

Last Updated: August 2025

Course Title: Introduction to Applied Entomology

Course Number: ENTM 3190

Department of Entomology

Faculty of Agricultural and Food Sciences



**University
of Manitoba**

Academic Session: Fall 2025

Credit Hours: 3

Prerequisites: None

Department Office location: Animal Science Building 214

Instructor Information

Name & Title: Yang Liu, Assistant Professor, Department of Entomology

Email Address: yang.liu2@umanitoba.ca PLEASE add “ENTM 3190” in the subject heading. I will do my best to reply within 48h.

Office Location: Animal Science/Entomology Building 216-A

Office Hours: By appointment, please email to schedule.

Course Description

Undergraduate Calendar Description

A course providing a foundation in applied entomology covering topics including: basic insect biology, insect pest management, insect biodiversity, medical/veterinary entomology, urban entomology and pollinators. Online lecture presentations, weekly readings and online laboratories. Prerequisites: none.

Have you ever wanted to learn more about the insects that impact your health, food, and environment? This course begins with a brief introduction to insect biology and ecology and then explores the field of applied entomology including insect pest management, insect biodiversity and services provided by insects.

Course Learning Objectives

Upon successful completion of this course, you should be able to:

- **Analyze and evaluate** the ecosystem services that insects provide through case studies.
- **Classify and differentiate** major pest and beneficial insects using taxonomic, ecological, and economic criteria.
- **Compare and apply** various pest management methods, assessing their strengths, weaknesses, compatibility, and sustainability.
- **Synthesize and interpret** entomological data to make evidence-based management decisions.
- **Investigate, synthesize, and present** current knowledge on a variety of topics in applied entomology.

Course overview

This course provides a foundation in basic insect biology and the field of applied entomology. You will initially be introduced to insect importance, biology and ecology. The remainder of the course is devoted to specific applied entomology topics with an emphasis on insect pest management and ecosystem services.

Evaluation

This course employs a flexible assessment structure which includes both mandatory and optional assignments. All final grades are subject to departmental review.

Mandatory assignments	Weight	Notes
IPM plan	15%	
Extension requests	15%	
Mandatory tests*		
Insect ID quiz	Up to 10%	
Midterm	Up to 25%	
Final Exam	Up to 35%	
Optional assignments		
Insect Orders Identification Guide	5%	+ 5% id quiz weight reduction
Economic Decisions in Pest Management	5%	+ 5% midterm weight reduction
Contemporary issues with insecticide use	5%	+ 5% final exam weight reduction
Applied Data Interpretation – Bioassessment or Forensics	5%	+ 5% final exam weight reduction

* Everyone must write the tests, but can reduce test weighting by completing optional assignments

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%.

Course Materials (Required)

The following textbook is available for purchase from the University of Manitoba Bookstore or as a digital copy online. Please order your materials immediately, if you have not already done so. See your Distance and Online Education Student Handbook for instructions on how to order your materials.

- Pedigo, L.P., M.E. Rice & R.K. Krell. 2021. Entomology and Pest Management. Seventh Edition. Waveland Press, Long Grove, IL. xxi + 584 pp.

You may find used versions of the previous edition of the textbook; either version listed below is acceptable.

- Pedigo, L.P. & M.E. Rice. 2015. Entomology and Pest Management. Sixth Edition. Waveland Press, Long Grove, IL. xxvii + 749 pp.
- Pedigo, L.P. & M.E. Rice. 2009. Entomology and Pest Management. Sixth Edition. Prentice Hall, Upper Saddle River, N.J. xxvii + 749 pp.

Course Policies

Inquiries to Instructor

Students are encouraged to contact their instructor in person or by e-mail 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) are solely available on UM Learn, it is your responsibility to learn how to access this page.

Late or Missed 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 into my inbox, or the assignment is uploaded to UM Learn, will be used as the assignment submission date. Assignments submitted ten or more days later will receive a mark of zero.

When an assignment is missed due to an extenuating circumstance (See: [temporary student absence form](#) and [policy](#)), or with prior written approval from the course instructor, a new due date for the assignment must be arranged by contacting the instructor. False declarations on the temporary student absence form are considered a breach of academic integrity and can result in discipline. Further documentation may be requested for absences/study disruptions of longer than 3 days and in cases in which a student has made multiple requests for temporary absences.

Missed Midterm Exam

When a midterm exam is missed due to an extenuating circumstance (See: [temporary student absence form](#) and [policy](#)), or with prior written approval from the course instructor, the marks allocated for the midterm exam will re-allocated to the final exam. False declarations on the temporary student absence form are considered a breach of academic integrity and can result in discipline.

Academic Integrity

Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious [academic discipline](#). Cheating on examinations or tests may take the form of copying from another student or using unauthorized materials during an exam. Academic misconduct on exams and assignments can also include unauthorized use of artificial intelligence bots/language learning models, impersonation, duplicate submission, and inappropriate collaboration. A student found guilty of contributing to cheating in examinations or assignments is also subject to serious academic discipline. Electronic detection tools may be used to screen assignments in cases of suspected academic misconduct. False declarations on the temporary student absence form are also considered a breach of academic integrity and can result in discipline. Students should acquaint themselves with the University's academic integrity policies at <http://umanitoba.ca/student-supports/academic-supports/academic-integrity>

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Acknowledgements

Initial course design:

Content Specialist:
Jordan A. Bannerman, MPM
Department of Entomology
Faculty of Agricultural and Food
Sciences, University of Manitoba

Instructional Designer:
Kathy Enid Snow, M.A.
Distance and Online Education
University of Manitoba

Web Developer:
Raelene Dziedzic
Distance and Online Education
University of Manitoba

2025 course redesign:

Content Specialist:
Jordan A. Bannerman, MPM
Department of Entomology
Faculty of Agricultural and Food
Sciences, University of Manitoba

Content Specialist:
Yang Liu, PhD
Department of Entomology
Faculty of Agricultural and Food
Sciences, University of Manitoba

Educational Developer
Sharmila Vijayann
Centre for the Advancement of
Teaching and Learning
University of Manitoba

Digital Media Specialist:
Joeffer Domingo
Digital Media Specialist
Centre for the Advancement of
Teaching and Learning
University of Manitoba