

Biology 4950G - COURSE OUTLINE

Seminars in Genetics (Half course Winter 2022)
A synchronously-delivered, OWL-based course;
Attendance and participation are evaluated.



Vision Statement:

- nurture curiosity
- engage with and learn from our class community of geneticists
- connect with mentors in genetics
- learn, develop and practice skills for effective oral and written science communication
- share knowledge of genetics
- reflect and critique genetics in the news

Independent workshop #1

View and reflect on these two TEDtalks and critically evaluate the oral communication skills and identify the effective strategies used by the speakers
Genetics can be effectively communicated to many different audiences in many different ways:

https://www.ted.com/talks/riccardo_sabatini_how_to_read_the_genome_and_build_a_human_being

To understand ‘Why’ this seminar course:

https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action

Prior to our second class, please listen and reflect on these TEDtalks and their relevance to this course. Come to our second class ready to share your reflections and critique.

Seminars in Genetics – in a Pandemic with an Omicron variant as a current influence shaping our journey in teaching and learning

- We will be working together online for at least the month of January.
- This course will adopt a new approach.
- We will use new learning tools
- We will work in new learning environments
- The content will be the same but how we teach and learn will be new.

- We will explore and work in Packback
- We will attend and evaluate a genetics technology product conference
- We will meet with some mentors we know and meet new mentors
- We will meet and learn from student innovators

Important Dates

Class begins: **Friday Jan 14, 2022**

- Key Sessional Dates
- Jan 10 Classes resume – **no synchronous tutorials**; lectures are synchronous online
- Jan 13 **Our first class – synchronous online via zoom – Delivery of Course Outline**
- Jan 18 Deadline to add a second-term course
- **Jan 31** *University Planned return to in-person instruction*
- Feb 19-27 Reading Week
- March 14 Deadline to drop a second-term course without academic penalty
- April 8 Last day of classes
- April 9 Study Day
- April 10 to 30 Final Exams (excluding April 15 to 17 for Easter and Passover)
- **Last date for course withdrawal [minimum of 15% of grade posted by March 4]: March 7**
- **There is no final examination in this course**
- **There is no textbook in this course**

Materials to be found on the OWL course site:

- Land Acknowledgment
- Class schedule
- Required readings
- Assignment instructions, rubrics and deadlines
- Packback instructions

1. General Course Information

Seminars in Genetics 4950G

Professor: Dr Kathleen Hill, khill22@uwo.ca; Associate Professor in Biology

Classes: Fridays 10:30 to 1:20 pm online [January; may move to in person class starting in February]

Office hours: **TBA**; daily use of OWL discussion forum; online Zoom sessions to be announced

Course OWL Website: <https://owl.uwo.ca/portal>

To access course content: Enter your UWO username and password; Biology 4950G should be a selection in your class list. Students should check OWL (<http://owl.uwo.ca>) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class. **Students are responsible for checking OWL on a regular basis.**

Packback: Packback has a one time student fee; instructions for Packback sign up and fee arrive to student Western email. Further instructions and description of Packback are carried out through lectures and the OWL course site

Prerequisite(s): Enrollment in year 4 of the Honors Specialization in Genetics, or permission of the Biology undergraduate education committee Chair and an academic counsellor and the course instructor. A minimum grade of 70% in Biology 3596A/B.

“Unless you have either the requisites for this course or written special permission from your Dean 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 in the event that you are dropped from a course for failing to have the necessary prerequisites.”

List of Antirequisites

Biology 4920F/G, 4944F/G, or the former Biology 4930F/G, 4931F/G

Class day/time: Fridays from 10:30 am – 1:30 pm

Mode of delivery

January 2022 – online delivery via Zoom. The link to the Zoom sessions will be posted to the course OWL site.

If there is a return to in-person teaching and learning the location of the class is the WALs Tech classroom 2210 in FIMS and Nursing Building (FNB)

All course material will be posted to OWL: <http://owl.uwo.ca> . Any changes will be indicated on the OWL site.

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

[Google Chrome](#) or [Mozilla Firefox](#) are the preferred browsers to optimally use OWL; update your browsers frequently. Students interested in evaluating their internet speed, please click [here](#).

2. Instructor Information

Dr. Kathleen A. Hill - khill22@uwo.ca

Office hours are by appointment or by communication of open office hours sessions through the OWL course site and in class

Students must use their Western (@uwo.ca) email addresses when contacting instructors and teaching assistants.

3. Course Description/Syllabus

Biology 4950G Course description: This course is designed to cover content that builds upon principles and concepts covered in the Introduction to Genetics [Biology 2581b] and topics of third year genetics courses integral to the Honors Genetics Program.

Lecture topics will use primary research articles to present key concepts, experimental design, methodology, data analysis, ethical dilemmas and future research trends. Attributes and analysis of DNA at the level of primary sequence, gene, chromosome and genome will be examined. Classes will have a workshop format and will aim to develop skills in studying primary research articles, evaluating science communication, delivering seminars and participating in debates. This course will also provide instruction and experience in science writing for two or three different formats and styles.

Evaluation is based on in class participation, student seminar presentations, student debates, critique of seminars and debates, student engagement in open-ended question design in Packback and the writing of a blog report, newsbrief and a term paper. **Extra Information:** 3 class hours, 0.5 course.

Key Topics in 2022:

- Properties of DNA
 - Controversial topics involving genomes

Issues

<https://www.genome.gov/issues/>

History

<https://www.youtube.com/user/GenomeTV>

Welcome to the Genomics Revolution

https://www.ted.com/talks/richard_resnick_welcome_to_the_genomic_revolution?language=en

Applied topics: politics, ethics, genetic testing, information privacy, synthetic biology

Required Reading list is posted on the Biology 4950G OWL website: <https://owl.uwo.ca/portal>

Preparation Strategy for Classes: Read and be prepared to ask and answer questions related to each required reading *prior* to each class. Copies of the required and background readings are available from the Biology 4950G OWL website.

Where to get HELP**Writing Support Centre – Student development Centre**

Home page: <http://sdc.uwo.ca/writing/>

Writing Support Centre Services available:

Writing Resources: Writing Support Handouts in Word and pdf format ready for download
http://www.sdc.uwo.ca/writing/undergrads/writing_resources.html

Online Writing Help: http://www.sdc.uwo.ca/writing/undergrads/online_writing_help.html

Weldon Drop-in Services: http://www.sdc.uwo.ca/writing/undergrads/dropin_services.html

One-to-one Appointments with a writing advisor:

<http://www.sdc.uwo.ca/writing/undergrads/appointments.html>

Online Writing Help:

http://www.sdc.uwo.ca/writing/undergrads/online_writing_help.html

Learning Objectives and Course Outcomes:

On successful completion of this course students will be able to:

- Ask open questions
- Participate in a debate
- Reflect, evaluate and critique talks, seminars and debates
- Deliver a formal seminar and TEDtalk
- Write a blog, news brief and letter to the editor
- Write a term paper
- Evaluate debates, seminars
- Participate in a journal club and describe and critique a primary research paper
- Write effectively
- Perform effective searches in reputable internet sources
- Use reference managing software [Zotero] for citing literature and preparing a reference list
- Work effectively in a team
- Join the conversation and identify ethical challenges presented by advances in human genetics/genomics research and its translation to the clinic and marketplace
- Identify the science, technology, stakeholders and issues in current bioethics challenges
- Understand, discuss and debate current topics in bioethics associated with genetic/genomic technologies

Contingency plan for in-person class pivoting to 100% online learning

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor.

4. Course Materials

There is no textbook for this course

Instead of a course textbook ‘**Required Readings**’ are used. These readings are recent published primary research articles. The “Required Readings” are posted to the OWL course site.

The course OWL site contains the following:

Course outline	Required readings
Schedule	Class Slides
Assignment Guidelines and Rubric	
Helpful resources	

Students should check OWL (<http://owl.uwo.ca>) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class. Students are responsible for checking OWL on a regular basis.

Technical Requirements

The technical requirements for the course include stable internet connection, computer with working microphone and webcam. Note the software is required for Zoom and Packback engagement with course material.

5. Methods of Evaluation

ASSIGNMENTS AND EVALUATION

For all assignments, the electronic copy is submitted online by the OWL course website deadline.

2% of the final course mark is deducted for each day the assignments are late.

Student Participation

It is expected that students have read the required readings prior to the lecture discussions and it is expected that all students attend all lectures and all tutorials. **Participation is evaluated indirectly and periodically throughout the course given the in class and in tutorial game show, polling and group assignment.**

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 using proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar). Plagiarism Checking: The University of Western Ontario uses software for plagiarism checking. Students may be required to submit their written work in electronic form for plagiarism checking. Academic Offences

“Scholastic offences are taken seriously and students are directed to read the policy at:

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

The following **penalties** will be enforced: If you do not hand in assignments on time: 1% of the course final mark is deducted per day until the assignment is handed in. **Each assignment has an associated day, date and time deadline/cut off for submission posted in OWL.**

EVALUATION

Student performance will be evaluated as follows:

Course Milestone	% of final grade
Participation	8% - accumulated over the term (combination of attendance, class engagement, professionalism, quality of evaluations, quality of questions, News Brief and discussion, comprehension of material demonstrated)
Packback	11% - over the semester
Debates	15% - in class (first 5% and second 10%)
Blog Report	5% - Jan/Feb
Letter to the Editor	10% - March 22
Seminar	31% - March
Term Paper	20% - April 5

In order to pass the course, you must deliver a seminar presentation to the class and submit a term paper.

Accommodated Evaluations

- Late assessments without self-reported absences (SRA) will be subject to a late penalty 2% of the course grade/day

- Late assessments with self-reported absences must be submitted within 24 hours of the end of the 48-hour period. Email notification of SRA must be received by the instructor. The SRA correctly submitted provides a 48-hour extension to the course set original deadline.
- An assessment cannot be submitted after it has been returned to the class. With approved academic accommodation weighting may be transferred to the final grade.

This table outlines the Western University-wide descriptors for grades.

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

6. Student Absences

Academic Consideration for Student Absences

Students who experience an extenuating circumstance (illness, injury or other extenuating circumstance) sufficiently significant to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

- Submitting a Self-Reported Absence (SRA) form provided that the conditions for submission are met. To be eligible for a Self-Reported Absence:
 - an absence must be no more than 48 hours
 - the assessments must be worth no more than 30% of the student's final grade
 - no more than two SRAs may be submitted during the Fall/Winter term
- For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner to the Academic Counselling office of their Faculty of Registration.
- Submitting appropriate documentation for non-medical absences to the Academic Counselling office in their Faculty of Registration.

Note that in all cases, students are required to contact their instructors within 24 hours of the end of the period covered, unless otherwise instructed in the course outline.

Students should also note that individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds, or for other reasons. **All documentation required for absences that are not covered by the Self-Reported Absence Policy must be submitted to the Academic Counselling office of a student's Home Faculty.**

Reported Absence Policy must be submitted to the Academic Counselling office of a student's Home Faculty.

For the policy on Academic Consideration for Student Absences – Undergraduate Students in First Entry Programs, see:

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

and for the Student Medical Certificate (SMC), see:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

Religious Accommodation

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at <https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>.

Absences from Final Examinations

If you miss the Final Exam, please contact the Academic Counselling office of your Faculty of Registration as soon as you are able to do so. They will assess your eligibility to write the Special Examination (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” (e.g., more than 2 exams in 23-hour period, more than 3 exams in a 47-hour period).

If a student fails to write a scheduled Special Examination, the date of the next Special Examination (if granted) normally will be the scheduled date for the final exam the next time this course is offered. The maximum course load for that term will be reduced by the credit of the course(s) for which the final examination has been deferred. See the Academic Calendar for details (under [Special Examinations](#)).

6. Accommodation and Accessibility

Accommodation Policies

Students with disabilities work with Accessible Education (formerly SSD), 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),

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or supporting documentation to the Academic Counselling Office of your home faculty as soon as possible. If you are a Science student, the Academic Counselling Office of the Faculty of Science can be contacted at scibmsac@uwo.ca.

For further information, please consult the university's medical illness policy at http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

Note that approval of accommodation for any course component worth 10% or more can *only* be made by the student's Dean's Office/Academic Counselling unit.

7. Academic Policies

The website for Registrarial Services is <http://www.registrar.uwo.ca>.

In accordance with policy, <http://www.uwo.ca/its/identity/activatenonstudent.html>, 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 his/her official university address is attended to in a timely manner.

No electronic devices are permitted for quizzes, tests and exams. Quizzes, tests and exams are closed book – access or possession of assistive materials is prohibited.

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>).

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.

Remote Proctoring Software may be used in this course in the event of health lock-down

Tests and examinations in this course will be conducted using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide **personal information** (including some biometric data) and the session will be **recorded**. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at:

<https://remoteproctoring.uwo.ca>

8. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling 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/> .

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 (519) 661-2147 if you have any questions regarding accommodations.

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/> .

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/mentalhealth>) 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> .

Packback Syllabus for 4950G

Packback Questions

Participation is a requirement for this course, and the **Packback Questions platform** will be used for online discussion about class topics. Packback Questions is an online community where you can be fearlessly curious and ask open-ended questions to build on top of what we are covering in class and relate topics to real-world applications.

Packback has a paid subscription. Refer to www.packback.co/product/pricing for more information. Note the pricing reductions if you are already a Packback user, perhaps through another course.

How to Get Help from the Packback Team:

If you have any questions or concerns about Packback throughout the semester, please read their FAQ at help.packback.co. If you need more help, contact their customer support team directly at help@packback.co.

For a brief introduction to Packback Questions and why we are using it in class, watch this video: <https://www.youtube.com/watch?v=OV7QmikrD68>

Packback Requirements:

Your participation on Packback will count toward **11%** of your overall course grade.

There will be a **Bi-weekly Friday 11:59 pm EST** deadline for submissions. In order to receive full credit, you should submit the following per each deadline period:

- **1 open-ended Question** every two weeks with a minimum Curiosity Score of 60, worth 33.33% of each assignment grade
- **2 Responses** every two weeks with a minimum Curiosity Score of 60, worth 66.67% of each assignment grade

How to Register on Packback:

An email invitation will be sent to you from help@packback.co prompting you to finish registration. If you don't receive an email (be sure to check your spam), you may register by following the instructions below:

1. Create an account by navigating to <https://questions.packback.ca> and clicking “Sign up for an Account”
Note: If you already have an account on Packback you can log in with your credentials.
2. Then enter our class community's lookup key into the “Looking to join a community you don't see here?” section in Packback at the bottom of the homepage.
Community Lookup Key: **16c48a96-f3a8-4857-8cd6-f968cf9889cf**
3. Follow the instructions on your screen to finish your registration.

Appendix – General online engagement etiquette**General Online Etiquette:**

Some components of this course will involve online interactions. To ensure the best experience for both you and your classmates, please honour the following rules of etiquette:

- “arrive” to class on time
- use your computer and/or laptop if possible (as opposed to a cell phone or tablet)
- ensure that you are in a private location to protect the confidentiality of discussions in the event that a class discussion deals with sensitive or personal material
- to minimize background noise, mute your microphone for the entire class until you are invited to speak, unless directed otherwise
- [suggested for classes larger than 30 students] In order to give us optimum bandwidth and web quality, turn off your video camera for the entire class unless you are invited to speak
- [suggested for cases where video is used] please be prepared to turn your video camera off at the instructor’s request if the internet connection becomes unstable
- unless invited by your instructor, do not share your screen in the meeting

The course instructor will act as moderator for the class and will deal with any questions from participants. To participate please consider the following:

- If you wish to speak, use the “raise hand” function and wait for the instructor to acknowledge you before beginning your comment or question.
- Please remember to unmute your microphone and turn on your video camera before speaking.
- Self-identify when speaking.
- Please remember to mute your mic and turn off your video camera after speaking (unless directed otherwise).

General considerations of “netiquette”:

- Keep in mind the different cultural and linguistic backgrounds of the members in the course.
- Be courteous toward all including the instructor, the teaching assistants, colleagues, fellow learners, guests, and authors whose work you are discussing.
- Be respectful of the diversity of viewpoints that you will encounter in the class and in your readings. The exchange of diverse ideas and opinions is part of the scholarly environment.

- Be professional and scholarly in all online postings. Use proper grammar and spelling. Cite the ideas of others appropriately.

Note that disruptive behaviour of any type during online classes, including inappropriate use of the chat function, is unacceptable. Students found guilty of Zoom-bombing a class or of other serious online offenses may be subject to disciplinary measures under the Code of Student Conduct.