describe the nature of the assignment or assessment strategy (e.g., paper, group project, critique, précis, etc.). The syllabus can be the resource for understanding what you expect out of the assignment from the students. This also includes tests, exams. (e.g., will the exam cover the entire semester? Do you focus on major concepts? Does it include all materials covered in class including videos and guest speakers?). Link assessments to the relevant course goals and learning objectives using a numbering system or narrative explanation. A suggestion is to organize the assignment description as follows:

Assessment Number	Type of Assessment	Percent of Grade	Dates
1	Systems Diagrams	10	As assigned in Unit 1 and 2
2	Discussion Question Board	10	As assigned in Unit 1, 2, and 3
3	Term Project Farm Interview and Presentation	20	March 9 and 11
4	Case Studies	15	As assigned in Unit 5
5	Unit Tests	15	Thursday February 18 Tuesday March 23
6	Final Exam	30	As scheduled by University (Final Exam Period is April 19- May1)

During the pandemic, this schedule for course assignments may change if unforeseen circumstances arise and access to public schools and childcare is impacted. Any changes to due dates will be made in consultation with students through discussion in class and will communicated to students by email and announcements in UMLearn.

Description of Assignments

There will be three main types of assignments for the course. A detailed written description of all assignment will be provided to students in class.

1. Cropping Systems Diagram – students will be required to create systems diagrams with written explanations based on topics covered in Units 2 and 3 . Students will post their diagrams on the class discussion board in UMLearn and write questions and comments to discuss the diagrams online.

2. Discussion Question Board – Weekly readings will be posted on UMLearn in Units 2 and 3.. Students will be assigned to post discussion questions prior to scheduled in-class group work session.
3. Term project interview and presentation –In groups of 2 students, you will be assigned an innovative farmer to interview and present a summary of the cropping system in class.
4. Case study reports –In groups, student will write a series of short reports to design and explain cropping system changes for assigned topics based on your case study farm.

Description of Unit Tests and Exams

As in person written exams cannot be scheduled during the pandemic, oral exams will be used to assess student learning. Students will meet with Dr. Lawley in groups of 5-6 students. A specific student will be asked specific question to discuss and graded based in the completeness of their answer. The other students in the group will be given an opportunity to add to answers to gain additional marks during the exam. Two unit tests will be scheduled during class time and will not be cumulative. The final exam will be scheduled during the final exam period and will be cumulative for the entire course. Students will have the opportunity to practice for oral exams through in class group discussions as well as through the Systems Diagram and Discussion Board assignments prior to the first unit test.

GRADING

Final numerical grades will be converted to a final letter grade using the following guidelines

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	72-99	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

Referencing Style

Many different referencing styles are used within the different scientific disciplines studied within the field of agriculture. For this course, you will be expected to use the Council of Science Editors (CSE) style. This involves using both a reference list and in-text citation. A CSE style guide is Available on UMLearn. If you have questions about referencing or using style for referencing you can consult Dr. Lawley or the Agriculture Librarian.

Assignment Feedback

Students will receive feedback on course assignments using grading rubrics or written feedback using comments or track changes in electronic documents. Students can expect graded assignments to be returned within two weeks, however there may be unforeseen delays if the pandemic further impacts public schools and child care during the winter 2021 term. Students will receive their grades for the first unit test and their term project assignment presentation prior to the Voluntary Withdrawal date.

Assignment Extension and Late Submission Policy

Late Assignments: Assignments are due at the start of each class period. Late assignments will lose 20% per day (including weekends) and will not be graded if they are more than one week late. Assignments will typically be submitted electronically in the UMLearn. Assignments will not be accepted via email. If a student is unable to complete an assignment due to a medical or other emergency, contact the professor as soon as possible by email.

Missed Assignments: Students will receive a grade of incomplete until all required course assignments are submitted.

Missed Unit tests: Unexcused missed tests will be given a grade of zero. There will be no re-writes for the unit tests. If a student misses the test due to a medical or other emergency, contact the professor as soon as possible by email. Be prepared to provide a doctor's note or other documentation. If the unit test is missed due to a documented medical or other emergency, the grade for the test will be shifted to second mid term test or final exam. If the final exam is missed and an appropriate excuse has been provided, the University of Manitoba's policy for deferred exams will be followed as described in the Undergraduate Calendar.

Academic Integrity

Plagiarism or any other form of cheating in examinations, unit tests or academic assignments is subject to serious academic penalty. Cheating in examinations or tests may take the form of copying from another student or accessing unauthorized materials or persons during the test or exam. Exam cheating can also include exam impersonation. In cases where students are found guilty of contributing to cheating in examinations or assignments will be referred to the Associate Dean Academic in the Faculty of Agriculture and will be subject to serious academic penalty. Each student in this course is expected to complete their coursework and programs of study with integrity by making a commitment to the six fundamental values of honesty, trust, fairness, respect, responsibility, and courage.

<http://umanitoba.ca/student-supports/academic-supports/academic-integrity>

Academic integrity looks like referencing the work of others that you have used and completing your assignments independently unless otherwise specified

If you are encouraged to work in a team, ensure that your project is completed with integrity. You must also do your own work during exams. Plagiarism, duplicate submission, cheating on quizzes, tests, and exams, inappropriate collaboration, academic fraud, and personation are in violation of the Student Discipline Bylaw and will lead to the serious [disciplinary action](#). Visit the [Academic Calendar](#), [Student Advocacy](#), and [Academic Integrity](#) web pages for more information and support.

Working with other students on assignments, or tests, when this is not permitted by the instructor, can constitute Inappropriate Collaboration and may be subject to penalty under the University of Manitoba Student Discipline By-Law. Ask the instructor if you are unsure if it collaboration is permitted for an assignment in the course.

Group projects are subject to the rules of academic dishonesty. Group members must ensure that a group project adheres to the principles of academic integrity.

Sharing of notes and other materials, such as assignment and exam questions that are provided by the instructor is prohibited, unless otherwise stated. This means that you are not allowed to upload the instructor's intellectual property to a note-sharing or tutoring website without explicit permission.

LEARNER SUPPORT

Writing and Learning Support

The Academic Learning Centre (ALC) offers writing and learning supports to help you throughout your academic program. These supports are offered online during the Covid-19 pandemic.

Make an appointment with an ALC 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. The ALC also has an English as an Additional Language (EAL) specialist available to work with students on improving their English-language academic writing skills.

Consult an ALC learning specialist or attend an academic skills workshop to improve your time management, learning strategies and test-taking strategies. Get support in select courses by making an appointment with an ALC content tutor. The ALC also offers peer-facilitated study groups called Supplemental Instruction (SI) for certain courses that students have typically found difficult. In SI study groups, students ask questions, compare notes, discuss content, solve practice problems, and develop new study strategies in a group-learning format.

In addition to one-to-one and group sessions, you can also find writing and study tip sheets and videos on the ALC website.

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/>

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.

University of Manitoba Libraries (UML)

Research begins at [UM Libraries](#). [Learn at the Libraries](#) is a great place to start, with information for students on academic writing, how to search the library, evaluating resources, and writing citations. 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 locating appropriate resources or managing citations, 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 online. When working remotely, students can also receive help online through [Ask Us!](#) chat. For further detail about the libraries' services and collections, [visit the Libraries' web site](#). Regularly check our [COVID-19 Update](#) page for available library services and access to resources for Fall 2020

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 UMSU University Centre or S211 Medical Services Building
(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.

<http://umanitoba.ca/student/case-manager/index.html>

520 UMSU University Centre
(204) 474-7423 (Student Support Intake Assistant)

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. Note that due to fire displacement, UHS is unable to provide in-person medical care on the Fort Garry Campus until October, 2020.

University Health Service <https://umanitoba.ca/student-supports/student-health-and-wellness>

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

Health and Wellness

Contact our Health and Wellness Educator if you are seeking information on health topics, including physical and mental health concerns, alcohol and substance use harms, or sexual violence. You can also access peer support from a *Healthy U* peer health educator.

Health and Wellness Educator

<https://umanitoba.ca/student/health-wellness/welcome-about.html>

britt.harvey@umanitoba.ca

469 UMSU University Centre
(204) 295-9032

Sexual Violence Resource Centre

Contact SVRC if you have experienced sexual violence or are seeking information about how to help somebody else. SVRC provides inclusive, survivor-centred, trauma-informed services, such as consultation, referrals, safety planning, and a range of on-site supports, including counselling by Clinic.

Sexual Violence Resource Centre

<https://umanitoba.ca/student-supports/sexual-violence-support-and-education>

svrc@umanitoba.ca

537 UMSU University Centre

(204) 474-6562 (Sexual Violence Intake and Triage Specialist)

Student Services at Bannatyne Campus

Contact SS@BC to access a full range of resources and supports for learners at the Rady Faculty of Health Sciences. Services are provided through a one-stop hub that includes a range of supports for personal and academic success, including counselling, mental health consultation, and spiritual care.

Student Services at Bannatyne Campus

<https://umanitoba.ca/student-supports/student-services-bannatyne-campus>

bcss@umanitoba.ca

S211 Medical Services Building

(204) 272-3190 (Intake and Triage Specialist)

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 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/admin/governance/governing_documents/community/235.html

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

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.