BIO 4AA3
Conservation Biology
Winter 2021 Course Outline

Course Details

Instructor: Dr Jim Quinn, Professor, LSB 435, Biology Department, McMaster University
Email: quinn@mcmaster.ca, ext 23194

Office hours: TBD

Teaching Assistants: TBD

Lectures: Tuesdays: 4:30 – 5:20 pm in ABB 162 and Thursdays: 3:30 – 4:20 pm in ABB 162

Labs: Mondays: 2:30 – 5:20 pm in HH 102

Tutorials: Tuesdays: 1:30 – 2:20 pm in ABB 270

Course Description

- Examination of how biological principles, mainly from population biology and genetics can be applied to conserving diversity in the natural world.
- Two lectures, one tutorial, one lab (three hours); one term
- If virtual instruction is necessary: Lectures will be synchronous/live. Labs will sometimes be asynchronous/pre-recorded and sometimes synchronous/live. Tutorial sessions (rarely used) will be synchronous/live.
- Group-specific progress meetings to develop seminars will not be recorded.
- All class meetings will be recorded and posted with closed captions.
- If you do not wish to be seen during live elements, please turn your camera off.

Prerequisites: BIOLOGY 2C03 or MOLBIOL 2C03; and one of BIOLOGY 3DD3, 3FF3 or 3SS3; and registration in Level III or above of any Honours program

Lectures will examine a subset of conservation topics to illustrate how various approaches can be applied to conserving diversity in the natural world. Students are responsible for all content discussed or assigned in readings and lectures (regular or guest). Attendance on all field trips and all labs, virtual or otherwise, is mandatory.

Laboratory sessions will include some field trips (virtual if necessary), presentations by visitors or the instructor, and student presentations. Content covered in laboratory sessions will be included in the examination.

The final exam will consist of short-answer conceptual questions that test student understanding of course material.

Group seminars will benefit from two 45-minute progress meetings during which individual groups will discuss with the instructor and TA their progress. We will then provide feedback and discuss how to build towards an excellent presentation. The presentation will occur late in the semester and will be about 30 minutes long with 15 minutes left for questions and answers.

Individual final papers will synthesize information from political and scientific publications related to conservation biology. If possible, topics that have divergent or controversial positions, results, or perspectives are encouraged whenever possible. The course paper should (1) provide pertinent background information, (2) summarize different sides of any controversial issues or alternative hypotheses, and (3) develop a synthesis of the topic presented. Papers should attempt to provide a **novel synthesis of a topic** and in some cases **teach or present a topic from a unique perspective**. The final paper is due on the last day of classes.

Course Learning Objectives

- To explore and learn the theory and practice of conservation biology and biodiversity
- To develop an ability to interpret primary scientific literature
- To effectively communicate information on topics in conservation biology in presentations and writing.
- To gain familiarity with practical aspects of conservation projects.

By the end of the course students will be able to investigate conservation and biodiversity issues from biological, social, and political perspectives.

Course Schedule

The following was the schedule for Biology 4AA3 in 2020 (winter). Recognize that this may change considerably if digital presentation is required. Please note that from March 16 onwards, all elements were completed on line with pre-recorded lectures and field trips.

Week of:	Lecture topics	Lab
Jan 6	Con Bio, Biodiversity/Hotspots	Course introduction
Jan 13	Biodiversity	Topic Pitches
Jan 20	Global Patterns and Threats to Biodiversity/Population Growth	Presentation group selections and planning
Jan 27	Human populations – the problem. (growth and consumption)	Local fish Conservation Spencer's (Colin Oaks) and Ancaster Creek / In Lab discussion (time permitting)
Feb 3	Tues: Local Habitat Restoration (Jennifer Bowman, Royal Botanical Gardens) Wed.: *New Zealand Conservation (Blaine Landsborough)	Conservation Genetics I / Hamilton Harbour Habitat creation (Quinn) Seminar tips.
Feb 10	1st Progress Report Meetings	1st Progress Report Meetings
Saturday Feb 15	*Saturday Toronto Zoo Trip	Behind the Scenes tour (Bus provided, but there is a cost for entry)
Feb 17	Study week	Study week
Feb 24	Conservation genetics II	Possible catch-up outing to Lot M; Scientific writing
March 2	2nd Progress Report meeting	2nd Progress report Meetings.
March 9	Student Presentations in lecture slots	Student presentations.

	and tutorial (Wednesday 3:30, ABB 166)	
March 16	Protection of local habitats (Dr. Lynda Lukasik). Habitat loss and fragmentation	Hands on lab
March 23	Habitat, Corridors, and Reserves (Dr. David Galbraith March 24) Monkeys and frogs: genetics and where to locate reserves (Dr. Ben Evans)	Environmental Economics (Dr. Atif Kubursi); Climate action (Mr. Don McLean)
March 30	Federal species protection (Dr. Marten Koops March 31) Population declines and risk of extinction.	Hamilton Harbour field trip
April 6	Course Wrap up	Field trip to pipeline in Beverly Swamp/Tour of Braden house

IMPORTANT NOTE

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If any modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes. Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, Avenue to Learn and/or McMaster email.

Course Materials

- There are no required textbooks or course packs
- Assigned readings or URLs will be posted on Avenue as announcements
- If an optional trip to the Toronto Metro Zoo is allowed, there will be a charge of approximately $25.00 per students for entrance to the zoo and to cover a lecture and behind the scenes tours.

Course Evaluation

Evaluations (subject to adjustment as necessary)

Grades per component:

- Topic Pitch 5
- Seminar Progress I&II 10
- Newspaper article* 10
- Personal action 5
- Group Presentation 20
- Individual contribution to group 10
- Class Participation 10
- Final Paper** 15
- Final Exam 15

Bonus of 2.5% if the letter is published.

** **Bonus of up to 2.5% for exchanging and editing final papers.**

Work will be submitted to an Avenue to Learn drop box or as an attachment by e-mail.

Late work will receive a 10% reduction per day.

Specifics about assessments are covered in the course syllabus. Seminar progress and group presentations are group based. Other elements are individual based.

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*, 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.

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".

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