Syllabus

PLNT 3540 Weed Science

(Winter 2022)

Faculty of

UNIVERSITY
OF MANITOBA

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COURSE DETAILS

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Course Title & Number: Weed Science PLNT 3540

Number of Credit Hours   3 Credit Hours

Pre-Requisites: BIOL 1020, BIOL 1030, AGRI 1500, or consent from the instructor

Instructor Contact Information

Instructor(s) Name &   Dr. Robert Gulden

Office Hours or Availability: After lectures, I will be available on Webex for 15-20 minutes to answer any questions. If this is not suitable, please feel free to contact me via e-mail.

Email: Lecture and course:
                                  Rob Gulden: rob.gulden@umanitoba.ca

                                  Laboratory inquiries:
                                  Jonathan Rosset: Jonathan.Rosset@umanitoba.ca

Contact: Please feel free to contact the instructor or lab TA for any questions or concerns you may have. Every attempt will be made to respond to e-mails within 2 business days. Response to e-mails will be limited to regular office hours (M-F 8:30am -4:30pm).

                                  Note: All email communication must conform to the University of Manitoba - University Governance - Governing Documents: University Community (umanitoba.ca) university policy.

COURSE DESCRIPTION

U of M Course Calendar Description
Identification, biology and ecology of weeds of agricultural importance in western Canada, including principles of cultural, mechanical, biological, and chemical management. Topics include weed interference, effects of rotational and management practices on weed species composition, herbicide selectivity and mechanisms of action, and emerging control strategies.

General Course Description
During the Winter 2021 semester, the course and lab will be offered online only using synchronous and asynchronous teaching methods. Synchronous lecture and labs will be recorded and available within UM Learn via Webex for 7 days after the original date of the class. The recordings will facilitate access to the lectures and labs if the synchronous class/lab cannot be attended due to illness or technical issues, for example. It is highly recommended that you attend each live lecture and lab (the iclicker part of the course will only work during the live portions of the course). By participating in the recorded synchronous lectures and labs you consent to being recorded. Recorded synchronous material will be available via streaming only. Downloading of this material is not permitted. Asynchronous course material will be uploaded on UM Learn or links to such material will be provided in UM Learn.
Skeleton notes of lecture material will be posted in UMLearn before the live lectures (https://universityofmanitoba.desire2learn.com/).

Course Goals
The objectives of the course are for students to be able to:

1) Define a weed.
2) Identify endemic and invasive weed species present in Manitoba.
3) Understand the ecological principles that govern plant species, plant communities and crop-weed interactions.
4) Understand weed management thresholds and the critical period for weed control.
5) Understand effective cultural, mechanical, biological, and chemical methods for managing weeds and when to apply these.
6) Understand the principles that contribute to herbicide selectivity.
7) Design integrated weed management systems and understand the tradeoffs among weed management techniques.

Course Learning Objectives
At the end of this course, students will gain:

1) Technical knowledge on weeds and their management.
2) Critically evaluate weed management options within ecological, economic, and social constraints and design effective integrated management systems.
3) Improved abilities to communicate these ideas.

COURSE MATERIALS AND TECHNOLOGY

Textbook(s) –
Non required

Supplementary Reading
Assigned in class as necessary

Optional Reference Books:
Weed ID:
Weeds of Quebec, available at the bookstore/online
Weeds of the Prairies, Alberta Agriculture and Rural Development
Weed Seedling Guide (province of Manitoba)

General Weed Science:
Ross and Lembi. Applied Weed Science. 1985
Wood, Powell, Anderson. Weed Science Principles. 1996
R.J. Aldrich. Weed Crop Ecology. 1984
R.J. Aldrich and R.J. Kremer. Principles of Weed Management 1997
         http://www.umanitoba.ca/academic_support/libraries/
Robert Zimdahl, Fundamentals of Weed Science, 1999
T J Monaco, S C Weller, F M Ashton, Weed Science: Principles and Practices, 2002
L Hall, H Beckie, T Wolf, How Herbicides Work: Biology to Application, 1999
L Hall, How Herbicides Work: Mechanisms of Action, 1996
Liebman, Mohler, Staver, Ecological Management of Agricultural Weeds, 2001
… or any other text on weeds

Herbicides in MB:
Guide to Crop Protection (online)
http://www.gov.mb.ca/agriculture/crops/index.html

Technology

It is required that you have all hardware, software and connection ability necessary to successfully operate UM Learn and WebEx for synchronous delivery of course materials. Course material, grades and communication will occur using UM Learn. We will also be using iClicker Cloud for participation and practice. Thus, you will need to setup an iClicker Cloud account.

Refer to the General Course Description for details on lecture and lab delivery. Please see the support section within UM Learn for questions andtutorial regarding the use of UM Learn, Webex and iClicker Cloud if necessary. Students need to ensure that they are familiar with the use of this software too access class notes, the course syllabus, assignments and other important information regarding this course.

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 Student Accessibility 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).

EXPECTATIONS AND POLICIES

I EXPECT YOU TO:

• Attend class regularly. Live lectures will be held every Tuesday, Thursday 10:00am- 11:20am via Webex. Attendance is expected and participation grades will be assigned based on responses to iclickers other contributions to classroom discussions.
• Attend each and every lab. Live labs will be held every Tuesday at 2:30pm via Webex.
• Keep on schedule with the required readings and class material.
• Participate regularly in class and in the lab and participate in discussions.
• Contact me if you are unclear about some material in class or if you find an error in grading.
• Treat me and all your classmates with respect. See Respectful Work and Learning Environment Policy. This includes no texting or social media during class.
• Complete all lab reports, assignments, quizzes and exams individually unless otherwise indicated. (i) All assignments and lab projects are subject to the rules of academic dishonesty; (ii) For group work, group members must ensure that a group project adheres to the principles of academic integrity.
• Complete all quizzes and exams individually while adhering to U of M Academic Integrity policies.
• I expect you to follow these policies around Class Communication and Academic Integrity. Class Communication: Please note that all communication between myself and you as a student must comply with the electronic communication with student policy: (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 and UM Learn for all communication between yourself and the university.

YOU CAN EXPECT ME TO:

• Arrive before class and stay after class to answer any questions should they arise.
• Explain and provide examples of the topics listed below in the class schedule.
• Make sufficient time outside of class to meet with students to ensure the course material is clear.
• I will ask question in class. I expect students to make an effort to respond and join in on class discussions.
• Provide an unbiased grading scheme.
• Return all graded assignments and exams within 2 weeks of the due date.
• Do my best to help you succeed in PLNT 3540 and your degree.

Student Accessibility Services:
The University of Manitoba is committed to providing an accessible academic community. Accessibility | University of Manitoba (umanitoba.ca) 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 AND LABS

The synchronous lectures and labs will be recorded, including your participation. By participating in the recorded synchronous classes and labs you consent to being recorded.

Copyright and Ownership of Course Content

This material is copyrighted by (Robert Gulden, 2022). 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 Robert Gulden. Course materials (both paper, digital and the recorded classes and lab) 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.

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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](#).

Topics covered during PLNT 3540 lecture:

1) Weed Biology and Ecology

  a) Weed classification systems
  b) Weed seedbanks, recruitment, interference, reproduction, dispersal
  c) Weed community structure – factors that drive community composition and implications
  d) Invasions and naturalization

2) Weed Management

  a) Basic principles, scouting, thresholds, critical period of weed control
  b) Chemical weed management – herbicides, application technology, herbicide resistance
  c) Cultural weed management – the competitive balance, mulching, weed seed management
  c) Physical weed management – tillage, mowing, burning
  e) Biological weed management – various approaches
  f) Integrated weed management – 'many little hammers'

Laboratory Expectations

Attendance is compulsory as *a failing grade in the lab component will result in failing grade in the course*. Students are expected to be respectful and clearly follow the instructions provided by the TA. The lab manual, slides and other materials for the lab will be posted in UMLearn.

Lab Content

1) Weed identification (4-5 weeks)
2) Virtual Experiment / Data Set
3) Sprayer calibrations
4) Herbicide injury symptoms
5) Case studies and problem solving

Voluntary Withdrawal

The Voluntary Withdrawal date is **April 25, 2022**. Students who do not drop the course by the deadline will be assigned a final grade. Withdrawal courses will be recorded on an official transcript. Refer to the [Registrar's Office](#) web page for more information. I am happy to discuss your progress and aid in your decision throughout this course.

COURSE ASSESSMENT

Refer students to the Assignment Description on the following page of the syllabus for Details.

Due Date:	Assessment Tool	Value of Final Grade
Lectures		
All term	Iclicker*	10%
All term	Class Participation **	10%
Feb 17, 2022, 10:00-11:30	Mid-Term Exam	20%
March/April, 2022	Herbicide Quiz - Open book	10%
April 22, 2022	IWM assignment – TBA	10%
Labs *		
All term	Iclicker*	5%
March 8, 2022, 2:30 pm	Mid-Term	10%
April 5, 2022	Lab Report	10%
April 12, 2022, 2:30 pm	Lab Final online	15%
Total		**100%**

***Iclicker** - Students are required to bring their iclicker to each class. For each question asked students will receive one point for answering the question and one point for answering correctly. The iclicker grade will be determined as the sum of all questions asked during lectures and weighted according to the points earned for each question. Students that have received at least 80% of the iclicker points will receive 100% of the total allocated mark, those with 70-79% of the points will receive 80% of the total allocated mark, those with 60-69% of the points will receive 60% of the total allocated mark, those with 50-59% of the points will receive 40% of the total allocated mark, and those with less than 50% of the iclicker points will receive a grade of 0. Students must register their iclicker online at https://www.iclicker.com/register-a-remote/

If there are more Iclicker responses than actual students in class, I reserve the right to assign a grade of zero to all students for that session.

** Class participation marks will be awarded based on number and quality of the contributions to class material and discussions. These must be individual contributions that may be either be through contributions to in class material, contributions to class discussions or questions related to the course material posed at the end of class. Chat box comments and e-mails are excellent ways to obtain these marks.

*** students must receive a passing grade in the laboratory portion of this course to receive a passing grade in the course.

Grading

General grading scheme subject to modification by instructor is as follows:

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

Assignment Grading Times

Grades for all assignments and exams completed before the voluntary withdrawal date will be available before that date.

Grades for lab and other assignment due within the last two weeks of the term will be available as quickly as possible.

Assignment Extension and Late Submission Policy

Late assignments/reports will receive a grade reduction of 10% per day late.

Missed assignments will receive a grade of zero.

Academic Integrity

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Each student in this course is expected to compete 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.

LEARNER SUPPORT

Section (a): 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): Mental Health Support

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 http://umanitoba.ca/student/health/

(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 Klinic.

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): 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.

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, uncles 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.

Section (d): 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 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