University of Toronto

Course Title:	**Temperate Field Biology**
Instructor(s):	Prof. Megan Bontrager, m.bontrager@utoronto.ca Prof. Ben Gilbert, benjamin.gilbert@utoronto.ca
Dates:	13 May – 26 May 2023
Location:	Koffler Scientific Reserve at Joker's Hill, King City, ON (www.ksr.utoronto.ca)
Cost:	**$865-$935** depending on food prices - the **cost will be finalized by April** prior to course commencement. ($350 deposit to home university; $515 balance by April 3 to host university) includes 13 nights' dormitory accommodation, meals, and transportation to/from the St. George campus.
Prerequisites:	Second year biology course and a course in statistics and permission of department. **Recommended Preparation:** A second or third year ecology, evolution, or environmental biology course.
Enrolment*:	15 (13)
Course Description (brief):	Koffler Scientific Reserve at Joker's Hill (KSR) is a research station run by the University of Toronto on the Oak Ridges Moraine. The objective of this course is to give students a broad overview of the natural history of south-central Ontario and to introduce them to some of the most commonly used methods in the study of field ecology and evolution. We will observe many types of organisms (e.g., plants, insects, birds, mammals) in a wide array of environments with a focus on the organisms studied by the course instructors. Students will experience hands-on learning through natural history walks, group projects, specimen collections, and an independent research project. We will also have some lectures and group discussions of the scientific literature during the evenings. In the second half of the course, each student will design and conduct their own research project, which they will present to classmates in a symposium and write about in the format of a scientific paper. Further details on the course and specifics of what to bring will be provided in the spring to those who enroll. **Physical Demands and Risks** While exploring and conducting research at KSR you may encounter mosquitoes, poison ivy, and rugged terrain. Teaching and research will be conducted outdoors, and you should be prepared for cold weather, hot weather, rain, and sun. During your own field research, you will work independently on the property. We welcome the participation of students of all abilities. Students who enroll in the course will have the opportunity to discuss and plan accommodations they require with the instructional team.
Evaluation:	Marks are based on class participation, leading a group discussion, performance on group projects, and the oral and written presentation of an individual project. Students are also expected to hand in their field notes and data. • Leading group discussion of a pre-assigned scientific paper: 10% • Field notebook: 5% • Class performance and participation: 20% • Oral presentation on individual project: 30% • Written report on individual project: 35%

An Average Day – What to Expect

(a) Daily timeline	For the first week, the course is structured around group activities. Days begin with breakfast at 7:30 a.m. and end with an after-dinner discussion that typically runs until 9:00 p.m. Daytime activities will include guided walks and group field projects. The second half of the course is devoted to independent research projects. Students will plan their days and evenings to complete experimental design and set up, data collection, and data analysis. The course ends with all students presenting their projects at a research symposium.
(b) Work habitat & Physical exertion	The Koffler Scientific Reserve has diverse habitats and rolling terrain. Guided walks, group projects, and independent projects will involve spending most of the day moving around the property, outdoors, regardless of weather conditions.
(c) Common activities	• Common activities: Hiking; identifying, measuring, and counting plants, insects, and birds; collecting data in the field; analysing data in R. • Associated risks: Risks include common risks of hiking, such as twisted ankles, fatigue, blisters from poor footwear, heat exhaustion, dehydration, and hypothermia.
(d) Weather, dehydration, & biting insects	• Weather conditions in late May are generally pleasant, but occasionally a late snow or early heat wave can occur. Students should bring clothing for varied weather, sunscreen, and insect repellent. • Water is available at all facilities. Students should bring their own large water bottle. • Blackflies and mosquitoes can be expected. Deer ticks (vectors of Lyme's disease) have been recorded from the reserve. Each residence is equipped with a tick-removal kit.
(e) Toxic/poisonous, wildlife/ plants	Poison ivy is found in several areas at the reserve. There is also potential for contact with bees and wasps.
(f) Sleeping, washroom & laundry facilities	• There are several residences on the reserve. Three to five students will share a bedroom/bathroom. Roommate assignments will be made taking students' comfort and preferences into account (e.g., sharing a room with students of the same gender identity or with the identity(ies) that they are most comfortable sharing with). • Shared bathrooms have full running water and showers. • Laundry facilities are available in the main residence.
(g) Meal plans & food allergies	Meals are provided in the dining room of the main residence. Vegetarian, vegan, kosher, halal, and allergy-friendly diets are readily accommodated. Students will have access to kitchens and refrigerators and are welcome to supplement meals with their own snacks.
(h) Non-academic responsibilities	Students will be assigned to kitchen clean-up duties for two days of the course. All students are responsible for the cleanliness of their bedrooms and bathrooms.
(i) Degree of isolation	How isolated are you? • Most residences and the reserve laboratory have wi-fi. • Cell phone coverage is strong at the residences and laboratory, but spotty across other parts of the property. • There will be one or two 'town runs' to nearby Newmarket for purchase of personal supplies. • South Lake Hospital, Newmarket, is a 10 min. drive.
(j) Alcohol & drugs	Alcohol is permitted in the residence areas only, and only after 5:00 PM.
(k) Vaccinations/ Insurances	Standard vaccinations and health insurance are sufficient.
(l) Social Situations	The Koffler Scientific Reserve is a closed campus, meaning that you will encounter only your classmates and the resident research staff and students. Expect the types of social interaction found regularly on a university campus.
(m) Final comments	In this course, you will experience doing hands-on field research and being a scientist. This will require creativity, hard work, and persistence in the face of setbacks and uncertainty. The instructional team is excited to support you through this process!