

Last Updated: January 2022

**COURSE TITLE: Pesticides: Environment,
Economics and Ethics**
Course Number: SOIL 3520

Academic Session: Winter 2022

Credit Hours: 3

Prerequisites: None

Location, Meeting Days and Class Hours:

Online

Monday Wednesday Friday 9:30 AM – 10:20 AM



**University
of Manitoba**

Instructor Information

Name & Title: Geethani Eragoda, Sessional Instructor, Department of Soil Science

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Phone Number: 204-899-0036

Office Hours: Email to arrange 15-30 min meetings, 10:30 – 12:00 Monday, Wednesday and Friday

Course Description

The course, SOIL 3520 Pesticides: Environment, Economics and Ethics (Formerly 040.352), provides a comprehensive examination of the benefits and risks of pesticide use. Topics include: History, practices, successes and failures in the use of pesticides in agriculture; Characteristics of pesticide active ingredients used in Manitoba/Canada; Pesticide use practices in developing countries (example Central America); Pesticide fate processes in air, soil and water; Pesticide environmental risks and contamination; Pesticide regulations, indicators and models. Not to be held with 040.411, 038.454 or 040.454.

Course Objectives

This course examines the benefits, risks and challenges of pesticide use in agriculture.

Course objectives include:

- Gain an appreciation of the economic and environmental consequences of pest management activities
- Develop skill in critical appraisal and communication of controversial scientific topics
- Relate the chemical properties of pesticides to their fates in the environment

Texts, Readings, Examinable Materials

Materials for exams will be drawn from three sources: (1) lectures, including lecture slides, writings on classroom boards and in-class discussions, (2) the calculation assignments, and (3) published texts posted on the course website under “Examinable Materials”. There is no textbook for this course.

Evaluation

1. Examinations

There is one midterm, worth 20% and a cumulative final examination worth 35%.

2. Quizzes

There will be two to four quizzes worth 3% of the final grade.

3. Assignments

- i. **Pesticide Perspectives Assignment (10%):** The use (and misuse) of pesticides is a strongly polarizing topic. There continues to be a great many pesticide-related questions that lend themselves to the development of opposing views. You will be presented with a list of topics that lead to the development of opposing views. From this, you must select one and write a critical appraisal of your selected topic that details the arguments from both perspectives in as fair and balanced manner as is possible.
- ii. **Calculation Assignments:** There are three short calculation assignments that complement the lecture materials, each will include specific instructions on how they are to be completed. Assignments 1 and 2 are worth 3.5% each, Assignment 3 is worth 8%.
- iii. **Poster Assignment (15%):** Choose a pesticide active ingredient that is currently registered for use in Canada and typically detected in our environment (e.g., in air, precipitation, surface water and/or groundwater). Your poster must cover each of the following topics for the pesticide that you have selected: (1) its physicochemical properties, (2) its use characteristics, (3) its environmental fate in air, soil and water, and (4) its environmental detection in Canada. You can also include other aspects about the pesticide such as: its environmental detection in other countries, its toxicological effects on organisms including sub lethal effects or potential impacts on human health, and/or the options for alternative approaches for pest control if the pesticide should be deregistered.

Assignment due dates are listed on the course schedule. Assignments should be submitted digitally to the appropriate Dropbox folder on the UM Learn course website. For full assignment details please see the respective assignment handouts available on the course webpage.

4. Other

Attendance and contribution in the class and discussions (2%).

Grade Evaluation

Midterm.....	20%
Final.....	35%
Poster Assignment.....	15%
Pesticide Perspectives Assignment(s).....	10%
Calculation Assignments.....	15%
Quizzes.....	3%
Other.....	2%

Letter Grade Equivalency:

A+ = >90%; A=80-89%; B+ =75-79%; B=70-74%; C+=65-69%; C=60-64%; D=50-59%; F=<50%.

Important Dates

First day of course.....	January 24, 2022
Voluntary withdrawal date.....	April 25, 2021
Final day of course.....	April 25, 2021
Exam period.....	April 26 - May 03, 2021

Course Policies

Inquiries to Instructor

Students are encouraged to contact their instructor in person or by e-mail or phone whenever assistance is required. You are required to obtain and use your U of M email account for all communication between yourself and the university.

UM Learn (<https://universityofmanitoba.desire2learn.com/d2l/login>)

Course materials (i.e. lecture notes) will be uploaded to UM Learn, it is your responsibility to learn how to access this page.

Late Assignments

Penalties for late submission of assignments are **10% of the maximum grade per day late**. For assignments submitted electronically, the timestamp/date when the e-mail is received will be used as the assignment submission date.

Missed Assignments

Assignments ten or more days late will receive a mark of zero. Unexcused assignments that are not submitted will receive a mark of zero. When assignments are missed and excused through written notification such as a doctor's note, evidence of death in the family, or other circumstances beyond the control of the student, a new due date for the assignment may be arranged by contacting the instructor.

Missed Exams

If a student misses the midterm exam, the final exam will be marked out of 50% and the midterm exam mark will not be taken into account when calculating the course total. Failure to write the final exam will result in a mark of zero on that exam. For exceptions, please see: <http://umanitoba.ca/student/records/finals/682.html>

Recording of Classes

Geethani Eragoda holds copyright over the course materials, presentations and lectures which form part of this course. No audio or video recording of lectures or presentations is allowed in any format without Geethani Eragoda's permission. Course materials, both paper and digital, are for the participant's private study and research only.

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. Electronic detection tools may be used to screen assignments in cases of suspected plagiarism. 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). See also <http://umanitoba.ca/libraries/units/dafoe/media/plagiarism.pdf>