

**Explore 3IE1**

Bat Ecology and Human Interactions:  
Agriculture, Disease, and Conservation

**Winter 2020**

**Instructor:** Lucas Greville      grevillj@mcmaster.ca      PC 151

**Course Description:**

Bats have served as a symbol of wealth, luck, and prosperity in both ancient and modern human cultures; however, current urbanization in North America has introduced new complexities in bat-human interactions. This course takes a hands-on, multi-faceted approach in discussing the current overlap of bat ecology and human culture through exploring topics such as farming and pest control, the spread and prevention of mammalian disease, and influences on renewable energy. We will discuss recent changes to the Government of Ontario's Species at Risk Act in relation to the aforementioned topics, culminating in class initiatives towards protecting the bat population in Hamilton.

**Class Activities:** Classes will be a culmination of lecture, group discussion, and in-class workshops. All classes will meet on the following Saturdays. *10am – 1pm. January 18 & 25, February 01 & 08, 2020.* Room TBD.

**Required Texts & Materials:** None

**Course Objectives:** To expose students to basic concepts of bat ecology and how they influence past and present human societies. Students will think about how these relationships impact government conservation strategies and in turn influence public perception of bats.

**Schedule of Topics:**

Date	Class Content
13 January 2020 Class 6pm-9pm	<ul style="list-style-type: none"> <li>• Course Introduction</li> <li>• Social perceptions of bats</li> <li>• Introduction to bat ecology</li> </ul>
20 January 2020 Class 6pm-9pm	<ul style="list-style-type: none"> <li>• Agricultural and economical benefits of bats</li> <li>• Spread/prevention of mammalian disease (humans)</li> </ul> <p><i>In-Class: Speaking workshop (minor)</i></p>
27 January 2020 Class 6pm-9pm	<ul style="list-style-type: none"> <li>• Spread/prevention of mammalian disease (bats)</li> <li>• Impacts of renewable energy</li> <li>• Conservation and policy</li> </ul> <p><i>Due: Evaluating scientific communication in bats (minor)</i></p>
03 February 2020 Class 6pm-9pm	<ul style="list-style-type: none"> <li>• Conservation and policy</li> <li>• Bat box building</li> </ul> <p><i>Due: Bat box assignment (minor)</i></p>
10 February 2020	<p><i>Due: Culminating project (major)</i></p>

## **Evaluations:**

### In-class speaking workshop (10%)

Each student will choose a different species of bat from around the world and give a 2-min oral talk on their species with 1 static presentation slide. Students should discuss the ecological aspects of the species (where they are found, what they eat, social structure), something unique about their species, and an important aspect of how this species interacts with or influences humans.

### Evaluating scientific communication in bats (10%)

Students will find or choose an article online (some articles will be provided) that discuss bat-human interactions and write a 1-page critique of the article focusing on the accuracy of the scientific information being conveyed. Students are responsible for finding their own academic sources to critique scientific info. Issues to discuss include over/under representation of data, misattribution of species or generalization of bats, how the study evaluated contradictory/agreeable data to the article, etc.

### Bat box building assignment (10%)

Students will be given a short assignment to complete prior to building bat boxes. This assignment will focus on North American conservation of bats, different designs of bat boxes, contribution of bats to local ecology, etc.

### Participation (30%) (includes attending class, in-class and small group discussions, etc.)

Students are expected to attend class and actively participate in small group and class discussions, and activities. Students are evaluated on the quality, not just quantity, of their contributions.

### Culminating project (40%)

Students have a choice of a project to complete (individually or in partners) to be approved by the instructor. Topics may include a letter to local government regarding the importance of bat conservation, infographics on bats for the community, infographic corresponding to bat box, short comic strip on conservation, etc. Project is due 1 week after the final class but students are encouraged to work on this throughout the course offering.

**Notes on Evaluation:** This is a pass/fail graded course. Class evaluations will be marked on a letter based system according to the official McMaster 12-point scale.

<https://registrar.mcmaster.ca/exams-grades/grades/#tab-2>

**Absences & Missed Work:** If you are absent from the university for a minor medical reason, lasting up to 3 calendar days, you may report your absence, once per term, without documentation, using the McMaster Student Absence Form (MSAF). Absences for a longer duration or for other reasons must be reported to your Faculty office, with documentation, and relief from term work may not necessarily be granted. When using the MSAF, report your absence to course instructor or designate. You must then contact the instructor (normally within 2 working days) by email. Please refer to the contact list on the first page of this outline for appropriate email addresses. The instructor will indicate what relief may be granted for the work you have missed, and relevant details such as revised deadlines. Please note that the MSAF may not be used for final deliverables, nor can it be used for a final examination or its equivalent.

**Checking Your Grades:** Office hours with the instructor will be arranged on a personal basis to receive feedback on your evaluations if you wish to do so. All grade concerns and discrepancies must be reported to the instructor within a week of receiving the grade.

**Re-mark Policy:** You will have one week from the date that an assignment (or test or mid-term exam) is returned to you to appeal your mark. If you wish to appeal a grade, you must submit to the instructor a written note justifying why you wish to have the assignment remarked, with the assignment attached. If your instructor considers the written justification to be insufficient (e.g. simply wanting a higher grade is insufficient), the assignment will not be re-graded. If the justification is considered sufficient, the entire assignment will be re-graded. You must therefore understand that your mark can increase or decrease. Your marks will be recorded on Avenue. It is your responsibility to check that all grades entered into Avenue are recorded properly. You must notify your instructor about any errors with regards to how your mark was entered. You have until 1 week following the hand-back of the last evaluation to discuss any Avenue mark issues.

There are no alternative assignments that can be completed by students for the purpose of increasing their final grade.

**Supplementary Fees:** ~\$25 per student for supplies to build boxes

#### **Communication between Students and the Instructional Team:**

Any e-mails addressed to the instructor must have a brief, relevant subject line (including the course code), must come from a mcmaster.ca e-mail account, and must copy in all relevant parties (e.g. other group members). All e-mail communication addressed to students will be sent to their mcmaster.ca e-mail account.

All assignments must be handed in via Avenue or in person pending the assignment (will be specified on the assignment), in the specified file format (usually pdf). Author(s) name(s) and group designations, if applicable, must be clearly marked on the first page of the work handed in. Submitted files must be named in a way to easily identify the assignment and the author and/or group designation.

Work that is late, handed in to the wrong person, inadequately identified, or in the wrong format, risks losing marks.

Instructor will endeavour to return marked materials within two weeks of hand-in.

#### **Student Responsibilities:**

To get the most out of the course, you must be prepared to:

- attend all sessions, make up all missed work, and provide documentation for authorized absences;
- interact frequently with instructor and peers during class;
- plan and manage your own time;
- complete preparatory tasks (such as reading, writing assignments, and initial research) in advance of sessions;
- develop and use reflective learning skills (for example identifying learning objectives, planning and carrying out research tasks, acting on academic feedback);
- work as an effective, efficient, and responsive team member on group assignments;
- check the course Avenue site, and your McMaster and Avenue e-mail daily for updates; and,
- follow all university policies and guidelines, and in all ways be a responsible university member.

## **Senate Student Policies**

Students can view full policies here (<http://www.mcmaster.ca/policy/Students-AcademicStudies/>).

Senate Policy Statements are also available from the Senate Secretariat Office, Room 104, and Gilmour Hall.

## **Academic Integrity** - <http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicIntegrity.pdf>

Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and 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. It is your responsibility to understand what constitutes academic dishonesty.

The following illustrate only four of many 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;
- copying or using unauthorized aids in laboratory exercises
- improper collaboration in group work; and
- copying or using unauthorized aids in quizzes, tests and examinations

**All students are reminded of the importance of academic integrity, and the serious consequences of academic dishonesty.**

## **Student Code of Conduct** - [https://www.mcmaster.ca/policy/Students-AcademicStudies/Code\\_of\\_Student\\_Rights\\_and\\_Responsibilities.pdf](https://www.mcmaster.ca/policy/Students-AcademicStudies/Code_of_Student_Rights_and_Responsibilities.pdf)

You acknowledge that your behavior in all aspects of this course should meet the standards of the McMaster University Student Code of Conduct. You understand that any inappropriate behavior directed against any of your colleagues, teaching assistants, or the instructional team will not be tolerated. Disruptive behavior during any session (e.g. lecture, seminar, lab, tutorial) such as talking, sleeping or non-class computing while an individual presents information, or constantly being late, will also not be tolerated. Abuse, ridicule, slander, inappropriate language, and discrimination towards instructors teaching staff, teaching assistants and other students will not be tolerated in any capacity. Shared spaces including e-spaces such as the Avenue to Learn course discussion board are to be considered inclusive and safe.

## **Plagiarism Detection**

In this course, we will be using a web-based service (Turnitin.com) to reveal plagiarism. Students will be expected to submit their work electronically to Turnitin.com and in hard copy so that it can be checked for academic dishonesty. Students who do not wish to submit their work to Turnitin.com must still submit a copy to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, etc.). To see the Turnitin.com Policy, please go to

<https://www.mcmaster.ca/academicintegrity/>

<https://www.mcmaster.ca/academicintegrity/turnitin/students/index.html>

### **Copyright Policy**

In this course you will have access to material that is subject to copyright laws. This includes (but is not limited to) textbooks and all resources developed by the instructors such as lab manuals, demonstration videos, quizzes, assignments, tests, class notes and class slides. Under no circumstance are you allowed to share or redistribute this material in any printed or electronic form without the explicit written consent of the copyright holder. This includes posting any course material on Internet bulletin boards, course repositories, social networks, etc.

### **McMaster Accommodation for Religious, Indigenous and Spiritual Observances Form (RISO):**

At the beginning of EACH term, visit the website of the Office of the Associate Dean (Academic) <https://www.science.mcmaster.ca/associatedean/current-students/procedures-forms.html> if you need accommodations for religious, Indigenous and/or spiritual observances. Follow the procedure explained there under “Accommodation for Religious, Indigenous and Spiritual Observances Form (RISO)”.

### **Inclusivity and Accommodations:**

McMaster University aims to foster a supportive, inclusive learning environment that will encourage both individual and collective growth. Students are required to register with Student Accessibility Services (SAS) first (<https://sas.mcmaster.ca/>). Any student who then wishes to invoke an accommodation for any aspect(s) of this course must contact the instructor at the beginning of the semester to discuss how the accommodations detailed in their SAS letter will be fulfilled in this course.

### **Policy about Online Access or Online Course Work Requirements:**

In this course we will be using Avenue2Learn. Students should be aware that, when they access the electronic components of this course, 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 this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

### **The instructors and the university reserve the right to alter this outline if necessary.**

The instructors 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 either type of 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.