BROCK UNIVERSITY
Ontario Universities Program in Field Biology

Course Title:	**Biodiversity in the Biosphere Reserve**
Instructor(s):	Liette Vasseur
Dates:	August 12-23 (12 days straight)
Location:	Brock University and Niagara region
Cost:	$350 for supplies and transportation during the course; accommodation and travel to Brock is own student's responsibility (~approx. $550 to stay in residence for 2 weeks).
Prerequisites:	General ecology (ideally statistics course)
Enrolment*:	20 (10 for Brock)
Course Description (brief):	Introduction of the concepts of Biosphere Reserves and the importance to protect biodiversity. This course deals with the issues and techniques of ecosystem survey and long-term monitoring of changes due to human activities and environmental factors (natural and anthropogenic). It examines natural versus urban ecosystems based on integrative studies from the biological, geological, geographical, management, social, and economic perspectives. The course will introduce students to sampling design and techniques, treatment of data incorporated in fieldwork, labs, lecture-discussion, and integration of various concepts through team projects and report preparation. Monitoring techniques will include rapid environmental assessment, field practices and installation of permanent biodiversity plots, tree mapping in plots, soil sampling and analyses, insect, salamander, and bird surveys; and surveys of aquatic ecosystems. The course includes the re-evaluation of another series of permanent biodiversity plots well as a team project. Note that the field work is mainly in an escarpment and therefore physically demanding (Niagara Escarpment Biosphere Reserve).
Evaluation:	Field Journal (individual) 30% Monitoring interpretation homework (individual) 15% Presentation (team) 10% First week report (team) 10% Participation (it's teamwork) 10% (evaluation completed by professor, TA and team peers using a specific evaluation form) Final report (team) 25% (to be submitted one week after the field course)

Deadline to apply is **Feb 8, 2019**
If interested please complete the application form and submit it to the OUPFB course coordinator at your school.
Deposit of $350 is due at the time of registration.

Tuition at your home institution is *in addition* to any field module costs.

Students who drop a field course should not expect a refund of any field course costs.

Students are encouraged to purchase cancellation insurance if airline tickets are required.

Students are responsible for all fees incurred by the home or host university due to any bounced cheque.

An Average Day – What to Expect

(a) Daily timeline	The average work day will start at 8 am in the lab and continuing field work until about 6 pm. It is expected that teams work on data entry and journals at night (strongly recommended to not wait to later days) from 7:00-10pm. This means that students should NOT be working part time jobs at the same time and this includes the weekend.
(b) Work habitat & Physical exertion	This course is physically demanding as a large part of the work will be in the escarpment, in forested areas and along shorelines, and we will walk a lot in shrubby areas. We will be in the field everyday, rain or shine. Note that conditions are requiring that students come prepared with boots, long sleeves and long pants as there are wasps, poison ivy (and a lot of it), etc. if rainy, the field will be muddy. There are no bathrooms in these woods and the temperatures can be quite hot in August. This means students should bring lots of water as water breaks may be needed on a regular basis (I usually also bring a water tank for people running out of water).
(c) Common activities	Lots of walking between sites (some being muddier than others, some others rockier), on the shoreline, it also means need for tall boots or waders. Bring also binoculars. There will be long days sitting or walking in the forests. Associate risks include: poison ivy, ticks, mosquitoes, wasps (bring your kit if allergic), sunburns or cold (depending on weather conditions) so bring appropriate clothes, hat, raincoat, and sunblock. Footwear should include very good walking shoes, especially when in the escarpment.
(d) Weather, dehydration, & biting insects	• Weather conditions likely to be encountered are a min temperature of 14^{o}C and max of 27^{o}C. Sun can be quite strong (so careful about dehydration and sunburn). Often, we have high winds and showers in August. • Insects to be expected mosquitoes, tick, bees/wasps. Long sleeves and long pants are need and bring insect repellent.
(e) Toxic/poisonous, wildlife/ plants	The natural hazards will include climbing the escarpment (almost daily), ticks & Lyme disease (depends on the year and often not many to none), stinging bees/wasps (especially ground ones and they can be anywhere), poison ivy (we have a lot of this). Make sure to bring insect repellent, after bite lotion and calamine lotion.
(f) Sleeping, washroom & laundry facilities	• Sleeping accommodations are on your own. It is possible to arrange with the Brock residence or Airbnb or student's arrangement. • Washroom facilities are located on campus and can only be reached when not in the field.
(g) Meal plans & food allergies	Make sure that you bring enough food to last the full day, i.e. breaks and lunches. As it is physically demanding prepare more than not enough.
(h) Non-academic responsibilities	As some activities such as soil analysis and identification using microscopes are in lab which need to be clean all the time. It will be the responsibility of the students to maintain the good functioning of the field equipment and books and ensure that they are back clean and functioning at the end of each day.
(i) Degree of isolation	Students will be working in teams and should not be isolated. They will be able to recharge computers, cameras, etc. at night when back to their accommodation or during their work in the lab. Cellphones working however note that when close to the US border, better to turn off the roaming as often the American signals come before the Canadian ones. There is security on campus for immediate assistance or medical issues. For students with allergies, it is important to notify the instructor and at least one person in her/his team.
(j) Alcohol & drugs	No alcohol permitted during the field work. The Brock policy is "Smoking or vaping marijuana anywhere on campus will remain prohibited at Brock University"
(k) Vaccinations/ Insurances	Vaccinations are not really needed however most should already have their tetanus shot. Insurances from your university as a student.
(l) Social Situations	The field course is mainly based on team work and therefore it is required that students work together in a culturally respectful way. If conflicts arise, it is the responsibility of the team to find solution. No team will be dissolved and start working individually as this is not possible due to the amount of work and data (as well as safety).
(m) Final comments	The course has been very helpful for students in the past and they enjoyed it. Great time to make friends and learn how what you learned in class can be used in practice.