

## Biology 1290B Course Outline

### 1. Course Information

#### Course Information

Biology 1290B – Biology and Microorganisms

#### List of Prerequisites

Grade 12 U Biology

Unless you have either the prerequisites for this course or written special permission from the Department of Biology to enroll in it, you may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on your academic record. This decision may not be appealed.

### 2. Instructor Information

Instructors	Email	Office	Office Hours
Dr. Patrick McDonald	<a href="mailto:pmcdona5@uwo.ca">pmcdona5@uwo.ca</a>		Wed. 9:00 am
TA: Luana Branco Alecrim	<a href="mailto:lbrancoa@uwo.ca">lbrancoa@uwo.ca</a>		

Students must use their Western ([@uwo.ca](mailto:@uwo.ca)) email addresses when contacting their instructors.

### 3. Course Syllabus, Schedule, Delivery Mode

**Course Description:** The fundamental principles of biology with emphasis on cell function and the role of microorganisms in public health, sanitation, food, and nutrition. Restricted to Food and Nutrition modules or by permission of the Department of Biology.

## Learning Outcomes and Objectives:

By the end of the course, students will be able to

- Identify and describe the function of organelles and structures found in cells.
- Compare eukaryotic and prokaryotic cells.
- Understand the basic growth requirements of prokaryotes and eukaryotes.
- Develop an understanding of microbial genetics in both prokaryotes and eukaryotes.
- Describe the major groups of prokaryotic and eukaryotic pathogens and parasites.
- Differentiate between the methods used for controlling prokaryotic and eukaryotic pathogens and parasites.
- Recognize the effect of infectious microbes on the respiratory and digestive systems.
- Explain the basic concepts of public health microbiology regarding food, municipal water purification and sewage treatment.
- Give examples of other uses of microbes in Applied Microbiology.

**Tentative lecture schedule:** Students will be informed of any changes.

Lecture	Date	Topic	Reading
1	Jan. 6	Intro to Bio 1290	
2	Jan. 8	Microbiology: Then and now	Ch. 1
3	Jan. 13	The chemical building blocks of life	Ch. 2
4	Jan. 15	Naming, observing, and cataloging the microbial world	Ch. 3
5	Jan. 20	Structure and organization of prokaryotic cells	Ch. 4
6	Jan. 22	Structure and organization of eukaryotic microbial cells	Ch. 5
7	Jan. 27	Viruses	Ch. 6
8	Jan. 29	Microbial growth and nutrition	
9	Feb. 3	Term Test 1	Ch. 7
10	Feb. 5	Microbial metabolism	Ch. 8
11	Feb. 10	Microbial genetics	Ch. 9
12	Feb. 12	Microbial genetics 2	Ch. 9
	Feb. 17 Feb. 19	Reading Week	
13	Feb. 24	Gene transfer, genetic engineering and genomics	Ch. 10
14	Feb. 26	Control of microorganisms: Physical and chemical agents	Ch. 11
15	Mar. 3	Control of microorganisms: Antimicrobial drugs and superbugs	Ch. 12
16	Mar. 5	Diagnosing infections	
17	Mar. 10	Term Test 2	Ch. 13
18	Mar. 12	Infectious diseases: Respiratory	Ch. 14
19	Mar. 17	Infectious diseases: Digestive	Ch. 15
20	Mar. 19	Infectious diseases: Digestive 2	Ch. 15
21	Mar. 24	Host microbe relationship and epidemiology	Ch. 20
22	Mar. 26	The immune response to infection: Innate immunity	Ch. 21
23	Mar. 31	Resistance and the immune system: Adaptive immunity	Ch. 22
24	Apr. 2	Infectious disease and immune disorders	Ch. 23
25	Apr. 7	TBD	
26	Apr. 9	Review	

**Tentative tutorial schedule:** Students will be informed of any changes.

<b>Tutorial</b>	<b>Date</b>	<b>Topic</b>
	Jan. 6	No tutorial
1	Jan. 13	Salmonella
2	Jan. 20	Norovirus
3	Jan. 27	Listeria
	Feb. 3	Term Test 1 (Request)
4	Feb. 10	Clostridium
	Feb. 17	Reading Week
5	Feb. 24	E. coli O157
6	Mar. 3	Shigella
	Mar. 10	Term Test 2 (Request)
7	Mar. 17	Vibrio
8	Mar. 26	Campylobacter
9	Apr. 2	TBD
	Apr. 7	No tutorial

**Key Sessional Dates:**

Classes begin: January 5, 2026

Spring Reading Week: February 14 – 22, 2026

Classes end: April 9, 2026

Exam period: April 12 – 30, 2026

## 4. Course Materials

**Required textbook:**

Fundamentals of Microbiology 12th edition – Jeffrey Pommerville.

It is available at the bookstore. An electronic version of the text is available.

[https://bookstore.uwo.ca/textbook-search?campus=UWO&term=W2025B&courses%5B0%5D=001\\_UW/BIO1290B](https://bookstore.uwo.ca/textbook-search?campus=UWO&term=W2025B&courses%5B0%5D=001_UW/BIO1290B)

Cost: \$207 (ebook)

All course material will be posted to OWL: <https://westernu.brightspace.com/>

Students are responsible for checking the course OWL site (<https://westernu.brightspace.com/>) regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class.

If students need assistance with the course OWL site, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

## Technical Requirements

### Required Equipment:



Stable internet connection



Laptop or computer with webcam



Working microphone

## 5. Methods of Evaluation

### Grading Scheme and Assessment Dates

The overall course grade will be calculated as listed below:

Assignments	20% Due Friday, March 27 at 11:59 pm
Test 1	20% 1 hour – Feb. 3 (lectures 1-8)
Test 2	20% 1 hour – Mar. 10 (lectures 10-16)
Final Exam	40% 2 hours – Scheduled during April exam period (cumulative)

### Use of Generative AI Tools

AI tools are allowed for brainstorming/organization. AI tools are not permitted for the final production/writing of the Assignment.

### General information about missed coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs*, posted on the Academic Calendar:

[https://uwo.ca/univsec/pdf/academic\\_policies/appeals/academic\\_consideration\\_Sep24.pdf](https://uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf),

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person.

The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](#).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage:

[https://registrar.uwo.ca/academics/academic\\_considerations/](https://registrar.uwo.ca/academics/academic_considerations/)

All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline.

All Academic Consideration requests must include supporting documentation; however, recognizing that formal documentation may not be available in some extenuating circumstances, the policy allows students to make one Academic Consideration request **without supporting documentation** in this course. However, the following assessments are excluded from this and, therefore, always require formal supporting documentation:

- Examinations scheduled during official examination periods (Defined by policy)

When a student mistakenly submits their one allowed Academic Consideration request **without supporting documentation** for the assessments listed above or those in the **Coursework with Assessment Flexibility** section below, the request cannot be recalled and reapplied. This privilege is forfeited.

### **Evaluation Scheme for Missed Assessments**

Absence from the term test(s) will be covered with a makeup test/exam. If a makeup term test is not administered before the release of student grades, the weight of the term test will be shifted to the final exam.

Absence for the assignment due date will result in an extension for the period of accommodation (for up to 1 week).

When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name given by the University to a makeup Final Exam). See the Academic Calendar for details (under Special Examinations), especially for those who miss multiple final exams within one examination period.

## **6. Additional Statements**

### **6.1 Religious Accommodation**

When a recognized religious holiday or observance conflicts with an examination, test, or other scheduled academic obligation, students must request accommodation via the University's Student Absence Portal (SAP). This request should identify the conflict and specify which course component(s) (e.g. test, midterm, exam) are affected.

Students are encouraged to submit the SAP request as early as possible, but no later than two weeks before any examination, or one week before any mid-term test or quiz, to allow sufficient time for adjustment.

The SAP request serves as official notification to both the course instructor and the Academic Advising Office, in accordance with University policy:

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_religious.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf)

The Faculty of Science considers religious accommodations as scheduling conflicts. Instructors should provide either a make-up exam or an earlier sitting of the same exam to accommodate the student.

For more information on recognized religious holidays, please visit the Diversity Calendar posted on the Equity, Diversity & Inclusion website - <https://www.edi.uwo.ca>

### **6.2 Academic Accommodation Policies**

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/Academic\\_Accommodation\\_disabilities.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf)

### 6.3 General Academic Policies

The website for Registrar Services is <https://www.registrar.uwo.ca/>.

**Use of @uwo.ca email:** In accordance with policy,

[https://www.uwo.ca/univsec/pdf/policies\\_procedures/section1/mapp113.pdf](https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf), the centrally administered e-mail account provided to students will be considered the individual's official university email address. It is the responsibility of the account holder to ensure that emails received from the University at their official university address are attended to in a timely manner.

**Requests for Relief** (formally known as "appeals")

Policy on Request for Relief from Academic Decision:

[https://uwo.ca/univsec//pdf/academic\\_policies/appeals/requests\\_for\\_relief\\_from\\_academic\\_decisions.pdf](https://uwo.ca/univsec//pdf/academic_policies/appeals/requests_for_relief_from_academic_decisions.pdf)

Procedures on Request for Relief from Academic Decision (Undergraduate):

[https://uwo.ca/univsec//pdf/academic\\_policies/appeals/undergrad\\_requests\\_for\\_relief\\_procedure.pdf](https://uwo.ca/univsec//pdf/academic_policies/appeals/undergrad_requests_for_relief_procedure.pdf)

### 6.4 Scholastic Offences

Policy on Scholastic Offences:

[https://uwo.ca/univsec//pdf/academic\\_policies/appeals/scholastic\\_offences.pdf](https://uwo.ca/univsec//pdf/academic_policies/appeals/scholastic_offences.pdf)

Procedures on Scholastic Offences (Undergraduate):

[https://uwo.ca/univsec//pdf/academic\\_policies/appeals/undergrad\\_scholastic\\_offence\\_procedure.pdf](https://uwo.ca/univsec//pdf/academic_policies/appeals/undergrad_scholastic_offence_procedure.pdf)

### Use of Electronic Devices During Assessments

In courses offered by the Faculty of Science, the possession of unauthorized electronic devices during any in-person assessment (such as tests, midterms, and final examinations) is strictly prohibited. This includes, but is not limited to: mobile phones, smart watches, smart glasses, and wireless earbuds or headphones.

Unless explicitly stated otherwise in advance by the instructor, the presence of any such device at your desk, on your person, or within reach during an assessment will be treated as a *scholastic offence*, even if the device is not in use.

Only devices expressly permitted by the instructor (e.g., non-programmable calculators) may be brought into the assessment room. It is your responsibility to review and comply with these expectations.

### Use of Generative AI Tools

Unless otherwise stated, the use of generative AI tools (e.g., ChatGPT, Microsoft Copilot, Google Gemini, or similar platforms) is **not permitted** in the completion of any course assessments, including but not limited to: assignments, lab reports, presentations, tests, and final examinations.

Using such tools for content generation, code writing, problem solving, translation, or summarization—when not explicitly allowed—will be treated as a **scholastic offence**.

If the use of generative AI is permitted for a particular assessment, the conditions of use will be specified by the instructor in advance. If no such permission is granted, students must assume that use is prohibited. It is your responsibility to seek clarification before using any AI tools in academic work.

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>).

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.

## **6.5 Support Services**

Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, requests for relief, exam conflicts, and many other academic-related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence (GBSV) and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced GBSV (either recently or in the past), you will find information about support services for survivors, including emergency contacts, at:

[https://www.uwo.ca/health/student\\_support/survivor\\_support/get-help.html](https://www.uwo.ca/health/student_support/survivor_support/get-help.html).

To connect with a case manager or set up an appointment, please contact [support@uwo.ca](mailto:support@uwo.ca).

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. If you have any questions regarding accommodations, you may also wish to contact Accessible Education at

[http://academicsupport.uwo.ca/accessible\\_education/index.html](http://academicsupport.uwo.ca/accessible_education/index.html)

Learning-skills counsellors at Learning Development and Success (<https://learning.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.

Additional student-run support services are offered by the USC, <https://westernusc.ca/services/>.