



# ENVS\*4100 Integrated Management of Invasive Insect Pests

Winter 2021  
Section(s): 0101

School of Environmental Sciences  
Credit Weight: 0.50  
Version 1.00 - December 16, 2020

---

## 1 Course Details

### 1.1 Calendar Description

This course explores the concept of integrated pest management as it applies to the mitigation of invasive insect pests associated with agricultural and forest ecosystems.

**Pre-Requisites:** 1 of CROP\*3300, CROP\*3310, ENVB\*2040, ENVB\*3090, ENVS\*2040, ENVS\*3090, HORT\*3280, HORT\*3350, HORT\*3510  
**Equates:** ENVB\*4100

### 1.2 Course Description

This course explores the concept of integrated pest management as it applies to the mitigation of invasive insect pests associated with agricultural and forest ecosystems.

During this course, students will develop a basic understanding of insect morphology, taxonomy, behaviour, life history, and ecology; insect pest traits; the concept and history of IPM; insect pest monitoring and detection methods; IPM decision making process; and management tactics. Throughout the course, examples and case studies of native and invasive insect pest species in different cropping systems in Canada will be used to illustrate the core concepts of IPM.

### 1.3 Timetable

**Synchronous (Live) Online Lectures:** Mondays, 9:30 – 10:20 AM

**Asynchronous Online Lectures and Supplementary Material Review:** Wednesdays, 9:30 – 10:20 AM and Fridays, 9:30 – 10:20 AM and 2:30 – 5:20 PM

## 1.4 Final Exam

No final exam.

---

## 2 Instructional Support

### 2.1 Instructional Support Team

<b>Instructor:</b>	Angela Gradish
<b>Email:</b>	agradish@uoguelph.ca
<b>Office Hours:</b>	Fridays 9:30 – 10:20 AM and 2:30 – 5:30 PM, by appointment. Please email Angela to arrange an appointment.

### 2.2 Teaching Assistant

Abigail Wiesner, awiesner@uoguelph.ca

---

## 3 Learning Resources

### 3.1 Required Resources

**Integrated Management: Concepts, Tactics, Strategies and Case Studies. Radcliffe, Hutchison and Cancelado (Textbook)**

Recommended texts:

*Integrated Pest Management: Concepts, Tactics, Strategies and Case Studies.* (2009). E.B. Radcliffe, W.D. Hutchison, and R.E. Cancelado. Cambridge University Press.

*Insect Pest Management*, 2<sup>nd</sup> ed. (2000) D.R. Dent. CAB International.

\*Both books are available online for free via the University of Guelph library catalogue.\*

## 4 Learning Outcomes

### 4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Understand the concept of integrated pest management and the strategies/tactics used to ensure economical, effective, and environmentally sustainable insect pest mitigation.
2. Understand the importance of integrated pest management on a regional, national and international scale.
3. Become familiar with resources for insect pest identification.
4. Interpret insect pest monitoring data, and summarize and apply them in an IPM context.
5. Interpret signs and symptoms of crop injury to diagnose insect pest problems and make recommendations for their management.
6. Prepare case studies on individual insect pest species and pest complexes of specific cropping systems.
7. Develop literacy, written communication, and data interpretation skills through participation in written assignments.

## 5 Teaching and Learning Activities

### 5.1 Lecture

topics covered each week

Topics:	Week	Date	Topic
	1	Jan 11 - 15	Insects: Life History, Ecology, and Behaviour
	2	Jan 18 - 22	Insects as Pests

3	Jan 25 - 29	Insect ID; IPM: History and Concepts
4	Feb 1 - 5	Pest Monitoring and Detection
5	Feb 8 - 12	IPM Decision Making and Bioeconomics
<b>6</b>	<b>Feb 15 - 21</b>	<b>Reading Week – No Class/Readings</b>
7	Feb 22 - 26	Cultural and Physical Control
8	Mar 1 - 5	Biological Control
9	Mar 8 - 12	Chemical Control
10	Mar 15 - 19	Chemical Control Cont.
11	Mar 22 - 26	Genetic Control
12	Mar 29, 31, Apr 12*	Semiochemicals in IPM

---

## 6 Assessments

### 6.1 Assessment Details

#### Weekly Quizzes (55%)

**Date:** every week

**Learning Outcome:** 1, 2, 3, 4, 5, 6, 7

- Weekly quizzes (11 total) will be based on the synchronous and asynchronous content covered that week, including lectures, assigned readings, and/or linked videos.
- The quiz for each week will be posted on Monday. Completed quizzes are due each week on Sunday by 11:59 pm.

**Pest Diagnostic Assignment (10%)**

**Due:** Fri, Feb 12, 11:59 PM - 11:59 PM

**Learning Outcome:** 1, 2, 3, 5, 7

**Pest Monitoring Assignment (20%)**

**Due:** Fri, Mar 12, 11:59 PM - 11:59 PM

**Learning Outcome:** 1, 2, 4, 7

**Written Pest Profile (15%)**

**Due:** Thu, Apr 15, 11:59 PM - 11:59 PM

**Learning Outcome:** 1, 2, 3, 6, 7

## 7 University Statements

### 7.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

### 7.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

### 7.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester.

This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

## 7.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

## 7.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website  
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website  
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

## 7.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of

their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

## 7.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

## 7.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

## 7.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

## 7.10 Illness

The University will not normally require verification of illness (doctor's notes) for fall 2020 or winter 2021 semester courses. However, requests for Academic Consideration may still require medical documentation as appropriate.

---