

BIOL4AE3 Ecology and Evolution of Organisms Winter 2021 Course Online

Course Details

Instructor: C.D. Rollo, [rollocd@mcmaster.ca], LSB 226, Phone 23553

Office hours: By online appointment or e-mail anytime.

Teaching Assistant: TBA

Lectures: Mon/Wed: 2:30 – 3:20 pm; Fri: 4:30 – 5:20 pm in HH 217

One of the three slots will be used for aspects relevant to the tutorial or testing. Two will be used to provide live or previously recorded lectures. WORD PDFs and associated PowerPoint files for lectures will also be provided on Avenue. All lecture recordings will be posted on Avenue to Learn.

Tutorial: Assigned Readings will consist of a set of scientific papers that will be uploaded to Avenue and that you can read on your own time and that can be discussed online. Questions specific to these papers will be included on the midterm and final examinations.

Grading (dates to be determined)

Courseware (Tutorial Readings) Quiz 15% (February)

Midterm 35% (March)

Final Examination 50%

There is a 5% **bonus** participation grade for contributions to an electronic interest forum on Avenue. This forum may be used to discuss questions associated with the lectures, and courseware articles, but also anything at all of interest to the ecology and evolution of organisms (news, things you found on line, journal articles you found relevant – whatever you found interesting). My experience is that interest drives learning and that it is also contagious. Your TA and I will monitor the forum.

Statement from the University: This course **MAY** use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

Course Description

The evolution of organismal form and function from a perspective of the ecological niche. Convergent and co-evolutionary aspects as shaped by environmental and biological factors. Material will include selected readings.

Two lectures, tutorial, one term

Prerequisite(s): [BIOLOGY 2F03](#) (or [ISCI 2A18 A/B](#)) and registration in Level III or above of an Honours Biology program

Course Description and Learning Objectives

Major divisions of ecology examine various levels of organization (e.g., ecosystems, communities, and populations). Ultimately, however, ecology comes down to the design and function of single organisms in their niche. This is the world of specialized morphology and development, phenotypic plasticity, life history evolution, sexual selection and reproduction, physiological ecology, stress responses, foraging, feeding and defensive adaptations, as well as heat and water balance, chemical ecology and behaviour. Questions can be as diverse as the niches that select and shape the extremes of organismal design (Can insects be warm blooded? How did flight evolve? Can plants communicate? Symbiosis, Why do we age? Why do most species reproduce sexually?). It is becoming increasingly clear that understanding ecology at higher levels (e.g., populations, communities) requires understanding of the specific form and function of the organisms comprising these systems. Moreover, it is the organismal level where natural selection ultimately acts. Evolution reflects the changes in organisms across time as determined by ecological success.

Clearly, these topics cannot all be covered in one term. I will present a number of topics unified by themes of the niche-organism interface and principles of organismal form and function (Tradeoffs and the Principle of Allocation, the role of RISK). Special interests *may* be accommodated if suggested early enough.

Course Materials

Scientific Papers will be uploaded to Avenue associated with the tutorial.
Lecture notes and Powerpoints will be available

Course Evaluation

Courseware Quiz 15%

Midterm: 35% **based on lectures and tutorial papers** provided prior to the examination date (to be determined)

Final Examination: 50%: Covers the entire course content and all tutorial readings

Forum bonus: 5% based on participation and submissions to the online forum

Exam questions are largely multiple choice or fill in the blank.

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Academic Integrity

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. **It is your responsibility to understand what constitutes academic dishonesty.**

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. For information on the various types of academic dishonesty please refer to the [Academic Integrity Policy](https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/), located at <https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/>

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

Students who have access to authorized recorded lectures in a course may use these recordings only for personal or group study and should not reproduce, share or upload the recording to any publicly accessible web environment. Similarly, notes, slides, evaluations and tests are for personal use and should not be shared with others outside of a course.

Additional information: [McMaster University Policies and Guidelines for Students](https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/)

Authenticity/Plagiarism Detection

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. Avenue to Learn, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software. **All submitted work is subject to normal verification that standards of academic integrity have been upheld** (e.g., on-line search, other software, etc.). For more details about McMaster's use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

Courses with an On-line Element

Some courses may use on-line elements (e.g. e-mail, Avenue to Learn, LearnLink, web pages, capa, Moodle, Echo360, Microsoft Teams, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

Online Proctoring

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

Conduct Expectations

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the [Code of Student Rights & Responsibilities](#) (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online**.

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx, Echo360, Microsoft Teams or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

Academic Accommodation of Students with Disabilities

Students with disabilities who require academic accommodation must contact [Student Accessibility Services](#) (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University's [Academic Accommodation of Students with Disabilities](#) policy.

Requests for Relief for Missed Academic Term Work

McMaster Student Absence Form (MSAF): In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work". In this course however, you do not need MSAF report. If you miss work for whatever reason, we will calculate your mark based on the work done as long as it constitutes a minimum of 75% of expected activities.

View the [McMaster Student Absence Form \(MSAF\)](#) for more information.

Academic Accommodation for Religious, Indigenous or Spiritual Observances (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the [RISO](#) policy. Students should submit their request to their Faculty Office **normally within 10 working days** of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

Copyright and Recording

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

Extreme Circumstances

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, Avenue to Learn and/or McMaster email.