

# Syllabus – Biology110

## General Course Information

Biology 110; Human Genetics and Evolution

Fall Semester; 2022 (Start date to End date)

Number of Credits: 3

Modality: online

Pre-requisites: None

## Instructor Information

Name: Dr. Tim Birt

Office address: Room 4433, Biosciences Complex

Office hours: Unpredictable since covid arrived. Best to arrange appointment through email.

Telephone number: 613 533-6000 Ext. 77530 (text messages not accepted)

Email: [tim.birt@queensu.ca](mailto:tim.birt@queensu.ca) (preferred method of contact). I usually respond to email messages within 24 hours.

About me: My professional interests are centered around genetic aspects of biodiversity, particularly the mechanisms by which populations diverge genetically and ultimately create new species. My goal for Biol110 is to make science in general (and genetics in particular) more accessible to learners whose principal interests lie outside of the scientific world. I hope that, by learning about the rudiments of genetics, students in the course will develop deeper appreciation of the wonders of the natural world.

## Teaching Assistant Information

Name: TBA

Office address:

Office hours:

Telephone number:

Email:

## Course Description

BIOL 110, **Human Genetics and Evolution**, introduces students to genetics and evolutionary processes as they relate to the human condition. The course is intended as an elective for

students from all academic disciplines with the exception of biology. No scientific background is required for enrolment. The goal is to provide non-biologists with a basic understanding of the relevance of genetics to many important issues in modern society. Topics considered include basic concepts of inheritance, cell biology, genetic diseases, medical issues, cloning, and genetic modification of organisms.

The course combines directed readings, independent investigation of topics of interest, and online discussion with peers and instructors. Participants will be expected to learn basic concepts through the readings and to engage at a deeper level with a topic of choice and produce an essay. In a series of online roundtables, students will interact with peers and contribute actively to discussions of assigned topics.

### **Important University Dates**

September 6: Classes begin

September 19: Last day to drop classes without financial penalty; Last day to add classes

September 30: National Day of Truth and Reconciliation; no afternoon classes

October 10: Thanksgiving; no classes

October 11 – 14: Fall midterm break

November 1: Last day to drop classes without academic penalty

November 11: Remembrance Day; No classes 10:30-11:30

December 5: Fall term classes end

December 8 – 22: Fall term exam period

### **Welcome Message**

Welcome to Biology110, Human Genetics and Evolution. Almost every day, stories in the news focus on genetic issues. Advancements in medicine, agricultural science, biological conservation, human biology, and many other subject areas frequently have strong genetic components. An appreciation of such advancements requires the informed citizen to have a basic understanding of the rudiments of genetics. The objective of this course is to help students develop that understanding, even students with little scientific background.

### **Equity, Diversity, and Inclusivity Statement**

Queen's University is committed to achieving equity in our institution. The following statement reflects that policy.

*Queen's is committed to counteracting discrimination in this institution and developing a climate of educational equity that recognizes and respects the equal dignity and worth of all who seek to participate in the life, work and mission of the University. Such a climate is created*

*and maintained by developing a university-wide commitment to and understanding of educational equity, supported by policies, programs, curricula, practices and traditions that facilitate individuals - and equity-seeking groups- free, safe, and full participation.*

### **Land Acknowledgement**

*To begin, let us acknowledge that Queen's is situated on traditional Anishinaabe and Haudenosaunee territory. We are grateful to be able to be live, learn and play on these lands. –*

### **Expectations**

The course material for Biol110 has been selected to provide an overview of the basic elements of genetics with many examples of real-world issues pertinent to modern society. Since the course is online, there will be less direct contact between the teaching team and students compared with courses delivered in person. Despite this reality, an important goal of the teaching team is to be accessible to learners in the class. The course is divided into 11 modules, each representing an important issue in genetics. The course instructor has recorded a series of lectures that are posted on the course website, one for each module. In addition, a brief written summary of each module is also posted. The instructor also conducts weekly live online question-and-answer sessions using Zoom. These voluntary sessions are a great opportunity for students to ask questions in real time about issues and concepts in the readings/lectures that may be unclear. Students are also urged to reach out to the teaching team through email if issues arise related to the course. The course instructor will do his best to resolve issues that arise and, is available to meet in person or virtually with students.

Throughout this course, there will be opportunities for you to interact with your teaching team and your classmates. A significant proportion of your final grade for the course will be derived from contributions to online discussions of specific genetics-related topics. In addition, many students will engage in private electronic and/or face-to-face communication with classmates. In all such interactions you are expected to behave with integrity at all times. See the netiquette and discussion guidelines below which I expect each of us to adhere to when interacting with one another whether in person or online.

### **Course Learning Outcomes**

As indicated in the Welcome Message above, the over-arching learning outcome for Biol110 is for students to develop a knowledge of genetic concepts sufficient to support an understanding of genetic issues that impinge on life in today's world. For example, on completion of the

course, students should be capable of engaging in informed discussion about topical issues such as the nature of cancers and the development of genetic-based therapies for various medical conditions. Additional general learning outcomes for the course include:

- identify and define basic concepts in genetics such as inheritance, gene, and chromosome
- appreciate the relevance of genetics to important societal issues such as stem cell research, longevity research, genetic testing, cancer, and other genetic diseases
- appreciate how genetic concepts apply at the level of the individual and the level of populations
- apply genetic concepts in the understanding of human evolution
- distinguish between “older-school” research approaches and more cutting-edge approaches
- evaluate how life might be affected by new technologies in the Genomics Age.

Each module in the course has a set of specific learning outcomes associated with the material presented in the module. These learning outcomes can be viewed in the course website by clicking the “Modules” button the homepage banner.

### **Course Materials**

The following material is available from the [Queen's Campus Bookstore](#):

**Human Genetics, Concepts and Applications (Ricki Lewis, 12<sup>th</sup> edition, McGraw-Hill)**

### **Course Timeline**

TBA

### **Suggested Time Commitment**

In this course, you should expect to invest on average 8 to 10 hours per week. This will include the time you spend doing readings, assignments, and other course activities. You are encouraged to use a term at a glance and a weekly study schedule (visit [SASS](#)) that distributes the 8-10 hours per week and avoid ‘cramming’. This way you will be more likely to complete the course successfully and remember what you learned longer.

### **Timing of Final Examinations**

The exam dates for each Term are listed on the Faculty of Arts and Science webpage under [Important Dates](#). Student exam schedules for the Fall Term are posted via SOLUS immediately prior to the Thanksgiving holiday; they are posted on the Friday before Reading Week for the Winter Term and for the summer term, they are individually noted on the Arts and Science Online syllabi. **Students should delay finalizing any travel plans until after the examination schedule has been posted. Exams will not be moved or deferred to accommodate employment, travel/holiday plans or flight reservations.**

### **Assessment**

<b>Component</b>	<b>Weight</b>
Paper proposal	5%
Quizzes x3	15%
Discussions Forums x2	20%
Final Paper	25%
Final Exam	35%

### **Paper Proposal**

The Paper Proposal is the first step to writing your final essay in the course. The purpose of this assessment is for you to provide a detailed overview of how you intend to carry out your proposed essay so you can receive feedback from the teaching team and act upon it in your final essay. The Proposal should be based on some initial literature review and a clear statement about the topic of your essay and how you plan to support your main claim.

### **Quizzes**

Multiple choice online quizzes are designed to help you practice concepts learned in the course. The quizzes contain questions that are based on both the video tutorials and the relevant course readings. Make sure you are aware of the times when the quizzes are open and the timeframe you have to take the quiz.

### **Discussion Forums**

The forum discussions provide you the opportunity to collaborate and learn from your peers. The forum discussions will take place in a small group settings. You will be placed into a group of approximately five students and will be provided a topic to explore and discuss with your peers. You are expected to engage in dialogue and exchange of ideas. You will be asked to respond to your peers' posts in a way that contributes to the overall discussion. We believe that your engagement in the forum discussion will contribute to your own understanding of the material so we encourage you to participate actively and contribute as much as you can.

### **Final Paper**

The final paper assignment provides you with the opportunity for in-depth investigation of a topic related to the course. Your topic will be selected from a list provided by the course instructor or a self-selected topic that has been approved by the instructor. Your paper will be submitted using Turnitin (Please read the Turnitin Statement below).

### **Grading Scheme and Grading Method**

*All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen's Official Grade Conversion Scale:*

#### ***Queen's Official Grade Conversion Scale***

<b>Grade</b>	<b>Numerical Course Average (Range)</b>
--------------	---

A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below

### **Questions about the Course and Contacting the Teaching Team**

Throughout this course, you may come upon some general questions about the course and any assignments. If you think that your question may benefit other students, you are invited to post your question in the Course Questions discussion forum. Feel free to help answer your peers' questions on this forum. The teaching team will monitor this discussion forum and answer questions. Most questions are answered within 24 hours. Any other questions that you would prefer to share privately, please contact me or your TA at one of the emails listed at the top of this syllabus.

### **Course Announcements**

Throughout the course, I will routinely post course news in the Announcements section of the course homepage. I encourage you to actively check the course onQ main page for course announcements throughout the semester for reminders and additional course information or learning opportunities.

### **Course Feedback**

During the course, you may be asked to provide feedback in a variety of ways, such as surveys, questionnaires, and exit tickets. This feedback enables the teaching team to make adjustments to improve your learning environment. All surveys are anonymous and are directly related to activities, assessments, and other course material.

### **Accommodations for Disabilities**

Queen's University is committed to achieving full accessibility for people with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all their academic activities. The Senate Policy for Accommodations for Students with Disabilities was approved at [Senate in November 2016](#). If you are a student with a disability and think you may need academic accommodations, you are strongly encouraged to contact the **Queen's Student Accessibility Services (QSAS)** and register as early as possible. For more information, including important deadlines, please visit the [QSAS website](#).

### **Academic Consideration for Students in Extenuating Circumstances**

Academic consideration is a process for the university community to provide a compassionate response to assist students experiencing unforeseen, short-term extenuating circumstances that may impact or impede a student's ability to complete their academics. This may include but is not limited to:

- Short-term physical or mental health issues (e.g., stomach flu, pneumonia, COVID diagnosis, vaccination, etc.)
- Responses to traumatic events (e.g., Death of a loved one, divorce, sexual assault, social injustice, etc.)
- Requirements by law or public health authorities (e.g., court date, isolation due to COVID exposure, etc.)

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances. For more information, please see the [Senate Policy on Academic Consideration for Students in Extenuating Circumstances](#).

Each Faculty has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances. Arts and Science undergraduate students can find the Faculty of Arts and Science protocol and the [portal where a request can be submitted](#). Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

For guidance on **submitting requests**, please see refer to the Resource Guides available on the [Academic Consideration website](#) under "Applying for Academic Consideration."

**N.B:** The COVID-19 pandemic is an evolving situation. If you have symptoms or are deemed a close contact of someone with COVID, please access our **COVID-Related Absence Reference Guide** on the [Academic Consideration website](#). This guide will provide you with information on applying for consideration, the types of documentation (including non-medical documentation) you can use to support your request, as well as insight into how the Faculty office will assess these requests.

If you need to request academic consideration for this course, you will be required to provide the following name and email address to ensure it reaches our team accordingly:

Instructor/Course Coordinator Name:

Instructor/Course Coordinator email address:

Students are encouraged to submit requests as soon as the need becomes apparent and to contact their Professors/Course Coordinators as soon as possible once Consideration has been verified. Any delay in contact may limit the Consideration options available.

**Please follow up with the course instructor using email within 2 days of receiving verification of your Consideration request.**

For more information on the Academic Consideration process, what is and is not an extenuating circumstance, and to submit an Academic Consideration request, [please see our website](#).

### **Academic Integrity**

Queen's students, faculty, administrators and staff all have responsibilities for upholding the fundamental values of academic integrity: [honesty, trust, fairness, respect, responsibility and courage](#). These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the [Senate Report on Principles and Priorities](#)).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and their behaviour conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science

Calendar (see [Academic Regulation 1](#)), on the [Arts and Science website](#), and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university. **Students are strongly encouraged to contact the teaching team if you are uncertain about issues relating to academic integrity.**

### **Copyright of Course Materials**

Unless otherwise stated, the material on the course website is copyrighted and is for the sole use of students registered in Biol110. The material on the website may be downloaded for a registered student's personal use but shall not be distributed or disseminated to anyone other than students registered in this course.

### **Notice of Recording**

Live Question/Answer sessions are conducted in this course through a video conferencing platform supported by the University (Zoom). The University has taken steps to configure these platforms in a secure manner. Sessions will be recorded with video and audio (and possibly transcription) and will be made available to students in the course for the duration of the term. The recordings may capture your name, image or voice through the video and audio recordings. By attending these live classes, you are consenting to the collection of this information for the purposes of administering the class and associated coursework. If you are concerned about the collection of your name and other personal information in the class, please contact the course instructor to identify possible alternatives. To learn more about how your personal information is collected, used and disclosed by Queen's University, please see the [Notice of Collection, Use and Disclosure of Personal Information](#).

### **Computer Requirements**

Please note that mobile devices are not recommended for the course as they cause several known issues in onQ.

### ***Computer Specifications***

- Windows 8.1 or newer
- OS X 10.13 (High Sierra) or newer
- Dual Core 2 GHz processor

- 4 GB RAM
- Soundcard
- USB headset
- Webcam

### ***Supported Browsers***

- Chrome (preferred - latest version)
- Firefox (latest version)
- ***Safari is not recommended as it causes several known issues in onQ***
- ***Edge is not recommended as it causes several known issues in onQ***

### ***Internet Connection***

- Wired high speed access: Cable or better
- ***Wifi is not recommended***

### ***Java***

- Latest version

### ***Media Player***

- HTML5 compatible

### ***Adobe Reader***

- Latest Version

## **Students Studying or Travelling Abroad**

If you plan to travel, we strongly recommend that you confirm Internet availability in your host country prior to departure. In the past, students in other countries have been blocked from accessing certain websites relevant to their courses, as well as onQ. It is the responsibility of all students to book travel around course work, as we cannot change the format or timing on assessments or assignments as a result of travel plans.

## **Turnitin Statement**

This course uses Turnitin, a third-party application that helps maintain standards of excellence in academic integrity. Normally, students will be required to submit their course assignments

through onQ to Turnitin. In doing so, students' work will be included as source documents in the Turnitin reference database, where they will be used solely to detect plagiarism.

Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. Turnitin compares submitted files against its extensive database of content and produces a similarity report and a similarity score for each assignment. A similarity score is the percentage of a document that is similar to content held within the database. Turnitin does not determine if an instance of plagiarism has occurred. Instead, it gives instructors the information they need to select the authenticity of work as a part of a larger process.

Please read [Turnitin's Privacy Pledge, Privacy Policy, and Terms of Service](#), which govern users' relationship with Turnitin. Also, please note that Turnitin uses cookies and other tracking technologies; however, in its service contract with Queen's, Turnitin has agreed that neither Turnitin nor its third-party partners will use data collected through cookies or other tracking technologies for marketing or advertising purposes. For further information about how you can exercise control over cookies, see [Turnitin's Privacy Policy](#)

Turnitin may provide other services that are not connected to the purpose for which Queen's University has engaged Turnitin. Your independent use of Turnitin's other services is subject solely to Turnitin's Terms of Service and Privacy Policy, and Queen's University has no liability for any independent interaction you choose to have with Turnitin.

### **Remote Proctoring Statement**

Selected assessments in this course may use remote proctoring provided by Examity, which is a third-party, cloud-based service that enables the completion of a proctored exam or test from an off-campus location, through onQ. This cloud-based proctoring solution was chosen as part of the approach to maintaining academic integrity when remote proctoring is required. Precise details about how remote proctoring will be used in this course will be provided by the instructor.

Queen's has conducted an extensive privacy and security review of Examity and has entered into a binding agreement with terms that address the appropriate collection, use and disclosure of personal information in accordance with Ontario's privacy legislation. You should also take measures yourself to protect your information by keeping your NetID password and challenge questions private, closing all applications prior to starting an exam/test, and ensuring your device is updated and safeguarded against malware. For more information about remote

proctoring, please see <http://www.queensu.ca/registrar/students/examinations/exams-office-services/remote-proctoring>

