

## Biology 3E13 Ecological Indicators Winter 2021 Course Outline

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### Course Details

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**Instructor:** Dr. Pat Chow-Fraser, [chowfras@mcmaster.ca](mailto:chowfras@mcmaster.ca)

**Course Coordinator:** Mihaela Georgescu, [mgeorg@mcmaster.ca](mailto:mgeorg@mcmaster.ca)

**Lab/TA's:** Name(s) TBD

**Appointments:** Please send an email directly to Dr. Chow-Fraser or your TA for one-on-one appointments.

**Lectures:** Thursdays 10:30-12:20 , Location To Be Determined

**Lab Modules:** Tuesdays 14:30-17:20 in BSB 121 or LSB 107

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### Course Description

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Students learn how to assess the health of Great Lakes ecosystems, including wetlands, woodlots, and streams using established ecological indicators.

One 2-h lectures, one lab (three hours); one term

**Prerequisite (s):** BIOLOGY 2F03 or ISCI 2A18

**Class and lab format:**

All class presentations during scheduled lectures are posted on Avenue prior to the start of in-person classes. Labs will take place weekly in either BSB 121 or in LSB 107 and student attendance is mandatory. Lab instructions and materials required for exercises will be posted on Avenue prior to the beginning of each lab.

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### Course Objectives

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By the end of this course students will be able to:

- Understand the derivation and use of a variety of ecological indicators used commonly in freshwater ecosystems
- Know how to use these indicators to assess the health status of lakes, wetlands and streams
- Know how to use QGIS to measure basic morphometric indices and to determine the effects of land uses on downstream water quality
- Know how to conduct basic statistical tests and interpret results for scientific presentations
- Apply what they have learned to a novel site (lake, wetland or stream), assess the health status of the ecosystem and make a formal presentation of their findings to the class

Please note that the topics for the course is tentative and may change to accommodate cancellations of classes or labs due to inclement weather and/or other unanticipated events. Students will be notified on Avenue if any portion of the grade assessment is affected by such unplanned disruptions and how the new marking scheme will be altered.

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## Course Schedule

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To be posted

### **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.*

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## Course Materials

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Although there is no required textbook for this course, students are required to use QGIS software (free open online software), Kritik software (available at \$20 for the term) and SAS JMP software (1-month trial; \$40 for 6-month license). Students must also download slide presentations and other written or audio-visual resources from Avenue for each class or lab.

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## Course Evaluation

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There will be 1 midterm exam (25 marks) and a lab practical exam (15 marks) on dates to be determined. There is no final exam.

Lab assignments, quizzes and peer evaluation	35.0%
Midterm Exam	25.0%
Final Project Presentation includes 5% for peer evaluations	25.0%
Final Lab Practical Exam	15.0%
Total	100.0%

### **Specific accommodation for missed components listed above**

#### **General policy:**

- Students in this course are required to attend all weekly labs. The due date for assignments will be specified in class presentations and the course outline. Extensions for any assignment or activity may be given and will be posted on Avenue. **Even if a student does not attend a particular lab, the assignments associated with labs must be completed and submitted by the due date associated**

**with the lab.** Late penalties will be assessed as follows: minus 10% within 24 h, minus 25% within 48 h. After 48 h, the assignment will receive a grade of zero.

- Students who miss a scheduled lab must submit an McMaster Student Absence Form (MSAF; see below) to the Course Professor via email. There is no replacement lab. Students must arrange to with the Professor or TA to catch up on what has been missed. With a valid MSAF, marks for missed in-lab quizzes will be put towards the mid-term exam (if the missed component occurs prior to the mid-term) or to the lab practical exam (if the missed component occurs after the mid-term).
- NOTE: A unique Dropbox is created for each assignment. It is the responsibility of all students to know the correct Dropbox for each assignment. If students have questions, they should ask the Professor or Teaching Assistant. Assignments that are submitted to the wrong Dropbox will not be graded and will be given a grade of zero. Students who find that they have made a mistake may submit the assignment again to the correct Dropbox. As long as the assignment is submitted by the due date/time, it will be graded without penalty.
- With a valid MSAF, students who misses the scheduled mid-term exam will be given an opportunity to write it at a later date. With a valid MSAF, students who misses the lab practical exam may take an oral examination with the Professor and TA as soon as possible after the lab practical.
- To receive a passing grade for the course, students must take both the mid-term and the lab practical exam, attend a minimum of 7 labs and submit all assignments.

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## Requests for Relief for Missed Academic Term Work

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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.

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## Academic Integrity

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As a McMaster student, you are expected to exhibit honesty and ethical behaviour in all aspects of the learning process. The academic credentials that you earn are rooted in the principles of honesty and academic integrity.

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 which reads: “Grade of F assigned for academic dishonesty”) and/or suspension of expulsion from the university).

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the [Academic Integrity Policy](#).

Some helpful information can be found [here](#)

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. 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](#)

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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.

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## Authenticity/Plagiarism Detection

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**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](http://www.mcmaster.ca/academicintegrity).

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## Courses with an On-line Element

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**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.

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## Online Proctoring

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**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.

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## Conduct Expectations

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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**.

Students must 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.

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## Academic Accommodation of Students with Disabilities

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

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

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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.

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## Copyright and Recording

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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.

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## Extreme Circumstances

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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.