

Course Description

This course provides an understanding of fundamental biological concepts with emphasis on the diversity of life, inheritance, and evolution, and the relevance of these topics to humans. This course is not available to students enrolled in the Faculty of Science (students registered in the Faculty of Science should select Biology 1001A).

Prerequisites

Grade 12U (SB14U) Biology or Grade 11U (SB13UA) Biology and permission of the Department.

Educational Outcomes

By engaging in this course, students can expect to enhance their ability to:

1. Understand, apply, and analyze basic evolutionary principles pertaining to biological diversity and the origin and inheritance of genetic variation.
2. Apply scientific experimental design, equipment, skills and analyses to test hypotheses.
3. Collaborate with peers and/or instructors to create consensus about diverse approaches and ideas (e.g. during classes, studying, preparing team assignments, and collaborative testing).
4. Communicate scientific ideas to an audience of peers and/or instructors in written, oral and graphic formats.
5. Apply effective learning strategies to academic work.
6. Locate, evaluate, and extract scientific knowledge and ideas from academic and non-academic literature; ethically incorporate such ideas into academic work.
7. Build productive relationships with diverse members of the First Year Biology academic community.

Course Schedule

Lectures: Mon and Wed 10:30–11:20 am in Natural Sciences (NS) room 145

Skill Development ('Lab') sessions:

- These comprise five mandatory Modules scheduled over the term.
- Depending on your Lab Section, you may start the week of September 16th or the week of September 23rd. Check the "Skill Development" tab on OWL to find out when and where to go for your first session.
- If you are repeating this course, see Beata in North Campus Building (NCB), rm 301 as soon as possible.

OPTIONAL: Help Desk/Group Study Space: drop-in Thursdays 3:30 - 5:00 pm in Biological and Geological Sciences Building (BGS) room 2084

Instructor Information

Instructor: Dr. Vera Tai

Office hours: Mondays, drop-in 11:30 am – 1:30 pm in BGS 2028, or by appointment

e-mail: vtai4@uwo.ca

Skill Development Administration: Winona Gadapati (wgadapa2@uwo.ca)

Skill Development Support: Sheila Nicol, Daisy Wong

General Administration: Beata Malczewski (fybioadmin@uwo.ca)
North Campus Building (NCB) room 301

Course Resources and Materials

Course Website

- <https://owl.uwo.ca/>. Log in with your UWO username and password.
- All important documents (syllabus, lecture material, lab material, assigned readings, quizzes, test and exam details, announcements, etc.) will be posted on the OWL website.
- **You will take/submit quizzes using OWL.**

- Students are **responsible for checking OWL for messages and announcements on a regular basis**. This is the primary method by which information will be disseminated to all students in the class.
- The **Forum** tool is enabled on the OWL website and will be the main hub for all your questions about course content (e.g., lecture, readings, practice questions, etc). In addition to posting questions, we encourage you to answer peer questions on the forum. Learning by teaching is far more effective than passive learning. It will increase your comprehension and retention and provide you great practice for communication in your future career. Posts will be anonymous, and courtesy and respect is mandatory for all forum postings. The instructional team will check the forum regularly to make sure all your questions are fully addressed.

Textbook

- **Biology: Exploring the Diversity of Life. 4th Canadian Ed.** Nelson Education, Ltd: Toronto, Russell et al. 2018. This is an essential resource for assigned readings and testable content. The textbook is **available online through the *MindTap* platform**, which includes videos, interactive activities, and practice questions. Through *MindTap*, textbook content will be customized for this course. The textbook is **also available in print volumes**.
- Access codes to the *MindTap* platform, with or without the print version, can be purchased from the campus Bookstore. *MindTap* is accessible for free for the first two weeks of class.
- To access *MindTap*, you must go through the *MindTap* tab on OWL. See *MindTap* Instructions in the 1201A Syllabus and FAQs tab on OWL.

Biology Blended Learning Resource Package

- This **required** package includes individual access codes to **Labster** for your skill development sessions and **SimUText** which provides focused learning modules for several topics in this course.
- Available for purchase from the campus Bookstore (not needed until the start of Skill Development sessions).
- See instructions in the 1201A Syllabus and FAQs tab on OWL to use these and other online tools.

Lab coat and safety glasses

- Required for your Skill Development sessions. Available from the campus bookstore.

Methods of Evaluation

Course Component	Weight	Schedule
Quizzes*	5%	Throughout the course, weekly
Skill Development	25%	Starting the week of Sept 16th or 23rd -check start date on OWL
Test 1 ⁺	10%	Sunday, October 6, 3:00 PM, multiple choice. NO Make-up test ⁺
Test 2 ⁺	20%	Saturday, November 2, 10:00 AM, multiple choice. Make-up test date: Monday, Nov 11, 6-8 PM
Final Exam ⁺	40%	During December exam period (Dec 9-20) Multiple choice and short answer.

* a 10% bonus will be added to Quiz grades to accommodate for missed quizzes and technical difficulties, etc.

⁺ Alternative weighting schemes will transfer some weight from the Tests to the Final Exam if you miss a test with a valid academic consideration or if this results in a higher course grade. See below for details.

Quizzes

- The material tested by the quizzes are foundational concepts which need to be understood for the more complex concepts in this course. The purpose of the quizzes is to prepare you for lectures, and to help you keep up with course material.
- Quizzes will be taken through the OWL course site. All quizzes will have a specific deadline for completion (eg. Sunday at midnight) and you will have a limited amount of time to complete the quiz once you begin (e.g. 15-30 min); no late submissions will be accepted and no make-up quizzes will be provided. As you may accidentally miss a quiz (or two) or experience technical difficulties, a 10% bonus will be added to your final quiz grade at the end of term.

Skill Development ('Lab') sessions

- These are comprised of 5 modules scheduled over the term. These sessions will help you enhance your literacy, practical, and critical thinking skills in collaborative settings with graduate teaching assistants as facilitators.
- **Skill Development sessions start the week of September 16th or 23rd, depending on your Lab Section.** Refer to the 'Skill Development' tab on OWL to confirm when and where to go for your first session.
- Skill Development is an essential requirement for this course, and you must pass Skill Development (minimum 12.5 out of 25) to pass this course.

'Section 999 Students' repeating the course

- If you are repeating this course, see Beata in NCB 301 as soon as possible. You may have the option to apply your previous 'Skill Development' marks for this term.

Tests and Final Exam

- All Tests and the Final Exam are cumulative and are comprised of two stages. The first stage is completed **individually** and is comprised of multiple choice questions (+ short answer questions for the Final Exam). Then, immediately following the individual test, students will work together in **small groups** to collaboratively redo a subset of the test questions. Your group for the collaborative testing will be the same groups as for your Skill Development sessions.
- Each student's total grade on the test will be calculated as 90% individual score and 10% group score. However, if a student scores higher on the individual stage of the test than the group stage, then their total test grade will be kept at 100% of their individual score.
- There is NO make-up for Test 1 in October. If you have a valid academic consideration to miss Test 1 or Test 2, alternative weighting schemes will be used (see below). Alternative weighting schemes will also transfer some weight from Test 1 and/or Test 2 to the Final Exam if this results in a higher course grade (see below).

Alternative Weighting Schemes

- These alternative weighting schemes are provided to maximize your final course grade if you happen to do better or worse on either of the Tests or the Final Exam. Your final course grade will **automatically** be calculated under each of the following schemes; your final course grade will use the scheme that results in the highest grade.

Component	Normal	Test 1 Low	Test 2 Low	Both Tests Low
Test 1 (October)	10%	5%	10%	5%
Test 2 (November)	20%	25%	10%	10%
Final Exam	40%	40%	50%	55%
explanation	initial distribution of weight across Tests and Final Exam	half of Test 1 weight moved to Test 2	half of Test 2 weight moved to Final Exam	half of each Test weights moved to Final Exam

Academic Considerations for Missed Test/Exam or Skills Sessions

- **If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. Approval can be granted either through a self-reporting of absence or via the Dean's Office/ Academic Counselling unit of your Home Faculty.**
- **Missed Test 1 (October 6):** The weight of Test 1 (10%) will be applied equally to Test 2 and the Final Exam (i.e. add 5% to Test 2 and 5% to the Final Exam); there is no make-up for Test 1.
- **Missed Test 2 (November 2):** You will need to write the Test 2 Make-up; the Make-up will occur on Monday, November 11th. There will only be one Make-up for Test 2. If you miss the make-up and we receive academic consideration for your absence, then the weight of Test 2 (20%) will be shifted completely to the Final Exam.
- **Missed Test 1 AND Test 2 (and make-up):** The weight of both Tests (10% and 20%) will be shifted completely to the Final Exam.
- Note that in each of these situations, the alternative distribution of weights described in the table above (i.e. scheme 1, scheme 2, etc.) will still be applied, independently of the re-weighting of marks due to academic consideration.

- **Students who miss an evaluation and do not receive appropriate consideration from their Dean's Office will be awarded a '0' for the assessment. There are no exceptions to this policy.**
- If you **miss the Final Exam**, please contact your faculty's Academic Counselling Office as soon as you are able to do so. They will assess your eligibility to write the Special Exam (the name given by the university to a makeup Final Exam).
- You may also be eligible to write the Special Exam if you are in a "Multiple Exam Situation" (see http://www.registrar.uwo.ca/examinations/exam_schedule.html).

Academic Consideration for Religious Holidays

- Effective September 1, 1997, the Faculty of Science strictly adheres to the University policy on consideration for students based upon conflicts with religious holidays (see the appropriate section in the current UWO Academic Calendar). Consideration will only be granted for the specified date of the religious holiday. Only holidays appearing on the University-approved list of dates will be considered. See the Office of the Dean for the list of approved dates. Students requesting consideration must do so, in writing, to the Office of the Dean at least a month before the scheduled exams.

Academic Policies

- The website for Registrarial Services is www.registrar.uwo.ca
- In accordance with policy, the centrally administered e-mail account provided to students (www.uwo.ca/its/identity/activatenonstudent.html) will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.
- Non-programmable calculators are permitted for use during the course assessments. No other aids are allowed. **Cellular phones, iPods, and other similar technology are not permitted in the exam rooms.** This means that cellular phones, iPods, and other similar technology **cannot** be used as a timekeeper/clock, calculator, or for any other purpose.
- Computer-marked, multiple-choice tests and exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.
- It is Faculty of Science policy that a student who chooses to write a test or exam deems themselves fit enough to do so, and the student must accept the mark obtained. Claims of medical, physical, or emotional distress after the fact will not be considered.
- Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at this website: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf
- All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).
- Clicker questions (iClicker) will be used during lectures, but will not be used for any evaluation and no student information will be shared or used.

Support Services

- Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Students Accessibility Services (SAS) at 661-2147 if you have questions regarding accommodations.
- The policy on Accommodation for Students with Disabilities can be found here: www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic%20Accommodation_disabilities.pdf
- The policy on Accommodation for Religious Holidays can be found here: www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf
- Learning-skills counsellors at the Student Development Centre (<http://www.sdc.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.
- Students who are in emotional/mental distress should refer to Mental Health@Western (http://www.health.uwo.ca/mental_health) for a complete list of options about how to obtain help.
- Additional student-run support services are offered by the USC, <http://westernusc.ca/services>.

University-wide descriptors of the meaning of letter grades as approved by the Senate

A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work which is clearly above average
B	70-79	Good work, meeting all requirements, and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	below 50	Fail

Course Outline

This is the tentative schedule for course topics. Some adjustments may be made as the course progresses.

Week #	Lecture Dates	Topic(s)	Important Dates/Reminders
0	Sept 3-6	No Biology 1201A lectures or Skill Development sessions. Explore the course website on OWL, explore textbook resources on MindTap.	
1	Sept 9	Introduction to Biology 1201A	No Skill Development Sessions
	Sept 11	What is evolution? (historical evidence for evolution, macroevolution, evolutionary trees)	
2	Sept 16	Diversity of life (cells, single-celled life, multicellular life, viruses)	Skill Development begins either week #2, starting Sept. 16th or week #3, starting Sept 23rd depending on your lab section. Check schedule on OWL.
	Sept 18		
3	Sept 23	What's in a genome? (structure, ploidy, chromosomes, genes, alleles)	
	Sept 25		
4	Sept 30	Duplicating cells (DNA replication, mitosis)	
	Oct 2		
5	Oct 6 (Sun.)	Test 1 (October Test)	3:00 PM , location TBA (multiple choice, covering material up to and including October 2)
	Oct 7	Generating and inheriting diversity (life cycles, meiosis)	
	Oct 9		
6	Oct 14	No class.	No class on Thanksgiving Monday No Skill Development the entire week
	Oct 16	Generating and inheriting diversity cont'd (recombination, mutation)	No Skill Development this week
7	Oct 21	Family inheritance patterns (Mendelian and non-Mendelian genetics, linkage)	
	Oct 23		
8	Oct 28	Families to Populations (population variation, Hardy-Weinberg equilibrium)	
	Oct 30		
	Nov 2 (Sat.)	Test 2 (November Test)	10:00 AM , location TBA (multiple choice, covering material up to and including October 30)
9	Nov 4	No classes.	No classes: Fall Reading Week
	Nov 6		
10	Nov 11	Evolutionary forces (mutation, selection, genetic drift, gene flow)	Test 2 Makeup, Nov 11, 6:00 PM You must have academic consideration to write the makeup test.
	Nov 13		
	Nov 18		
11	Nov 18		
	Nov 20		
12	Nov 25	Sexual selection	
	Nov 27		
13	Nov 26	Speciation and building phylogenetic trees	
	Nov 28		
14	Dec 2	Patterns in the evolution of life	
	Dec 4		
Exam period	Dec 8-19	December Exam Period	Exam date is scheduled by the registrar. Do not book travel during this time. Multiple choice and short answer.