



**University of Manitoba  
Faculty of Agriculture  
Departments of Plant & Animal Science  
Winter Term 2022**

**PLNT 0750 - Forage and Pasture Management**

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### COURSE DETAILS

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<b>Course Title &amp; Number:</b>	<b>Forage and Pasture Management, PLNT 0750</b>
<b>Number of Credit Hours:</b>	4
<b>Class Times &amp; Days of Week:</b>	Monday, Wednesday, Friday. 12:30-1:20pm Labs - Tuesday 2:30-3:45 Thursday 2:30-3:45
<b>Location for classes/labs/tutorials:</b>	Classes: virtual - Cisco Webex Lab: virtual - Cisco Webex
<b>Pre-Requisites:</b>	NA

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### Instructor Contact Information

<b>Instructor(s) Name:</b>	Dr. Douglas J. Cattani, Assistant Professor, Department of Plant Science
<b>Office Location:</b>	Rm 105 Agriculture Building
<b>Office Hours or Availability:</b>	By appointment or before or after class
<b>Office Phone No.</b>	204-474-6071
<b>Email:</b>	<a href="mailto:Doug.Cattani@umanitoba.ca">Doug.Cattani@umanitoba.ca</a>

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### Course Goals

- Provide you with tools for forage and pasture management, including knowledge of forage species, knowledge of different grazing management approaches and knowledge of pasture system design.
- Expand your view of the important role that forages play in agriculture
- Help you develop skills important to your success as a farm manager or agronomist (critical thinking/decision making).
- Treat you as an adult learner.

### Who should take this course?

- 1) Students interested in animal and forage production.

- 2) Students interested in the maintenance of the perennial grasslands (cultured and native) and the ecological benefits they provide.
- 3) Students interested in the use of perennial species for food and fibre.
- 4) Students interested in diversity in agriculture and how grassland agriculture can be a conduit for enhancing diversity.

### General Course Information

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Grassland agriculture is important for animal agriculture and for the maintenance of soil quality of lands and for those lands not suited to annual crop production. The relationship between plant cover, the health of the environment and the production of animals is key to understanding both the utilization of grasslands for animal feed, the productivity of the grassland and the productivity of animal agriculture. The beef production industry in western Canada has been negatively impacted by BSE and other outside influences in the past decades leading to a reduction of lands under perennial cover (pasture, hayfield and range), exposing the landscape to additional risks that come with annual crop production practices. The maintenance of perennial crops for animal feed provides habitats for many native flora and fauna that would not exist under annual cropping. The economic production of animals for human consumption is important, however all costs and benefits must be understood in order to achieve this in a sustainable manner. Additionally, other potential opportunities to use perennials on agricultural lands, including fiber and food will be covered. Practices covered may be applied in any agricultural ecosystem.

### Course Objectives

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By the end of this course, Students will:

1. Be able to identify forage crop species, assess their suitability to the area of application and formulate seeding mixtures (if applicable) and a management system for grasslands.
2. Categorize plant growth strategies and generate plant stands that provide adequate agricultural and ecological benefits to the area of concern.
3. Illustrate the production of forages and explain how plant growth and development impact forage quantity and quality.
4. Understand plant and animal interactions to develop and utilize a planned pasture system effectively.
5. Be able to identify requirements of an effecting grazing system.
6. Provide the basics that can help determine the greenhouse gas footprint of an integrated forage/crop/ruminant livestock operation.

### Learning Outcomes

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Learning outcomes assist: i) students to identify the knowledge, skills, attitudes and personal attributes expected of them to successfully complete their program of studies; ii) faculty to develop learning goals and objectives in their courses and programs, in prioritizing and focusing

the learning experiences, and in the selection of appropriate assessment tools and; iii) potential students and outside agencies to assess the quality of our academic programs.

These learning outcomes areas include:

***Scholar, Content and technical expertise, Social accountability, Communicator, and Professional***

### Using Copyrighted Material

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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](mailto:um_copyright@umanitoba.ca).

### Recording Class Lectures

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Dr. Douglas J. Cattani and the University of Manitoba hold 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 of the course instructors. Course materials (both paper and digital) are for the participant's private study and research.

### Textbook, Readings, Materials

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#### **Textbook(s) – Authors, Titles, Edition**

None.

#### **Supplementary Reading:**

1. Undersander et al. 2005: Alfalfa Mangement Guide

#### **Additional Materials: Resources**

**Western Beef Development Centre videos:**

Short-term forage legumes in dryland areas of the prairies. Dr. Paul Jefferson

[http://www.youtube.com/watch?v=Lexav\\_PgYCM](http://www.youtube.com/watch?v=Lexav_PgYCM).

Seeding alfalfa into grass pastures Dr. Paul Jefferson

[http://www.youtube.com/watch?v=35XOgQn\\_6g](http://www.youtube.com/watch?v=35XOgQn_6g).

Winter grazing standing corn with beef cattle

[http://www.youtube.com/watch?v=IJR8BOczm\\_Y](http://www.youtube.com/watch?v=IJR8BOczm_Y).

Winter feeding cows on pasture

<http://www.youtube.com/watch?v=4j5ZoujysaA>.

Additional handouts may be given out in class.

Several textbooks (with their library call numbers) can be used as background for the course lecture which include:

- Grazing Management: An Ecological Perspective - SF 85 G73 1991
- Range Management: Principles & Practices - SF 85 H56 2001

**Course Technology**

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It is the general University of Manitoba policy that 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. (@[S Kondrashov](#). Used with permission)

Recordings (or photographs) are not permitted except when required to do so by Student Accessibility Services.

Course material, where applicable, will be uploaded to UM Learn under PLNT 0750.

**Class Communication**

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Class Communication:

Example: 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](http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html).

Please note that all communication between instructors and students must comply with the electronic communication with student policy

([http://umanitoba.ca/admin/governance/governing\\_documents/community/electronic\\_communication\\_with\\_students\\_policy.html](http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html)). You are required to obtain and use your U of M email account for all communication between yourself and the university.

### Expectations: I Expect You To

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Students are expected to attend class regularly, read assigned materials in a timely manner, participate in discussion and complete all assignments and examinations with academic integrity and honesty. Students are encouraged to ask questions for clarification and seek assistance from instructors if they require additional explanations or resources. In addition, students are expected to conduct themselves in a manner that is respectful of the learning environment, other students and instructors.

#### **Academic Integrity:**

Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious academic penalty. Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials into the exam room. Exam cheating can also include exam impersonation. A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty. Students should acquaint themselves with the University's policy on plagiarism, cheating, exam impersonation and duplicate submission (see Section 7, p. 29 in the University of Manitoba Undergraduate Calendar 09/10).

**Group Work Policies:** For individual assignments, students may cooperate and discuss the assignment; however, each student must hand in their own assignment, written in their own words. Duplicate assignments (either whole or in part) will be considered acts of academic dishonesty and will be subject to disciplinary action according to University policy.

For Group Assignments: One report per group is required.

#### **Use of Third Party Detection and Submission Tools**

Electronic detection tools may be used to screen assignments in cases of suspected plagiarism.

### Students Accessibility Services

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#### **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](mailto:Student_accessibility@umanitoba.ca)

### Class Schedule

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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](#)).

#### Lecture Topic Outline:

- Section 1 - The unique role of forages in agricultural systems.
  - Section 2 - Selecting forages for the farm. Species and mixtures.
  - Section 3 - Growing the crop.
  - Section 4 - Forage establishment.
  - Section 5 - Forage quality; Forage harvesting and storage.
  - Section 6 - Pasture and range management.
  - Section 7 - Forage seed production.
  - Section 8 - Forages and environmental sustainability.
  - Section 9 - Forages and society - Issues affecting animal agriculture and forage use
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### Important Dates

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January 20 - 26, 2022	No classes – Experiential Learning
February 21 - 25, 2022	Louis Riel Day and Mid-Term break: No Classes
March 17, 2022	Last day for Voluntary Withdrawal from all Fall/Winter Term 2021/2022 and Winter Term 2022 courses
April 6, 2022	Last day of classes
April 7, 2022	Examinations begin for School of Agriculture

### Results on Performance Prior to Voluntary Withdrawal Deadline

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Results on student performance will be provided before voluntary withdrawal date (approximately 50% of total grade).

### Instructional Methods

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A combination of instructional methods will be used in this course. Traditional in class lectures will be delivered in combination with group discussions. Guest speakers may also be invited to give lectures, enhancing the applicability of the information given. Laboratory sessions will be used for practical instruction on plant identification and how to develop a grazing plan for any livestock operation.



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 Lab Schedule
 

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Date	Lab Content	Required Readings or Pre-Class Preparations	Evaluation
Jan 11, Jan 13	Seeding experiment	Lab manual	Laboratory write-up (15% total).
Jan 18, Jan 27	Forage and pasture seed identification	Lab manual	Plant ID test (15%).
Feb 01 Feb 03	Legume seedling identification	Lab manual	Plant ID test
Feb 08, Feb 10	Grass seedling identification	Lab manual	Plant ID test
Feb 15, Feb 17	Mature plant identification (legume)	Lab manual	Plant ID test
Mar 1 Mar 3	Mature plant identification (grasses)	Lab manual	Plant ID test
March 9	Plant ID Quiz - 6:00 PM	Lab manual lab presentations	15% of final mark (must pass ID test to pass course)
Mar 25	Seeding Experiment write-up		15%

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 Course Evaluation Methods
 

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Due Date:	Assessment Tool	Value of Final Grade
January 25, 2022	Quiz 1	10%
February 9, 2022	Quiz 2	10%
February 11, 2022	Forage species Fact Sheet	10%
February 28, 2022	Assignment 1	10%
March 9, 2022	Plant ID test, Laboratory	15%
March 14, 2022	Quiz 3	10%
March 25, 2022	Lab Reports - Seedling emergence	15%
Final Exam	Scheduled by School of Agriculture	20%

Laboratory TA – Patrick Le Heiget, leheigep@myumanitoba.ca

Marker TA - Alexa Peterson, peters86@myumanitoba.ca.

### Grade Evaluations

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The grade will be evaluated through a combination of examinations, assignments, class participation and discussion.

**Grading: The following grading scale will be applied to this course.**

Letter Grade	Percentage out of 100	Grade Point Range	Final Grade Point
A+	93-100	4.25-4.5	4.5
A	84-92	3.75-4.24	4.0
B+	78-83	3.25-3.74	3.5
B	72-77	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

### Assignment Descriptions

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#### Description of Assignments

1. Forage Species Fact Sheet - Individual Assignment to be completed by student and handed in (emailed) by 4:30 PM February 11, 2022
2. Assignment 1 - Critique - February 28, 2022.
3. Forage Lab - Seed Establishment
  - Laboratory (GH) establishment of perennials seeds. One assignment per group to be handed in (emailed) by 4:30 PM **March 19, 2022**

#### Assignment Due Dates

Due Date:	Assessment Tool	Value of Final Grade
February 11, 2022	Forage Species Fact Sheet	10%
February 28, 2022	Assignment 1 - Critique	10%
March 19, 2022	Lab Reports - Seedling emergence (Group)	10%

### Assignment Extension and Late Submission Policy

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**Late Assignments:** Assignments must be submitted by the end of the day (6:00pm) on the date that it is due. There will be a 10% deduction for every 24-hour period the assignment is late.

**Missed Assignments:** Unexcused missed assignments will be given a grade of zero. Where assignments are missed and excused through written notification such as a doctor's certificate of illness, evidence of death in the family, or other circumstances that are beyond the control of the student, the student may be given the following options: 1) complete the assignment and receive

the late assignment penalty as describe above; 2) establish a new due date with the instructor and complete the assignment without penalty when handed in by the new due date; or, 3) the final grade will be determined by increasing the value of the final examine by the amount that would have been allocated to the missed assignment.

**Missed Exams: Unexcused missed exams** will be given a grade of zero. Where exams other than the final exam are missed and excused through written notification such as a doctor's certificate of illness, evidence of death in the family, or other circumstances that are beyond the control of the student, the student may be given the following options: i) re-schedule a date for the exam with the instructor and complete the exam at that time ( the instructor has the option to set a different exam); or, 2) the final grade will be determined by increasing the value of the final examine by the amount that would have been allocated to the missed exam. If the final exam is missed and an appropriate excuse has been provided, another exam date will be set at the discretion of the instructor.

## **Schedule "A" – Policies and Resources for Students**

### **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](http://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**

Health and Wellness

Contact our Health and Wellness Educator if you are interested in 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 <http://umanitoba.ca/student-supports/student-health-and-wellness>

Katie.Kutryk@umanitoba.ca

469 University Centre

(204) 295-9032

469 University Centre  
(204) 295-9032

### **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:**

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:**

#### **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](http://umanitoba.ca/admin/governance/governing_documents/community/230.html)

**Student Discipline**

[http://umanitoba.ca/admin/governance/governing\\_documents/students/student\\_discipline.html](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](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](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](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](mailto:student_advocacy@umanitoba.ca)