

Last Updated: January 2023

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

Academic Session: Winter 2023

Credit Hours: 3

Prerequisites: None

Location, Meeting Days and Class Hours:

245 Ellis Building

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



**University
of Manitoba**

Instructor Information

Name & Title: Inoka Amarakoon, Assistant Professor, Department of Soil Science

Email Address: Inoka.Amarakoon@umanitoba.ca

Phone Number: 204-807-1167

Office Hours: Email to arrange a meeting.

Course Description

The course SOIL 3520 Pesticides, Environment, Economics and Ethics (Formerly 040.352) comprehensively examines 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 Canada and the world, pesticide fate processes in air, soil and water, pesticide environmental risks and contamination; pesticide regulations, and indicators and models.

Course Objectives

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

Course objectives include:

- Economic and environmental aspects of pest management
- Develop skills 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.

Description of Examinations

There is one midterm, worth 25% and a cumulative final examination worth 35%.

Description of Assignments

Pesticide Perspectives Assignment: The use (and misuse) of pesticides is an intensely polarizing topic. There continue to be a great many pesticide-related questions that lend themselves to the development of opposing viewpoints. 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 chosen topic that details the arguments from both perspectives in as fair and balanced manner as possible.

Calculation Assignments: Three short calculation assignments complement the lecture materials, and each will include specific instructions on how they are to be completed. Assignments 1 and 2 are worth 3.5% each, and Assignment 3 is 8%.

Presentation Assignment: 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 presentation 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, (4) its environmental detection in Canada, and (5) options for alternative approaches for pest control if the pesticide should be deregistered. You can also include other aspects about the pesticide, such as its environmental detection in other countries and its toxicological effects on organisms, including sub-lethal effects or potential impacts on human health.

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 posted on the course webpage.

Grade Evaluation

Midterm.....	25%
Final.....	35%
Presentation Assignment.....	15%
Pesticide Perspectives Assignment(s).....	10%
Calculation Assignments.....	15%

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 9, 2023
Voluntary withdrawal date.....	March 22, 2023
Final day of course.....	April 12, 2023
Exam period.....	April 14 - 28, 2023

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 regularly monitor 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 for reasons beyond the student's control, a new due date for the assignment may be arranged by contacting the instructor.

Missed Exams

Failure to write the final exam will result in a zero mark on that exam. For exceptions, please see: <http://umanitoba.ca/student/records/finals/682.html>

Recording of Classes

The instructor 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 the instructor'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 penalties. Students should acquaint themselves with the University's policy on plagiarism, cheating, exam impersonation and duplicate submission.