Western Science

Department of Biology

GENETICS
Biology 2581B
Course Outline/Syllabus Winter 2025

1. Course Information:

The winter version of this course is offered in a Blended format:

- Lectures: All lecture content will be asynchronous through the OWL Brightspace site
- Tutorials: There will be four (4) 1h in-person tutorials throughout the term. See OWL for locations/times, according to your registered tutorial section, and instructions. Tutorials will require asynchronous preparation in advance of the in-person sessions.
- Tests: There will be four (4) 1.5h timed online open book tests, available through OWL over a 2-day window, covering each of the four blocks of lecture material. There will be one (1) in-person 1.5h midterm test covering the first half of the lecture & tutorial material and one (1) comprehensive 3h in-person Final Exam during the final exam period (covering all material for the course).
- Instructor Q&As: the instructors will be available for both online and hybrid (simultaneous online/in-person) Q&A sessions on a regular basis throughout the semester.

Note, not reading the syllabus is not a basis for appeal. You are expected to read the full syllabus at the beginning of the course.

List of Prerequisites

- Minimum mark of 60% in either Biology 1001A or Biology 1201A
  and
- Minimum mark of 60% in either Biology 1002B or Biology 1202B or Integrated Science 1001X
  and
- Minimum mark of 50% in Biochemistry 2280A

Unless you have either the prerequisites for this course or written special permission from your Dean's Designate (Department/Program Counsellors and Science Academic Advisors) to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees if you are dropped from a course for failing to have the necessary prerequisites.

2. Instructor Information

Instructors

Dr. Daniel Jeffery (course coordinator)

Department of Biology

Dr. Michael Pyne
Department of Biology

Please note email policy below

Q&A/Office hours

- *For Dr. Pyne's content specifically*: Mondays at 10:00-11:00AM. Zoom meeting
- ***For all course content***: Thursdays at 3:30-5:00PM. Zoom meeting.
- ***For all course content***: Fridays at 3:30-5:00PM. Hybrid.

Please note that these times are subject to change. They may occasionally be shifted, removed, or added to accommodate student or instructor needs.

See Zoom section in OWL for links to each session.

These are open, group Q&A/office hours. Students can use these times to discuss course material or to ask questions on Genetics in general (like, what can I do with an education in Genetics?). Given that these are open, group meetings, we do not discuss private issues (e.g., health or mental health), which should instead be discussed with an Academic Advisor.

Course e-mail policy

Email should be directed to Dr. Jeffery (djeffer4@uwo.ca) and **only** for questions that are *specific to you* (e.g., something related to your individual grade, academic accommodations/considerations, etc). Course-content related questions should be posted in the appropriate forums.

Please use your Western (@uwo.ca) email address and provide an **informative subject heading** that includes "**Bio2581**" or it may be filtered as spam. Both instructors are teaching multiple courses, so it is important that you clarify which course you are emailing about.

- **Please do not email TAs** as responding to student emails about course content has not been included as part of their TA duties.

Posting to the Forums

We encourage students to post questions to the forums, to discuss and answer peer questions when possible (or second them), while maintaining a collegial, polite and professional learning environment. The Instructors and/or TAs will monitor the forums and typically provide answers, confirmations and/or corrections (as needed) within 1-2 business days.

To improve access to the forums, they are broken into sections:

- For lecture material they are broken down into Lessons and Topics.
- Forums for the four tutorials are provided at the end of the list of forums.

- A forum for the midterm test will appear only after the writing period for the test (and its makeup) has finished, please do not post about test questions until after the testing period has closed.

Please make sure that you post your question to the correct sub-forum. This will help students finding the posts for specific portions of the course and help us answer your queries. Please include your question as the title of your post.

3. Course Description, Learning Outcomes, Delivery Mode and Schedule

Course Overview:
Biology 2581B is an introduction to Genetics. Genetics at its most basic level is the study of genome sequence variation. This course is about identifying and classifying genome sequence variation and using this variation to track transmission of genetic information, to identify important genomic information and to genetically dissect biological processes. This course will be a blended course, with asynchronous lecture content delivered by video on OWL and in-person TA-led tutorials. The tutorial activities will enable you to engage with each other and your TA, while applying the concepts presented in the lecture material.

Course Description: The structure, transmission and expression of genetic elements in prokaryotic and eukaryotic organisms and populations.

Learning Outcomes and Objectives:
Upon successful completion of this course, students should be able to:

1. Describe the mechanisms by which an organism's genome is passed on to the next generation, including bacteria, single-celled eukaryotes, animals and plants
2. Explain the molecular basis for how genotypes affect phenotypes
3. Analyze genomic data to identify sequence variation, functional DNA elements and predict gene functions
4. Interpret phenotypic data from genetic crosses to calculate probabilities of inheriting a trait, classify alleles, and determine gene functions
5. Calculate genomic and genetic metrics associated with genome coverage, recombination and map distance
6. Compare different types of mutations and describe their effects on genes, mRNA, proteins, and organisms as a whole
7. Relate and connect key concepts, such as transmission genetics, genotype/phenotype, and gene linkage, to the study of human genetics

Course delivery:
Lecture material will be delivered asynchronously. The material will be provided in the course OWL site in four major blocks.

Tutorials will cover mainly lecture material with specific instructions provided on OWL asynchronously along with the release of the three-week blocks. There will be a total of four 50-minute in-person tutorials, led by your Teaching Assistants, one for each three-week block. Your tutorial Section Number will determine which weeks (Week A* or Week B**) you will have your in-person tutorial session. See the Schedule below.

Regularly scheduled Synchronous Zoom or Hybrid Q&A/Office hours are available with the instructors

(see above).

Teaching assistants will also be available to answer your questions and clarify content through the OWL forums and during their in-person sessions. Please note that while the TAs are good resources for information and explanation, we do not accept appeals with statements like "but that is what my TA said".

Contingency Plan: The midterm test, final exam and tutorials for this course will be delivered in-person. However, in the unlikely event of any university-declared emergency, some or all of these course components may be required to be delivered online, either synchronously or asynchronously. ***The grading scheme will not change***. Any assessments affected will be conducted online as determined by the instructors.

Key Sessional Dates:

- Classes begin: January 6, 2025
- Spring Reading Week: February 15 – 23, 2025
- Classes end: April 4, 2025
- Exam period: April 7–30, 2025

Schedule:

*Week A tutorial Sections: 3–20 **Week B tutorial Sections: 22–39

See your academic timetable (or the Tutorials Overview page in OWL) for the specific times & locations associated with your tutorial section.

Block	Content	Date	Description	Tutorial
1	**Module 0**	Jan 1-onwards	**Course Orientation:** • Welcome & Getting Started • Syllabus, Course Content Overview, Tutorial Overview, Test Information	
	Module 1	Jan 6-10	**Introduction and the tree of life:** • Introduction and key definitions • Genome sequence variation • Origin of eukaryotic genomes	Tutorial 1 prep. Topic: Transmission of genetic information at cell, organism and species levels—flow chart
	Module 2	Jan 13-17	**Exploring the Genome:** • DNA as information • Genome sequencing methods • Contigs and gaps • Scaffold assembly & reference genome	Tutorial 1 Live Session Week A Sections
	Module 3	Jan 20-24	**Genome annotation and variation** • Genome annotation • Transcriptome • Proteome • Comparative genomics	Tutorial 1 Live Session *Week B Sections*
	Online Open Test 1	Jan 23-24	~25 questions, 1.5h – Open Book – Covers lecture material from Modules 1, 2 & 3	
2	**Module 4**	Jan 27-31	**Origin of sequence variation** • Types of mutation • Origin of change	Tutorial 2 prep. Topic: Classifying the diversity of

			• Transposons • GWAS	mutations/alleles and their phenotypic impacts—mind map
	Module 5	Feb 3-7	**Allele classification** • Mendelian and sequence-based classification systems • Functional classification of alleles • Allele classification in cancer genetics	Tutorial 2 Live Session Week A Sections
	Module 6	Feb 10-14	**Regulation of gene expression in bacteria and eukaryotes** • Regulation of gene expression • Genetic analysis of the regulation of gene expression • Analysis of regulatory sequences • Regulation at the level of splicing and translation	Tutorial 2 Live Session *Week B Sections*
	Online Open Test 2	Feb 13-14	~25 questions, 1.5h – Open book – Covers lecture material from Modules 4, 5 & 6	
	Reading week	Feb 17-21		
(1-2)	**Midterm Test**	**Feb 28** *Makeup Mar 7* **3:30-5:00pm**	~25 questions, 1.5h – In-person, closed book Covers lecture & tutorial content from Modules 1–6	
3	**Module 7**	Feb 24-28	**Genetics screens and making mutants** • Forward genetics • Reverse genetics and transformation • RNA interference and miRNA • CRISPR	Tutorial 3 prep. Topic: Reviewing the material—muddiest point, practice question design & Quizizz
	Module 8	Mar 3-7	**Epistasis and developmental genetics** • Epistasis • Developmental genetics • Evolution and development	Tutorial 3 Live Session Week A Sections
	Module 9	Mar 10-14	**Epigenetics and microbes (horizontal gene transfer in bacteria)** • Mechanisms of epigenetics • Examples of epigenetics • Microbes/horizontal gene transfer in bacteria	Tutorial 3 Live Session *Week B Sections*
	Online Open Test 3	Mar 13-14	~25 questions, 1.5h – Open Book – Covers lecture material from Modules 7, 8 & 9	
4	**Module 10**	Mar 17-21	**Sex and meiosis** • Recombination and negative interference • Tetrad analysis in fungi • Heteroduplex formation and the synaptonemal complex	Tutorial 4 prep. Topic: Mitosis vs Meiosis and Linkage vs Independent Assortment—problem-solving
	Module 11	Mar 24-28	**Chromosomal mutants** • Chromosome deletions and duplications • Inversions and translocations • Aneuploidy • Polyploidy	Tutorial 4 Live Session Week A Sections
	Module 12	Mar 31-Apr 4	**Sex determination and behavioural genetics** • Sex determination • Behavioural genetics	Tutorial 4 Live Session *Week B Sections*
	Online Open Test 4	Apr 3-4	~25 questions, 1.5h – Open Book – Covers lecture material from Modules 10, 11 & 12	

Final Exam (1–4)	**Exam period** Apr 7–30	TBD by registrar	~50 question, 3h – In-person, closed book Covers lecture & tutorial content from Modules 1–12	

4. Course Materials

Technical Requirements:

- Stable internet connection
- Internet connection of a high enough speed in order to participate via Zoom, write online assessments and download/stream course material
- Computer with working microphone (for participation in Zoom Q&A/Office Hours)

Recommended Textbook:
Benjamin A. Pierce, *Genetics a conceptual approach*, 7th edition. This is the textbook for the course, which contains content that will assist you in understanding genetics and build your knowledge. The textbook is not strictly required, as we will not be testing material that is exclusively discussed within the textbook. However, we provide specific readings from the textbook to supplement nearly every lesson, enabling a deeper understanding of the material by providing additional examples to those discussed in the lecture videos, a second perspective, additional practice questions, and various additional learning tools that may significantly benefit your learning. The publisher also offers the online learning software Achieve as part of the textbook bundle, which you may find useful as another additional resource as it provides several useful tools including an up-to-date collation of each Module's recommended readings and self-quizzing functions associated with the relevant textbook chapters.

Note that, depending on which version of the textbook you purchase, the page numbers may differ slightly, so we always provide the section headings to assist you in finding the relevant sections. While we are using the 7th edition for this semester, the section headings generally correspond with the 6th edition, as well, which can be used as an alternative, if needed.

All course documents and information (syllabus, lecture files, instructional documents, etc.) **will be posted to OWL Brightspace and students are responsible for checking the course OWL site (https://westernu.brightspace.com) on a regular basis for updates.** If students need assistance with the course OWL site, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk, which can be contacted by phone at 519-661-3800 or ext. 83800.

5. Methods of Evaluation

Grading Scheme and Assessment Dates:

Assessment	Date	Weight
Tutorials (1–4)	Tri-weekly, see Schedule & OWL Brightspace (3.5% each)	14%
Online Open Tests (1–4)	1) Jan 23-24 (6%) 2) Feb 13-14 (6%) 3) Mar 13-14 (6%) 4) Apr 4-5 (6%)	24%
Midterm Test	Fri Feb 28, 3:30-5:00pm *Makeup* Fri Mar 7, 3:30-5:00pm	24%

Final Exam	TBD by registrar; Exam period Apr 7-30	38%

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

All Academic Consideration requests normally 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:

- Midterm Test
- 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

Missing a Tutorial (including completion of the asynchronous preparation work by the deadline and/or attendance of the live session) or failure to attempt an Online Open Test within the availability window **does not require** Academic Consideration. They will automatically be re-weighted to the Final Exam.

Missing the Midterm Test **requires** Academic Consideration and must include supporting documentation, as described above. You may then write the Makeup one week later. No email to the instructors is necessary If you must also miss the Makeup, you must obtain Academic Consideration for the date of the Makeup as well. Then your Midterm Test grade will be re-weighted to the Final Exam.

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.

Essential Learning Requirements

Even when Academic Considerations are granted for missed coursework, the following are deemed essential to earn a passing grade:

- Irrespective of Academic Considerations, students must complete at least 65% of the assessments in the course to pass (according to grade weight defined in the grading scheme table above, re-weights do not count as completion).
- Failure to complete the minimum will result in an incomplete for the course, when Academic Considerations have been granted, where applicable, or failure of the course with a maximum grade of 45%, if the necessary Academic Considerations have not been granted. To obtain an incomplete, students must contact Dr. Jeffery (djeffer4@uwo.ca) before the end of the final examination period and to determine when they will be able to complete any missing assessments needed to obtain 65% completion, likely during the next iteration of the course.

Coursework with Assessment Flexibility

By policy, instructors may deny Academic Consideration requests for the following assessments with built-in flexibility:

Online Open Tests:

- We have scheduled four (4) non-cumulative Online Open Tests, worth 6% each, to help ensure you do not fall behind on the material and to give you several opportunities to practice exam-style questions prior to the midterm and final exam in a lower-stakes environment. Just like the midterm, these tests are designed to be completed in 1 hour and 30 minutes or less. Unlike the midterm, they are non-proctored, open book, open internet, open collaboration (though all students must submit their answers independently), and the question order will be randomized. To accommodate varied schedules, the Online Open Tests will be available for a period of 2 days, between the hours of 9 AM and 7 PM Eastern Time each day. You will be able to start at any time within the scheduled test period. Once started, you will have 1 hour and 45 minutes to complete the Test (1.5h expected to write the exam and 15 minutes extra in case of technical difficulties/slow loading, etc). This flexibility in when you choose to write your tests is meant to account for differences in your personal schedules and any unexpected computer or temporary health issues. Therefore, there will **not be a makeup** for the online tests.
- As described above, if you do not attempt (i.e., access) an Online Open Test, the weight will automatically be re-weighted to the Final Exam; *no academic consideration or email necessary*. Please do not email the instructors about missing these tests.
- If you experience severe technical difficulties during an attempt of your online test, please reach out to **exam central** to help resolve the issue. If the issue persists and/or you are unable to obtain technical assistance, document the problem (e.g., take a screenshot or photo with your phone), inform the course coordinator (djeffer4@uwo.ca) *within 48h of the availability window closing **(before grades are released)***, and your attempt can be re-weighted to the Final Exam. Otherwise, your attempt will be graded as is.
- You **do not** have the right to photograph, screen share, or copy any portion of the online open tests. Uploading any part of the tests or test questions to an online site or service where others may access it is a **Scholastic Offense** and will be pursued as such. Similarly, unauthorized possession of a copy of the test is also considered a Scholastic Offense, unless the student reports the matter to the instructor, department or registrar as soon as possible after receiving it.

Other Assessments

The Midterm Test and Final Exam will be proctored in-person, written individually, closed book, with no aids except a non-programmable calculator. Although we acknowledge that the majority of students are not tempted to engage in cheating, we are nonetheless required to monitor for cheating to maintain the integrity of the marks in the course. We will monitor these tests for cheating and will collect evidence of cheating to pursue an accusation of academic misconduct, should the case arise. Remember that cheating is an academic offence that can lead to expulsion from the university. Also, professional schools often ask you to release your Western academic file upon applying. Although some students may find cheating a tempting option, the downsides of cheating outweigh any benefits.

Access to test results: Access to test results is an important tool for learning. In this course, after the test and makeup test have closed and marks are collated, you will be given access to your answers, the test questions, and the correct answers. Note that we can only grade based on the work you provide. As such, we cannot accept appeals that you accidentally put the wrong version of the exam on the test sheet or that you mistakenly filled in the incorrect bubble for multiple choice questions, etc. Please be careful when completing your assessments.

Tutorials: Each tutorial you complete to a satisfactory level will earn you 3.5% on your final grade, for a total of 14%. In addition, approximately 6-8% of questions in the Midterm Test and Final Exam will directly address the concepts covered in tutorials.

Final examination: The Final Exam is a 3h test consisting of ~50 questions in the same format as the Midterm Test but worth 38% of the final grade. The Final Exam is cumulative with ~60% questions on material from Modules 7–12 and ~40% from the others. It will be scheduled by the registrar's office during the final exam period. For those who miss the exam for legitimate documented reasons, **subject to academic consideration approval,** a makeup exam of the same format will be scheduled within one month of the closing of the exam period. Failure to write the final exam makeup on this date, again **subject to academic consideration approval,** will require the student to write the final examination the next time the course is offered.

- **You <u>do not</u> need to email the course instructor** pending approval or after receiving approval because the course instructor will automatically receive notification of your approval from the academic counselling office. We will then add you to the list of those writing the Special Exam and change your final grade in OWL to SPC until you have completed the Special Exam. You will receive a general announcement with the date/time and writing locations for the Special Exam in the last week of the final exam period, at the latest.

What you can have during the midterm test and final examination: You will need a pen or pencil and a non-programmable calculator. It should be a scientific calculator with log functions.

Requests for grade adjustments: We do not consider requests for grade adjustments based on you not meeting a threshold mark that affects your GPA, module requirement, pass/fail, or other grade-associated issues. To be fair to everyone, we can only mark you based on the merit of your performance in the course assessments. We do not offer alternative/extra assessments beyond those provided to all students in the class. The mark you earn in this course is your responsibility and yours alone. *Do not email the instructors asking for grade adjustments, these requests will be ignored.*

Following university senate guidelines, for Final Grades with decimals of 0.45 or higher, we will round up to the nearest full integer. Anything below 0.45 is rounded down.

If you believe you have detected an *error* in the calculation of your test, tutorial, final exam, or course grades, please don't hesitate to let the course coordinator know as soon as possible at djeffer4@uwo.ca

6. Additional Statements

Copyright infringement: All video and assessment material posted to this OWL site are the intellectual property of the current or previous course instructors and are made available to students registered in the course for their use alone. This means the material is not yours to do with as you like. It is a copyright infringement to post material, for profit or not, to another site without the express permission of the copyright holders. Copyright infringement is theft and will be treated as such under the Western code of conduct, which can result in expulsion from the university. In addition, copyright infringement is illegal in Canada.

Some of the remote learning sessions for this course may be recorded. The data captured during these recordings may include your image, voice recordings, chat logs and personal identifiers (name displayed on the screen). The recordings will be used for educational purposes related to this course, including evaluations. The recordings may be disclosed to other individuals participating in the course for their private or group study purposes. Please contact the instructor if you have any concerns related to session recordings.

- Participants in this course are not permitted to record the sessions, except where recording is an approved accommodation, or the participant has the prior written permission of the instructor.

Artificial Intelligence (AI) tools: For this course, you are welcome to utilize AI programs, such as ChatGPT, Co-Pilot, DALL-E, etc., as learning aids for idea generation, clarification and further exploration of concepts, and as a tool to help you complete your tutorial assignments and online open tests. However, you do not have the right to copy test questions into these programs (and it is important to exercise caution and critical thinking when using AI-generated content and you should be aware that material generated by AI programs may contain inaccuracies, omissions, or offensive content. It is your responsibility to double-check and verify the information generated to ensure its accuracy and appropriateness, as you will be fully responsible for any work you submit. You should be prepared to explain (verbally or in writing) the meaning behind your work and how you completed it. Remember that AI tools can be used to supplement your learning process, but they should not replace your independent thinking, analysis, and creativity. Put simply, AI-generated content is not explicitly forbidden in your tutorial submissions. However, it is essential to thoroughly understand the work being submitted to accurately answer related questions during the midterm test and final exam, where only a calculator is allowed as an aid.

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: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Computer-marked in-person 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.

Religious Accommodation

When conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible but not later than two weeks prior to the writing or the examination (or one week prior to the writing of the test). Please visit the Diversity Calendars posted on our university's EDID website for the recognized religious holidays: https://www.edi.uwo.ca.

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.

Academic Policies
The website for Registrar Services is https://www.registrar.uwo.ca/.

In accordance with policy,
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 e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner.

Support Services
Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, appeals, 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 and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (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.
To connect with a case manager or set up an appointment, please contact 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. You may also wish to contact Accessible Education at http://academicsupport.uwo.ca/accessible_education/index.html if you have any questions regarding accommodations.

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.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: https://www.uwo.ca/se/digital/.

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

7. Acknowledgements

This course was designed with the direct support and collaboration of Dr. Tony Percival-Smith to ensure course and curriculum consistency. Special thanks to Tony for invaluable discussions and advice, and his generous permission to use his course content.