



BIOL*1050 Biology of Plants & Animals in Managed Ecosystems

Fall 2022

Section(s): c01

Department of Plant Agriculture

Credit Weight: 0.50

Version 1.00 - August 23, 2022

1 Course Details

1.1 Calendar Description

In this course students will investigate the biology of plants and animals in the context of agroecosystems and other managed ecosystems. Students will learn about the form and function of plants and animals and interactions between organisms and their environments. The course strongly emphasizes participatory and self-directed learning, problem solving, reasoning and exposure to primary research literature and will address key concepts in evolution, plant and animal structure, physiology and ecology. Students lacking Grade 12 or 4U Biology should consult with their program counsellor prior to taking BIOL*1050 in first semester.

1.2 Course Description

In this course you will investigate the biology of plants and animals in the context of agroecosystems and other managed ecosystems. You will learn about the form and function of plants and animals and interactions between organisms and their environments. The course strongly emphasizes participatory and self-directed learning, problem solving, reasoning and exposure to primary research literature and introduces the general principles necessary for more advanced courses.

1.3 Timetable

Lectures: Monday, Wednesday, Fridays 11:30 PM – 12:20 PM, WMEM 103 In person lectures.

Laboratories: Laboratories will be in person, (face to face) delivery. However, labs and the associated content MAY change to AD-S virtual or remote delivery at any point in the semester for the entire or partial duration. See Web Advisor for your specific laboratory section and meeting time. Labs are held every week starting September 12, 2022. You must attend the lab section in which you are registered. You cannot switch lab sections once labs

have begun and you cannot temporarily switch sections in a week. In order to synchronize lectures and laboratories, certain laboratories will be cancelled or will be asynchronous activities. See the Semester at a Glance file posted on CourseLink.

AD-S means that the lectures will be held remotely and in real-time. The virtual delivery and platform for this course will be Zoom with Netiquette Expectations. See Web Advisor for a full description of AD-S.

1.4 Final Exam

Please consult WebAdvisor. <https://webadvisor.uoguelph.ca>

2 Instructional Support

2.1 Instructional Support Team

Instructor: K. Peter Pauls
Email: biol1050@uoguelph.ca
Telephone: +1-519-824-4120 x54136
Office: CRSC 325
Office Hours: By appointment only.
 Plant Agriculture

Instructor: Andy Robinson
Email: biol1050@uoguelph.ca
Telephone: +1-519-824-4120 x53679
Office: ANNU 122
Office Hours: By appointment only.
 Animal Biosciences

Instructor: Bernard Grodzinski
Email: biol1050@uoguelph.ca
Telephone: +1-519-824-4120 x53439
Office: ECB 4243
Office Hours: By appointment only.
 Plant Agriculture

Instructor: Vern Osborne
Email: biol1050@uoguelph.ca
Telephone: +1-519-824-4120 x53691
Office: ANNU 235
Office Hours: By appointment only.
 Animal Biosciences

Lab Co-ordinator: Robert Jones
Email: rjones12@uoguelph.ca
Telephone: +1-519-824-4120 x56891
Office: ANNU 255

Animal labs

2.2 Course Email

biol1050@uoguelph.ca

Note: This is the email address you must use for all email communication related to this course; do not use an instructor's personal email address. Emails are only accepted from your *uoguelph.ca* account.

Queries that can be readily answered by information that has been posted on the CourseLink course website will NOT be answered.

All Correspondence should:

- Include a subject line of the nature of the email
- Include your name, ID and section you are enrolled
- Spell out all abbreviations (do not use acronyms)
- Be brief and to the point

Note that it may take at least one working day to respond to an email query.

2.3 Communicating with your Instructor

- **Announcements:** The instructors will use **Announcements** on the Course Home page to provide you with course reminders and updates. Please check this section frequently for course updates from your instructors.
- **Ask Your Instructor Discussion:** Use this discussion forum to ask questions of your instructors about content or course-related issues with which you are unfamiliar. If you encounter difficulties, the instructors are here to help you. Please post general course-related questions to the discussion forum so that all students have an opportunity to review the response. To access this discussion forum, select **Discussions** from the **Tools** dropdown menu.
- **Email:** If you have a conflict that prevents you from completing course requirements, or have a question concerning a personal matter, you can send **biol1050@uoguelph.ca** a private message by email. The instructors will attempt to respond to your email within 24 hours. (use email: **biol1050@uoguelph.ca**). They may ask you to fill out the academic consideration form and submit that to the course email.

- **Video Call:** If you have a complex question you would like to discuss with your instructor or TA, you may book a video meeting on Zoom (or alternate platform being used by your instructor). Video meetings depend on the availability and are booked on a first come first served basis.

2.4 Netiquette Expectations

The course website is considered the classroom and the same protections, expectations, guidelines, and regulations used in face-to-face settings apply. Inappropriate behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students;
- Using offensive language;
- Copying or presenting someone else's work as your own;
- Adapting information from the Internet without using proper citations or references;
- Buying or selling term papers or assignments;
- Posting or selling course materials to course notes websites;
- Having someone else complete your quiz or completing a quiz for/with another student;
- Stating false claims about lost quiz answers or other assignment submissions;
- Threatening or harassing a student or instructor;
- Discriminating against fellow students, instructors, and/or TAs;
- Using the course website to promote profit-driven products or services;
- Attempting to compromise the security or functionality of the learning management system; and
- Sharing your username and password.

2.5 Grades and Feedback

Unofficial assessment marks will be available in the **Grades** tool of the course website.

Your instructors will attempt to have most grades posted online within 2 weeks of the submission deadline. Once your assignments are marked you can view your grades on the course website by selecting **Grades** from the **Tools** dropdown menu on the navbar. Your course will remain open to you for seven days following the last day of the final exam period.

Lab reports may take longer to grade.

University of Guelph students can access their final grade by logging into WebAdvisor (using your U of G central ID).

<https://webadvisor.uoguelph.ca>

2.6 Library Access

As a student, you have access to the University of Guelph's library collection, including both physical and electronic materials. For information on checking out or couriering physical library items, accessing electronic journals and returning items to the library, visit the library's website.

If you are studying off campus and would like to access the library's electronic resources, use the Off Campus Login and login using your Single Sign On credentials or using your last name and library barcode.

<https://www.lib.uoguelph.ca/>

<https://www.lib.uoguelph.ca/campus-login>

3 Learning Resources

3.1 Required Resources

System and Software Requirements (Software)

This course will use a variety of technologies including;

- CourseLink (main classroom)
- Zoom (mostly for recording lectures)

To help ensure you have the best learning experience possible, please review the list of system and software requirements.

<https://opened.uoguelph.ca/student-resources/system-and-software-requirements>

CourseLink System Requirement (Software)

You are responsible for ensuring that your computer system meets the necessary system requirements. Consult the links below to ensure your browser settings are compatible and up to date. (Results will be displayed in a new browser window for the second link).

<https://opened.uoguelph.ca/student-resources/system-and-software-requirements>

<https://courselink.uoguelph.ca/d2l/systemCheck>

In order to access the materials posted on the BIOL*1050 CourseLink site, students must pass an on-line quiz for BIOL*1050 regarding Academic Integrity. This quiz is available on the BIOL*1050 CourseLink homepage; select the Quizzes tab located on the upper ribbon. A link is also provided to the University's web tutorial on Academic Integrity. Until successful completion of the BIOL*1050 quiz only the course outline and first lab outline will be visible to registered students.

If you have difficulties accessing information, tutorials, posted grades etc., email **biol1050@uoguelph.ca**. Note that if you are in arrears regarding tuition fees, access to the CourseLink website will be unavailable until you have settled matters with the Registrar's Office.

Course Technologies - CourseLink (Software)

This course is being offered using CourseLink (powered by D2L's Brightspace), the University of Guelph's online learning management system (LMS). By using this service,

you agree to comply with the University of Guelph's Access and Privacy Guidelines. Please visit the D2L website to review the Brightspace privacy statement and Brightspace Learning Environment web accessibility standards.

<http://www.uoguelph.ca/web/privacy/> <https://www.d2l.com/legal/privacy/>
<https://www.d2l.com/accessibility/standards/>

Technical Support

If you need any assistance with the software tools or the CourseLink website, contact CourseLink Support.

Email: courselink@uoguelph.ca

Tel: 519-824-4120 ext. 56939 Toll-Free (CAN/USA): 1-866-275-1478

Support Hours (Eastern Time):

Monday thru Friday: 8:30 am–8:30 pm

Saturday: 10:00 am–4:00 pm

Sunday: 12:00 pm–6:00 pm

Zoom (Software)

Although lectures in the course are in person, (face to face). this course will use Zoom for the recording of the in-person lectures. Zoom may also be used in the laboratories as needed. Check your system requirements to ensure you will be able to participate.

<https://opened.uoguelph.ca/student-resources/system-and-software-requirements>

Technical Skills (Other)

As part of your learning experience, you are expected to use a variety of technologies for assignments, lectures, teamwork, and meetings. In order to be successful in this course you will need to have the following technical skills:

- Manage files and folders on your computer (e.g., save, name, copy, backup, rename, delete, and check properties);
- Install software, security, and virus protection;
- Use office applications (e.g., Word, PowerPoint, Excel, or similar) to create documents;
- Be comfortable uploading and downloading saved files;
- Communicate using email (e.g., create, receive, reply, print, send, download, and open attachments);
- Navigate the CourseLink learning environment and use the essential tools, such as Dropbox, Quizzes, Discussions, and Grades (the instructions for this are given in your course);
- Access, navigate, and search the Internet using a web browser (e.g., Firefox, Internet Explorer); and
- Perform online research using various search engines (e.g., Google) and library databases.

Contact your course coordinator or lab coordinator if you need support with any of the above.

Campbell Biology, Third Canadian Edition (Textbook)

The textbook is available in physical and in e-book format at the bookstore. A few copies of the textbook will be available in the library on a two hour in-library loan basis. The Semester at a Glance file on CourseLink includes the relevant chapter readings for the lecture series.

Biol 1050 Lab Manual (Lab Manual)

The virtual lab manual is available on CourseLink and may be edited and updated throughout the semester.

3.2 Additional Resources

Lectures (Other)

Lecture information will be posted in the Contents section on CourseLink. These materials may include PDFs, videos, podcasts etc. Podcasts and the other material are provided for the convenience of students officially registered in the course and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

Citation Format for Reports (Other)

The required format for citing references in reports is The Council of Science Editors, (CSE) Name-year style. A document outlining the style required for BIOL*1050 has been posted in CourseLink under Contents. Do not rely on other guides to the CSE name-year format you may find posted on the Library or other websites

Mastering Biology (Textbook)

Mastering Biology provides on-line access to all learning resources for the current edition of Campbell Biology. It is available in e-book format. A subscription to Mastering Biology is not required but may aid in the learning experience.

4 Learning Outcomes

The course BIOL*1050 is designed to emphasize the following categories of learning outcomes:

- Literacy
- Communication
- Professional and Ethical Behaviour
- Critical and Creative

Specific learning outcomes:

After successfully completing the course students will be able to define and describe the terms and processes involved in the above listed topics of animal and plant biology. The labs will enhance your understanding of the lecture material and explore other aspects of animal and plant biology.

4.1 Course Learning Outcomes

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

1. understand and identify variables related to biological processes
2. apply statistical methods to assess and interpret observed biological processes

3. form and test hypotheses
 4. search peer-reviewed literature to expand their knowledge of biological processes
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5 Teaching and Learning Activities

5.1 Topics and Organization

The course is divided into four, three-week modules; lecture outlines will be posted on CourseLink, not necessarily before they have been presented.

1. Plant (re)Production Lecturer: Dr. K. Peter Pauls
 - Sexual reproduction of plants
 - Seed structure and function
 - Vegetative reproduction of plants
 - Climate change effects on plants
 - Plant-animal interactions: pollinators and organisms involved in colony collapse disorder

1. Nutrient/Energy Flow in Animals Lecturer: Dr. Andy Robinson
 - Chemistry of nutrition – minerals, vitamins, macromolecules
 - Nutrition at the cellular level – glycolysis, cellular respiration
 - Nutrition at the organismal level - mammalian digestive anatomy and physiology
 - Plant-animal interactions: adaptations to herbivory, co-evolution of plants and animals

1. Energy Flow in Plants Lecturer: Dr. Bernard Grodzinski
 - Harvesting photons: C3/C4/CAM photosynthesis
 - Photoreceptors, light responses, circadian rhythms, plant-plant interactions
 - Carbon and nitrogen acquisition, transport, and storage
 - Secondary metabolites, synergistic and antagonistic associations
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2. Animal Functioning Lecturer: Dr. Vern Osborne
 - The animal and its environment
 - Thermo-biology

- Chronobiology and Light
 - Stress, Senses and Animal Envelopes
 - Ventilation principles
 - Vertical farming and general housing examples of animals
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6 Assessments

6.1 Marking Schemes & Distributions

Name	Scheme A (%)
In Class Exam 1	12
In Class Exam 2	13
Weekly Lab Assignments	40
Final Exam	35
Total	100

6.2 Assessment Details

In Class Exam 1 (12%)

Date: Fri, Sep 30, 11:30 AM - 12:20 PM, War Memorial Hall (WMEM) Room 103
First module. Multiple choice format.

In Class Exam 2 (13%)

Date: Mon, Oct 24, 11:30 AM - 12:20 PM, War Memorial Hall (WMEM) Room 103
Second module. Multiple choice format.

Weekly Lab Assignments (40%)

Some assignments are due at the end of the laboratory period; some are to be submitted electronically in Portable Document Format (PDF) via the CourseLink DropBox. The CSE name-year citation format is required for all reports—see Citation Format on Course Link. See the Semester at a Glance file on CourseLink for lab assignments & their weighting, and the specific laboratory assignment for details.

Final Exam (35%)

Date: Wed, Dec 7, 11:30 AM - , 1:30 PM, TBD
Multiple choice format. For the midterm and final exams, students will be fully responsible for material from the reading and homework assignments, as well as the information presented in lecture, labs, and the online lecture materials posted on the CourseLink course website.
The final exam is a comprehensive exam with emphasis on modules 3 and 4.

7 Course Statements

7.1 Grading Policies

Tracking Marks: We will use CourseLink to collate marks throughout the semester. It is your responsibility to review these grades and report any discrepancies. Keep paper and/or other reliable back-up copies of all in- and out-of-class assignments: You may be asked to resubmit work at any time.

Assignment of grades at the University of Guelph is outlined in the Undergraduate Calendar. The definitions for each of the numeric grade ranges are as follows:

80-100 (A) Excellent.

An outstanding performance in which the student demonstrates a superior grasp of the subject matter, and an ability to go beyond the given material in a critical and constructive manner. The student demonstrates a high degree of creative and/or logical thinking, a superior ability to organize, to analyze, and to integrate ideas, and a thorough familiarity with the appropriate literature and techniques.

70 - 79 (B) Good.

A more than adequate performance in which the student demonstrates a thorough grasp of the subject matter, and an ability to organize and examine the material in a critical and constructive manner. The student demonstrates a good understanding of the relevant issues and a familiarity with the appropriate literature and techniques.

60 - 69 (C) Acceptable.

An adequate performance in which the student demonstrates a generally adequate grasp of the subject matter and a moderate ability to examine the material in a critical and constructive manner. The student displays an adequate understanding of the relevant issues, and a general familiarity with the appropriate literature and techniques.

50 - 59 (D) Minimally Acceptable.

A barely adequate performance in which the student demonstrates a familiarity with the subject matter, but whose attempts to examine the material in a critical and constructive manner are only partially successful. The student displays some understanding of the relevant issues, and some familiarity with the appropriate literature and techniques.

0 - 49 (F) Fail.

An inadequate performance.

7.2 Exams and Assignment Submissions

We do not provide makeup labs or exams. Unless academic consideration has been granted, missed assignments, presentations, and exams will receive a grade of zero (0).

In-Laboratory Submissions:

Some laboratory assignments are due at the end of the laboratory period. Make sure you hand in your assignment at the end of the virtual session. Late submission of assignments

will not be accepted; such assignments will receive a grade of zero (0).

CourseLink DropBox Submissions:

Certain laboratory assignments are required to be submitted electronically in portable document format(PDF) via the CourseLink DropBox. Other assignments may be other types of media files. If your report is not uploaded to CourseLink in the required format prior the due date/time you will receive a grade of 0.

Due Dates:

Reports are due prior to 11:00 pm of the day they are due. At 11:00 pm the DropBox will no longer accept reports and any file uploads in progress at that time will also fail. If you miss the deadline, do not bother emailing the report—it will not be accepted.

We strongly advise that you upload the report during business hours on the due date so you have time to:

Upload the file; and

Confirm that it was the correct file you wanted to submit for grading

Format:

Reports uploaded to the CourseLink DropBox must be in a portable document format (PDF). If you upload a file in a format other than this, your assignment will be considered “not submitted” and you will receive a grade of 0. The CSE name-year citation format is required for all reports.

8 University Statements

8.1 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.

8.2 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>

8.3 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>

8.4 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.

8.5 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 make a booking at least 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

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>

8.6 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>

8.7 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.

8.8 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>

8.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

8.10 Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g.. final exam or major

assignment).

8.11 Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campus/how-u-of-g-is-preparing-for-your-safe-return/>
- <https://news.uoguelph.ca/return-to-campus/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.
