

UNIVERSITY OF GUELPH
Ontario Universities Program in Field Biology

Course Title:	Marine Biology & Oceanography						
Instructor(s):	Department of Integrative Biology, University of Guelph. For information, contact Dr. Beren Robinson (berenrob@uoguelph.ca).						
Dates:	Saturday, July 27 th – Saturday, August 10 th , 2024						
Location:	Huntsman Marine Science Centre , St. Andrew's, New Brunswick.						
Cost:	\$2,600.00 (approximate). Includes a 350\$ deposit to home university and balance of 2250\$ due as indicated by the instructors) includes all meals, accommodation, and transportation at HMSC including between HMSC and St. Andrews, N.B. for specific arrival/departure flights.						
Prerequisites:	University Aquatic Biology (or Ecology) Course University Statistics Course University Invertebrate Zoology Course (recommended)						
Enrolment:	17 students (5 for OUPFB; 12 for University of Guelph)						
Description:	A two-week course held at the Huntsman Marine Science Centre, St. Andrews, New Brunswick. The course provides excellent opportunities for students to familiarize themselves with several major coastal communities and techniques used to study coastal marine biology and oceanography and will explore knowledge about this unique marine ecosystem from the local Indigenous Peskotomuhkati and Western science perspectives. The course will include remote online meetings prior to arrival in NB to develop and finalize proposals for independent research projects. Prior to arrival and again after departure, students will also research and reflect on local indigenous Peskotomuhkati history. In the first week, group exercises study various intertidal and subtidal ecosystems, on boat cruises collect and/or observe plankton, benthic invertebrates, fishes, birds and mammals, and meet with members of the indigenous community. In the second week, students undertake a substantial individual research project addressing the biology/ecology of a coastal marine organism in the field or lab leading to a final project report and presentation.						
Evaluation:	<table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">Group Projects (4)</td> <td style="text-align: right;">25 %</td> </tr> <tr> <td>Individual Project (proposal, final written report, oral presentation)</td> <td style="text-align: right;">50 %</td> </tr> <tr> <td>Reflections on Peskotomuhkati, research (3)</td> <td style="text-align: right;">25 %</td> </tr> </table>	Group Projects (4)	25 %	Individual Project (proposal, final written report, oral presentation)	50 %	Reflections on Peskotomuhkati, research (3)	25 %
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An Average Day – What to Expect

(a) Daily timeline	An average workday in the first week (e.g., 7:00 AM or earlier breakfast, 8:00 AM field work rain or shine, 12:00 lunch, 1:00 continuing field work, 6:00 dinner, 7:00-10pm class lectures, lab work, individual projects. First week involves group projects that are scheduled according to low tides. Some very early departures may occur (see relevant tide tables for St. Andrews NB over the time interval).
(b) Work habitat & Physical exertion	The fieldwork habitat involves muddy, rocky, and slippery intertidal areas. Boat excursions may involve rough seas. We operate in all weather, and so rain gear, boots and sun hats are essential.
(c) Common activities	Boat travel over open ocean, walking in slippery shoreline habitats and on steep shorelines. Associated risks can include sea sickness, sunburn, minor injuries such as animal spines (non-poisonous), cuts, scrapes, bruising from sharp rocky edges.
(d) Weather, dehydration, & biting insects	Weather conditions likely to be encountered include all forms of extreme weather: strong sun, high UV, rain, strong sometimes cold wind. Clothing layers are essential.
(e) Toxic/poisonous, wildlife/ plants	Lyme disease ticks occur in area but no encounters yet. Fish and sea urchin spines – gloves worn
(f) Sleeping, washroom & laundry facilities	Dorm rooms are shared with one other student (same sex). Bedding is provided, but towels etc. are not. Coin operated washing/laundry facilities are available
(g) Meal plans & food allergies	Any food sensitivities / allergies should be communicated to course personnel as soon as possible. Vegetarian meals may be accommodated by the dining hall staff, though strict vegans are unlikely to be satisfied (in our opinion and experience). Other requests for dining accommodations will be addressed individually, but keep in mind this is a field station not a restaurant.
(h) Non-academic responsibilities	Respectful interactions with local community members including the Peskotomuhkati nation.
(i) Degree of isolation	The town of Saint Andrews is a 15-20-minute walk from the station. It has grocery, pharmacy, post office, souvenirs, hardware, and restaurants. A small health center is in town, the closest hospital is the Charlotte County Hospital in Saint Stephen NB.
(j) Alcohol & drugs	Alcohol is permitted in dorm rooms only. Smoking is only permitted outside of buildings. Students must use substances responsibly, keeping their own safety and the safety of others as a priority. Intoxication will not be tolerated.
(k) Vaccinations/ Insurances	Vaccinations as required by provincial governments.
(l) Social Situations	Shared dorm rooms, labs, vehicle trips. Interactions with local members of the indigenous Peskotomuhkati Nation.
(m) Final comments	Remote (Zoom or Teams) class meetings to develop proposals for individual research projects will be arranged in June and July prior to arrival in NB. This course is intended for 3rd or 4th year students specializing in Aquatic or Marine Biology.