

Syllabus BIOL103

General Course Information

BIOL 103: Fundamentals of Biology: Organisms to Ecosystems

Winter 2023 (Jan to Apr 2023)

3.0 CR

Blended

Pre-requisites: none

See Solus for lecture times

Instructor Information

Coordinator and Professor: Christopher Moyes (he/him, Prof Moyes). I am an animal physiologist in the Department of Biology. My main interests are in studying how animals regulate their genes and cellular machinery to ensure that metabolism provides enough energy to meet biological demands. My teaching spans cell biology, biochemistry, genetics and animal physiology. Whether in research or teaching, the goal is to explain the mechanisms that are responsible for complex properties, particularly differences between tissues and species.

Professor: Christopher Eckert (he/him, Prof Eckert) I'm an evolutionary ecologist in the Department of Biology. My students and I investigate the process of adaptation and are particularly interested in the factors that limit adaptation. Limits to adaptation are clearly manifested in the fact that all species have limits to their geographic distributions, and understanding these limits will help us anticipate how species fare during rapid global change caused by humans. We have a particular fondness for plants as study organisms and are fascinated by the diverse way in which they reproduce. In addition to first year biology, I also teach quantitative skills and ecological field courses in eastern Ontario and the deserts of southwestern North America.

Program Associate: Baharul Choudhury (he/him, Dr Choudhury) I am an instructor in the Department of Biology. I worked in the areas of ecology, evolution, and population genetics using field studies as well as molecular approaches. I conducted extensive fieldwork in the Eastern Himalayan region to study the regeneration ecology of rare/endangered tree species. I also investigated the genetic diversity of traditional rice varieties and the evolution of sex chromosomes in the plant genus *Rumex* during my Ph.D. and postdoctoral research. I am currently engaged in full-time teaching assignments only.

Student hours: There are no specific office hours at this point.

Contact: Reach us by email at BIOL103@queensu.ca

Teaching Assistant Information: will be posted on the course website.

Important University Dates

Visit <https://www.queensu.ca/artsci/important-dates> for an up to date list of important dates.

At present, these are the dates available to us.

- Thursday September 1, 2022 **Fall Term begins**
- Monday September 5, 2022 **Labour Day** (no class)
- Tuesday September 6, 2022 **Fall term classes begin**
- Monday September 19, 2022 **Last date to drop Fall Term classes without financial penalty**
- Monday September 19, 2022 **Last date to add Fall Term classes**
- Monday October 11, 2022 to Friday October 14, 2022 **Fall mid-term break**
- Tuesday November 1, 2022 **Last date to drop Fall Term classes without academic penalty**
- Monday November 7, 2022 **Last date to apply for accommodation for an official examination conflict for the December examination session.**
- Monday December 5, 2022 **Fall term classes end**
- Tuesday December 6, 2022 to Thursday December 8, 2022 **Fall Term study period**
- Thursday December 8, 2022 to Thursday December 22, 2022 **Fall Term examinations**

Welcome Message

Welcome to the course. On behalf of the teaching team, we are very happy to be back in person and look forward welcoming students back to the classroom.

Equity, Diversity, and Inclusivity Statement

Queen's University recognizes that the values of equity and diversity are vital to and in harmony with its educational mission and standards of excellence. It acknowledges that direct, indirect and systemic discrimination exists within our institutional structures, policies and practices and in our community. These take many forms and work to differentially advantage and disadvantage persons across social identities such as race, ethnicity, disability, gender identity, sexual orientation, faith and socioeconomic status, among other examples.

Land Acknowledgement

We 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. – [Four Directions Indigenous Student Centre, Queen's University](#)

Expectations

Throughout this course, there will be opportunities for you to interact with your instructor and your classmates. It may not seem like it, but I am thrilled when students want to engage me on

the material, and happy to have students drop in to my office to chat about the course or their academic interests. My hope is that students are willing to put in the effort necessary to learn the material and see the opportunities in applying what they have learned to novel scenarios.

Students will interact with their peers and have opportunities to learn from their colleagues during learning activities that include collaborative quizzes. You are expected to behave with integrity and respect at all times both in face-to-face interactions and when engaging with each other online. 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.

The nature of the support in the course depends on the problems students encounter. There are OnQ Discussion forums to post most questions about how the course runs as well as general questions about the material. We emphasize these forums so that the whole community can learn together. If the nature of the problem is unique or personal, reach out to Dr Moyes via email to discuss the next steps.

Course Learning Outcomes

On successful completion of this course, you should be able to:

1. Identify the roles of the major physiological systems in diverse animals and how they are regulated through electrical and chemical signals to achieve change or maintain homeostasis
2. Describe the structure and function of nerves and muscles and explain how they contribute to physiological and behavioural processes.
3. Apply knowledge of tissue and organ system functioning and integration to diagnose or predict common diseases and organismal dysfunctions.
4. Discuss the mechanisms by which evolution shapes biological diversity, citing examples from the history of life captured in the fossil record, in extant diversity, or through direct observation of evolution in action.
5. Compare the nature of interactions between organisms at the level of the population, the community and the ecosystem.
6. Describe the main cycles governing the flow of nutrients and energy through communities and ecosystems and recognize the importance of ecological interactions and biodiversity in building a sustainable future.

Course Materials

Course Text: Campbell Biology, Canadian 3rd Edition by Urey, Cain et. al., 2020, published by Pearson. See bookstore for specific details on the different purchase options. Dates and details

of readings will be posted on the course website in OnQ.

The Core Content of the course will be available via recorded lectures, with slides and transcripts available. These are provided to save students the trouble of writing down what is said in the lecture and to minimize confusion about specifics. However, the notes should be treated as a starting point for you to collate and reorganize in ways that support your learning. Students often augment scripts with their own notes, adding in comments, hyperlinks, definitions, etc-anything that helps you flesh out the story.

Live lectures will be supported by slides posted in advance. These lectures are not recorded but are examinable. The point of this approach is to promote your ability to listen and distill lectures into the important ideas.

There are weekly group learning sessions run the continuum from laboratory to group learning. Weekly pre-lab individual activities are online followed by small group work completed entirely within the group session. Most of the material you need is provided via OnQ- there is no “lab book”.

Course Timeline

The specific events in the course are available on the course homepage, but an abbreviated version is below.

- Weeks 1-3 Evolution and Origins of Life
- Weeks 4-6 Physiological Principles
- Weeks 7-9 Homeostasis and Physiological Systems
- Weeks 10-12 Behaviour, Ecology and Conservation Biology

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 in class, studying course material, and completing weekly homework or preparing for your larger assignments and exams. 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

8% Dynamic Study Modules (4 x 2 marks).

16% Collaborative Quizzes (4 x 4 marks)

16% OnQ Content Quizzes (4 x 4 marks)

34% Group Sessions

26% Final Exam

Essential requirements and flexibility to succeed

For the lecture activities,

- There is no flexibility in the due dates for the DSMs. You must complete all questions to be considered to have completed the activity. These are open from the first day of classes and thus there are no extensions. Access to Mastering Biology for Campbell Biology is required to complete the DSMs.
- The Content Quizzes are due Thursdays, with no penalty if they are completed before Sunday. This policy is to reduce the need for requests from students who experience a short-term extenuating circumstance before the due date, with an additional 72h built in.
- The Collaborative Quizzes are completed in class, where you work with peers to get to the final answers. The interaction is critical to the success and thus there are no options for a different setting or time-based accommodations.

Long-term requests will be handled on a case-by-case basis if needed.

For the group learning activities,

- Tutorials include a series of individual and group activities that are hybrids between tutorial and lab. The pre-tutorial activities are completed individually before lab for group activities that are designed around the overarching tutorial learning objectives.
- Individual Activities are due on the Thursday preceding group work (11:59 PM). However, we offer a 72 h grace period and permit you to complete the activities as late as Sunday (11:59 PM) without penalty.
- Group Activities run in class in your tutorial sections. The reports are all Group Reports and must be handed in by the end of the class to be considered on time. More specific information for policies associated with Extenuating Circumstances that prevent you from participating in tutorial activity will be available in the Syllabus.

Grading Scheme and Grading Method

When letter grades are employed, the following scale will be employed for purposes of calculating your course average:

Assignment mark	Numerical value for calculation of final mark	Assignment mark	Numerical value for calculation of final mark
A+	93	C	65
A	87	C-	62
A-	82	D+	58
B+	78	D	55
B	75	D-	52
B-	72	F48 (F+)	48
C+	68	F24 (F)	24
		F0 (0)	0

Your course average will then be converted to a final letter grade according to Queen's Official Grade Conversion Scale:

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

Questions about the Course and Contacting the Teaching Team

Prior to the course, contact the Teaching Team with any questions via the course email: BIOL103@queensu.ca.

During the course, post your content and logistical questions to the appropriate Help forum, where everyone can benefit from the exchanges. Requests that are confidential or urgent should be sent to BIOL103@queensu.ca.

Course Announcements

Any changes to the course or any other form of announcements are made via the course homepage. Students in the course are encouraged to sign up to automatically receive a notice that an new announcement has been posted.

Course Feedback

At various points during the course, we may ask you to take part in a variety of feedback activities, such as surveys, questionnaires, and exit tickets. This feedback enables the teaching team to make any adjustments necessary to improve your learning environment. Additional feedback will be sought throughout the course. 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: **Prof. Chris Moyes**

Instructor/Course Coordinator email address: **BIOL103@queensu.ca**

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 via email within 3 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

Many of the activities in the course are designed around peer-based learning. We create these activities to help you engage each other in a collaborative setting. With other activities, you are expected to demonstrate your individual mastery of the material, and because of this, you are expected to complete the work on your own.

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and conduct conform to the principles of academic integrity. Information is available in the Arts and Science Calendar¹ (see on the Arts

¹ <http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations>,

and Science website², and at Biology's website³. 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 regulations 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.

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 BIOL103. 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.

Technology Requirements

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](#)

² <http://www.queensu.ca/artsci/academics/undergraduate/academic-integrity>

³ <http://www.queensu.ca/biology/undergrad/integrity.html>

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Remote Proctoring Statement

At this point, there are no plans to use remote proctoring routinely in the course. But if circumstances change, then select 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>