

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: BIO 360		Number of Credits: 4 Course credit policy (105)															
Course Full Title: Insect Biology Course Short Title: <i>(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)</i>																	
Faculty: Faculty of Science		Department (or program if no department): Biology															
Calendar Description: Topics include internal and external anatomy, moulting and growth, locomotion, reproduction, insects and their relationships with plants and animals, insects as pests, and social insects. A survey of major insect orders and families and an insect collection will be required.																	
Prerequisites (or NONE):		Any two 200-level or above Biology courses.															
Corequisites (if applicable, or NONE):																	
Pre/corequisites (if applicable, or NONE):																	
Antirequisite Courses <i>(Cannot be taken for additional credit.)</i> Former course code/number: Cross-listed with: Dual-listed with: Equivalent course(s): <i>(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)</i>		Special Topics <i>(Double-click on boxes to select.)</i> This course is offered with different topics: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <i>(If yes, topic will be recorded when offered.)</i>															
		Independent Study If offered as an Independent Study course, this course may be repeated for further credit: <i>(If yes, topic will be recorded.)</i> <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit															
Typical Structure of Instructional Hours <table border="1"> <tr> <td>Lecture/seminar hours</td> <td>45</td> </tr> <tr> <td>Tutorials/workshops</td> <td></td> </tr> <tr> <td>Supervised laboratory hours</td> <td>45</td> </tr> <tr> <td>Experiential (field experience, practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Supervised online activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td>Total hours</td> <td>90</td> </tr> </table>		Lecture/seminar hours	45	Tutorials/workshops		Supervised laboratory hours	45	Experiential (field experience, practicum, internship, etc.)		Supervised online activities		Other contact hours:		Total hours	90	Transfer Credit Transfer credit already exists: <i>(See bctransferguide.ca.)</i> <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Submit outline for (re)articulation: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <i>(If yes, fill in transfer credit form.)</i>	
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		Grading System <input checked="" type="checkbox"/> Letter Grades <input type="checkbox"/> Credit/No Credit															
		Maximum enrolment (for information only): 24 Expected Frequency of Course Offerings: Every second year <i>(Every semester, Fall only, annually, etc.)</i>															
Department / Program Head or Director: Gregory Schmaltz		Date approved: September 2021															
Faculty Council approval		Date approved: October 8, 2021															
Undergraduate Education Committee (UEC) approval		Date of meeting: January 28, 2022															

Labs to be scheduled independent of lecture hours: ☐ No ☒ Yes

Learning Outcomes:

Upon successful completion of this course, students will be able to:

1. Apply multiple methods and techniques in the field and lab to capture, preserve and display insects.
2. Observe external morphological features of insects to correctly identify insects to order and family using dichotomous keys.
3. Identify the different internal organ systems of a typical insects.
4. Integrate knowledge of external and internal morphology of insects to explain the basic anatomy and physiology of insects.
5. Communicate scientific information relating to the classification and ecological and anthropological significance of a specific insect Order or Orders.
6. Critique a contemporary entomological topic relating to either local or global environmental or anthropological issues.
7. Initiate inquiries and develop solutions to insect pest management problems.
8. Discuss how insects impact humans in both beneficial and detrimental ways.

Prior Learning Assessment and Recognition (PLAR)

☒ Yes ☐ No, PLAR cannot be awarded for this course because

Typical Instructional Methods (*Guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion.*)

Standard lectures with additional options of student presentations and groupwork, depending on preferences of class. Optional field trips may be offered.

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Text(s) and Resource Materials (*If more space is required, download Supplemental Texts and Resource Materials form.*)

Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1. PJ Gullan, PS Cranston	The Insects: An Outline of Entomology	<input checked="" type="checkbox"/>	Wiley	2014
2. HE Jaques, RG Gland	How to Know the Insects	<input checked="" type="checkbox"/>	Waveland Press	2010
3.		<input type="checkbox"/>		
4.		<input type="checkbox"/>		
5.		<input type="checkbox"/>		

Required Additional Supplies and Materials (*Software, hardware, tools, specialized clothing, etc.*)

All equipment provided with a refundable deposit.

Typical Evaluation Methods and Weighting

Final exam:	25%	Assignments:	10%	Field experience:	%	Portfolio:	%
Midterm exam:	%	Project:	%	Practicum:	%	Insect Collection:	30%
Quizzes/tests:	15%	Lab work:	20%	Shop work:	%	Total:	100%

Details (if necessary):

Typical Course Content and Topics

Lecture topics could include:

Introduction, diversity and the Phylum Arthropoda
 External anatomy
 Internal anatomy
 The cuticle and moulting
 Locomotion
 Sensory systems
 Reproduction and development
 Insects and plants
 Insects and animals
 Insects as pests
 Social insects

Laboratory topics:

Collecting, preserving and presenting insects
 External anatomy
 Internal anatomy
 Insect identification and classification
 Survey of major insect orders and families
 Presentation of insect order