

COURSE DESCRIPTION

In-depth study of the concepts and processes in biological systems. Students will study theory and conduct investigations in the areas of biochemistry, metabolic processes, molecular genetics, homeostasis, and population dynamics. Emphasis will be placed on the development of skills and knowledge needed for further study in Biology and related fields.

This course conforms to the Grades 11 & 12 Biology curriculum as outlined for Ontario Secondary Schools.

INSTRUCTOR INFORMATION

<i>Instructor</i>	<i>Offices</i>	<i>Email</i>
Ms. Jennifer Waugh	<i>Western campus:</i> Collip Building, Room 105D <i>Brescia campus:</i> To be announced	Our OWL course website has a 'Messages' tool that I use for email communication with students in our course. Please send email to me using this 'Message' tool to 'Instructor Role'.

Office Hours

Thursdays, 9:00 am–10:00 am, in Collip 105D. Office hours can also be made by appointment; please do not hesitate to contact me if you cannot make my regularly scheduled office hours for this course. I can come to Brescia campus to meet you as necessary.

COURSE SCHEDULE

Lectures: Wednesdays, 8:30 am–10:30 am, Brescia, room 14

Labs: Fridays, 9:00–10:30 am, Biological & Geological Sciences Building, room 2077 (on main Western campus)

COURSE MATERIALS

1. Website: <https://owl.uwo.ca/>
The OWL course website for Biol 0010 will be my primary method of communication with students. All important documents (syllabus, course material, assigned readings, quizzes, exam details, announcements, etc.) will be posted on the website. **It is your responsibility to check the website frequently.**
2. Recommended Textbook: Starr, Evers and Starr. 2013. *Biology Today and Tomorrow*. 4th edition. ISBN: 9781133364450 (available for purchase at the campus bookstore). A copy of this textbook will also be available on 2-hour course reserve in the Beryl Ivy Library.
3. Required Lab Materials: lab coat (available for purchase at the campus bookstore)

EVALUATION

Assessment	Description/date	Weight
Activities	See information below; due dates throughout the course	5%
Lab Exercises	Assignments & participation; completed (primarily) during labs	15%
2 Lab Tests	Testing lab skills and/or content; (1) December 4, 9:00-10:30 am and (2) April 1, 9:00-10:30 am	10%
2 Term Tests	Testing non-lab material; (1) October 23, 9:00-10:30 am and (2) March 4, 9:00-10:30 am	10%
Mid-year exam	Comprehensive; during December exam period, December 11–22	30%
Final exam	Comprehensive; during April exam period, April 9–30	30%

ASSESSMENTS

Students should expect a variety of question formats for assignments and tests/exams in this course. These include but are not limited to multiple choice, true/false, fill-in-the-blank, matching, calculations, drawing/labeling diagrams, and short answer questions, as well as in-lab practical skills demonstrations and identifications. Students should expect assignments and tests/exams to include questions derived from content discussed or taught during class, assigned reading/homework, and/or labs. The specific content and format for a given assignment/test will be indicated to students in advance on the course website.

Non-programmable calculators are permitted for use during assessments in this course. No other aids will be allowed. **Cellular phones, iPods, and other similar technology are *not* permitted in exam/test rooms.** This means that cellular phones, iPods, and other similar technology **cannot** be used as a timekeeper/clock, calculator, or for any other purpose.

No assessment in this course will be re-weighted to accommodate poor performance on any other assessment or for unapproved absences during an assessment. Similarly, additional assignments will not be accepted in lieu of a missed assessment or to account for poor performance on any other graded component of this course.

LABS

Attendance at labs is mandatory. Acceptable documentation must be provided if students do not attend a lab, otherwise students will receive a zero for undocumented absence from a given lab. A passing mark in the laboratory component must be obtained for students to obtain a pass mark in Biology 0010 (i.e. students must obtain at least 12.5 out of 25 marks allotted to the laboratory components of the course, i.e. Lab Tests and Lab Exercises).

Laboratory exercises/investigations

Some or all of the following, depending on weather and specimen availability:

- Introduction to microscopy and sample preparation
- Comparison of plant and animal cells
- DNA isolation
- Diffusion and osmosis
- Mitosis
- Photosynthetic pigments (thin layer chromatography), transpiration, and stomata
- Natural selection and adaptation
- Population growth and eutrophication
- Plant tissues and organization
- Animal systems (dissection)
- Diversity of protists
- Diversity of plant and fungal forms
- Diversity of animal forms

Dress code and conduct for labs

A lab coat, long pants or dresses/skirts (that cover ankles), socks, and closed toe shoes are mandatory. Students require a lab coat. Long hair should be tied back, if necessary. Food/drink is not allowed in the labs (this includes chewing gum). Lab goggles will be provided during each lab.

ACTIVITIES

A variety of activities will be presented throughout the course, both during (in lecture, labs), and outside of class time. These activities may include pre-class reading quizzes, short homework assignments, and in-class assignments/participation. Activities are used to encourage engagement with, reflection on, and assessment of understanding of material, as well as to ensure students are prepared for in-class discussion or exercises.

Each activity will be assigned a specific number of points (e.g., a pre-class quiz might be worth 3 pts) for students to collect for completing the activity as specified. Some activities will require correct answers, others may only require satisfactory completion of the activity instructions. All activities will have a specified deadline for completion. Students will be given the specific requirements and value of each activity at its onset.

At the end of the course, the total number of points a student has accumulated by satisfactory completion of activities will be determined, and expressed as a percentage out of the total number of points 'offered' across all activities presented during the course. This percentage of points collected will be used to calculate the student's "Activity Grade", by the scheme presented in the table at right.

<i>Points collected (% of total presented)</i>	<i>Activity Grade (/5%)</i>
0 < % collected < 20	1
20 ≤ % collected < 40	2
40 ≤ % collected < 60	3
60 ≤ % collected < 80	4
80 ≤ % collected ≤ 100	5

BRESCIA UNIVERSITY COLLEGE ACADEMIC POLICIES AND REGULATIONS

1. POLICY REGARDING MAKEUP EXAMS AND EXTENSIONS OF DEADLINES

When a student requests academic accommodation (e.g., extension of a deadline, a makeup exam) for work representing 10% or more of the student's overall grade in the course, it is the responsibility of the student to provide acceptable documentation to support a medical or compassionate claim. All such requests for academic accommodation **must** be made through an Academic Advisor and include supporting documentation. Academic accommodation on medical grounds will be granted only if the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete her academic responsibilities. Appropriate academic accommodation will be determined by the Dean's Office in consultation with the student's instructor(s). Please note that personal commitments (e.g., vacation flight bookings, work schedule) which conflict with a scheduled test, exam or course requirement are not grounds for academic accommodation.

A UWO Student Medical Certificate (SMC) is **required** if a student is seeking academic accommodation on medical grounds. This documentation should be obtained at the time of the initial consultation with the physician/nurse practitioner or walk-in clinic. A SMC can be downloaded under the Medical Documentation heading of the following website: <https://studentservices.uwo.ca/secure/index.cfm> . If it is not possible to have an SMC completed by the attending physician/nurse practitioner, the student must request documentation sufficient to demonstrate that her ability to meet academic responsibilities was seriously affected. Please note that under University Senate regulations documentation stating simply that the student "was seen for a medical reason" or "was ill" is **not** adequate to support a request for academic accommodation. All documentation is to be submitted to an Academic Advisor.

Whenever possible, requests for academic accommodation should be initiated in advance of due dates, examination dates, etc. Students must follow up with their professors and Academic Advisor in a timely manner.

The full statement of University policy regarding extensions of deadlines or makeup exams can be found at <http://www.westerncalendar.uwo.ca/2015/pg117.html>

2. ACADEMIC CONCERNS

If you feel that you have a medical or personal problem that is interfering with your work, contact your instructor and Academic Advisor as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. Retroactive requests for academic accommodation on medical or compassionate grounds may not be considered.

If you think that you are too far behind to catch up or that your work load is not manageable, you should consult an Academic Advisor. If you consider reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines (refer to the Registrar's website, www.registrar.uwo.ca, for official dates). You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. *Note that dropping a course may affect OSAP eligibility and/or Entrance Scholarship eligibility.*

The Dean may refuse permission to write the final examination in a course if the student has failed to maintain satisfactory academic standing throughout the year or for too frequent absence from the class or laboratory.

3. ABSENCES

Short Absences: If you miss a class due to a minor illness or other problems, check your course outline for information regarding attendance requirements and make sure you are not missing a test or assignment. Cover any readings and arrange to borrow notes from a classmate. Contact the course instructor if you have any questions.

Extended Absences: If you have an extended absence, you should contact the course instructor and an Academic Advisor. Your course instructor and Academic Advisor can discuss ways for you to catch up on missed work and arrange academic accommodations, if appropriate.

4. POLICY ON CHEATING & ACADEMIC MISCONDUCT

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offences. Students are urged to read the section on Scholastic Offences in the Academic Calendar. Note that such offences include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course in the University or elsewhere. Students are advised to consult the section on Academic Misconduct in the Western Academic Calendar.

If you are in doubt about whether what you are doing is inappropriate or not, consult your instructor, the Student Services Centre, or the Registrar. A claim that "you didn't know it was wrong" is not accepted as an excuse.

The penalties for a student guilty of a scholastic offence (including plagiarism) include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

Plagiarism:

Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

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.

Computer-marked Tests/exams:

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating. Software currently in use to score computer-marked multiple-choice tests and exams performs a similarity review as part of standard exam analysis.

5. PROCEDURES FOR APPEALING ACADEMIC EVALUATIONS

All appeals of a grade must be directed first to the course instructor. If the student is not satisfied with the decision of the course instructor, a written appeal signed by the student must be sent to the Department Chair. If the response of the department is considered unsatisfactory to the student, she may then submit a signed, written appeal to the Office of the Dean. Only after receiving a final decision from the Dean may a student appeal to the Senate Review Board Academic. A Guide to Appeals is available from the Ombudsperson's Office, or you can consult an Academic Advisor. Students are advised to consult the section on Academic Rights and Responsibilities in the Western Academic Calendar.

6. PREREQUISITES AND ANTIREQUISITES

Unless you have either the prerequisites for a course or written special permission from your Dean to enroll in it, you will be removed from the course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Similarly, you will also be deleted from a class list if you have previously taken an antirequisite course unless this has the approval of the Dean. These decisions may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course because you have taken an antirequisite course.

7. SUPPORT SERVICES

The Brescia University College Registrar's website, with a link to Academic Advisors, is at <http://brescia.uwo.ca/academics/registrar-services/>. The Western Registrar's website is at <http://www.registrar.uwo.ca/index.html>. The website for the Student Development Centre at Western is at <http://www.sdc.uwo.ca/>. Students who are in emotional/mental distress should refer to Mental Health @ Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

Portions of this document were taken from the Academic Calendar, the Handbook of Academic and Scholarship Policy and the Academic Handbook of Senate Regulations. This document is a summary of relevant regulations and does not supersede the academic policies and regulations of the Senate of the University of Western Ontario.

COURSE SCHEDULE

Please note that this is a tentative schedule. Some adjustments to the timing may be made as the course progresses, depending on the rate at which we cover the individual topics. As well, some lecture and lab topics during the Winter term (January –April) may be reordered based on availability of a computer lab necessary for the Ecology topics. The chapters listed are suggested readings from the recommended course textbook.

Week	Lecture Schedule (Wednesdays, 8:30 am to 10:30 am)	Lab Schedule (Fridays, 9:00 am to 10:30 am)
Sept 7-11	<i>No classes for Biology 0010</i>	
Sept 14-18	Sept 16: Welcome & the Nature of Science (Ch. 1)	Sept 18: Lab 1-Microscope use & calibration
Sept 21-25	Sept 23: Basic chemistry & Molecules of life (Ch. 2)	
Sept 28-Oct 2	Sept 30: Cell structure and function (Ch.3)	Oct 2: Lab 2-Cells & microscope calculations
Oct 5-9	Oct 7: Membrane structure & function (Ch. 3 & 4)	
Oct 12-16	Oct 14: Enzymes and reactions (Ch. 4)	Oct 16: Lab 3-Diffusion & microscope drawings
Oct 19-23	Oct 21: Photosynthesis (Ch. 5)	Oct 23: Term Test 1 (during Friday lab period)
Oct 26-30	Oct 28: Photosynthesis cont'd & Respiration (Ch. 5)	<i>Oct 29 & 30: Fall Study break (no classes)</i>
Nov 2-6	Nov 4: DNA structure and replication (Ch. 6)	Nov 6: Lab 4-Photosynthesis
Nov 9-13	Nov 11: Protein synthesis (Ch. 7)	
Nov 16-20	Nov 18: Mitosis (Ch.8)	Nov 20: Lab 5-DNA extraction
Nov 23-27	Nov 25: Meiosis (Ch. 8)	
Nov 30-Dec 4	Dec 2: Origins of genetic variability	Dec 4: Lab Test 1 (based on previous 5 labs)
Dec 7-10	Dec 9: To be announced (review or catch up)	<i>Dec 10: Study Day (no classes)</i>
Dec 11-22	<i>Midyear Exam Period (do not book travel until exam schedule is finalized)</i>	
Jan 4-8	Jan 6: Mendelian genetics (Ch. 9)	
Jan 11-15	Jan 13: Mendelian genetics cont'd (Ch. 9)	Jan 15: Lab 6-Inheritance problems
Jan 18-22	Jan 20: Microevolution (Ch. 11 & 12)	
Jan 25-29	Jan 27: Microevolution cont'd & Speciation (Ch. 11 & 12)	Jan 29: Lab 7-Population ecology (if computer lab available)
Feb 1-5	Feb 3: Ecology (Ch. 16 & 17) (if computer lab available)	Feb 5: Lab 8-Ecosystem ecology (if computer lab available)
Feb 8-12	Feb 10: Plant structure & function (Ch. 14, 27 & 28)	
Feb 15-19	<i>Reading week (no classes)</i>	
Feb 22-26	Feb 24: Animals structure – respiratory system (Ch. 21)	Feb 26: Lab 9-Plant structure & function
Feb 29-Mar 4	Mar 2: Animals – digestive system (Ch. 23 & 25)	Mar 4: Term Test 2 (during Friday lab period)
Mar 7-11	Mar 9: Animals – circulatory system (Ch. 21) & Hormones	Mar 11: Lab 10-Animal Structure
Mar 14-18	Mar 16: Diversity of life (viruses, Archaea/Bacteria, protists) (Ch. 13)	Mar 18: Lab 11-Diversity
Mar 21-26	Mar 23: Diversity of life (Plants and Fungi) (Ch. 14)	<i>Mar 25: Good Friday (no classes)</i>
Mar 28-Apr 1	Mar 30: Diversity of life (Animals) (Ch. 15)	Apr 1: Lab Test 2 (based on Labs 6, 9, 10, & 11)
Apr 4-8	Apr 6: To be announced (review or catch up)	<i>Apr 7 & 8: Study Days (no classes)</i>
Apr 9-30	<i>Final exam period (do not book travel until exam schedule is finalized)</i>	