

Experiential Learning Logistics

9:45am – 10:45am

Presented by:

Anne Grant, Manager, Ecology Lab
Faculty of Environment

Heidi Swanson, Assistant Professor and University Research Chair,
Department of Biology

Waterloo ExL

Experiential learning logistics

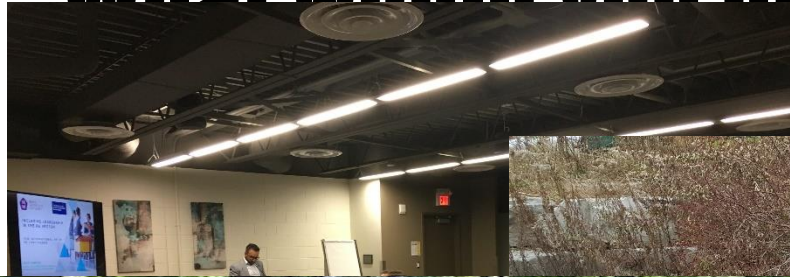
9:00am – 9:45am

Presented by:

Anne Grant, Manager Ecology Teaching Labs, Faculty of Environment, University of Waterloo

Waterloo ExL

What would you prefer?



Let's plan a class trip

- Class of 40 students, want to take them to a local municipal park to study 3 different areas including open field, forest and near water's edge.

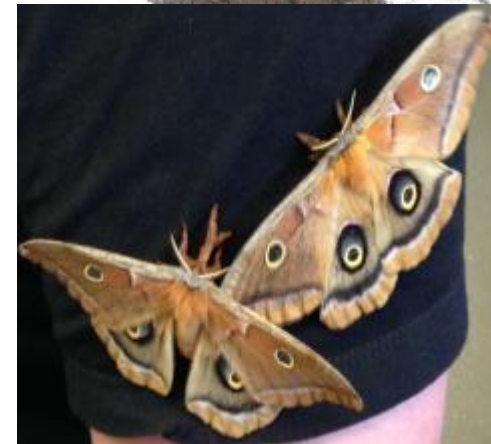
- HOW DO YOU PREPARE?

Introducing the Ecology Lab

- ENV's teaching facility
- Myself, lab coordinator and 2 co-op assistants



Help with Sampling Design and Identification



Field and Lab Equipment; specimen collections



Vegetation, insect ID; soil and Water analysis



Workshops & Outreach



Soap making
Nature Sketching
Winter survival
Bike tire jewelry



Shad

Envirothon



Indigenous centre

IDEAS

iBASE



Course support & activities

- 25 courses
- More 'hands on' courses include:
 - ENVS 200 Field Ecology;
 - Geog 294 Research in Physical Geography;
 - ERS 100 Foundations: Environment, Resources and Sustainability;
 - ENVS 444 Parks/Natural Areas management to name a few

Focus on ENVS 200 Field Ecology

- Offered every term, enrolment range 200-275; up to 11 3hr lab sections all term.
- Emergency contact info & field trip forms (online)
- Field trip fee on shopify
- Admin assistant books buses
- In lab safety presentation (field and lab)
 - Contains info for WHMIS; orientation of lab; chemical use & PPE
 - Lightning
 - Heat/cold
 - Working near water; forest
 - Insects: wasps, ticks, mosquitos; plants e.g. poison ivy

Con'd

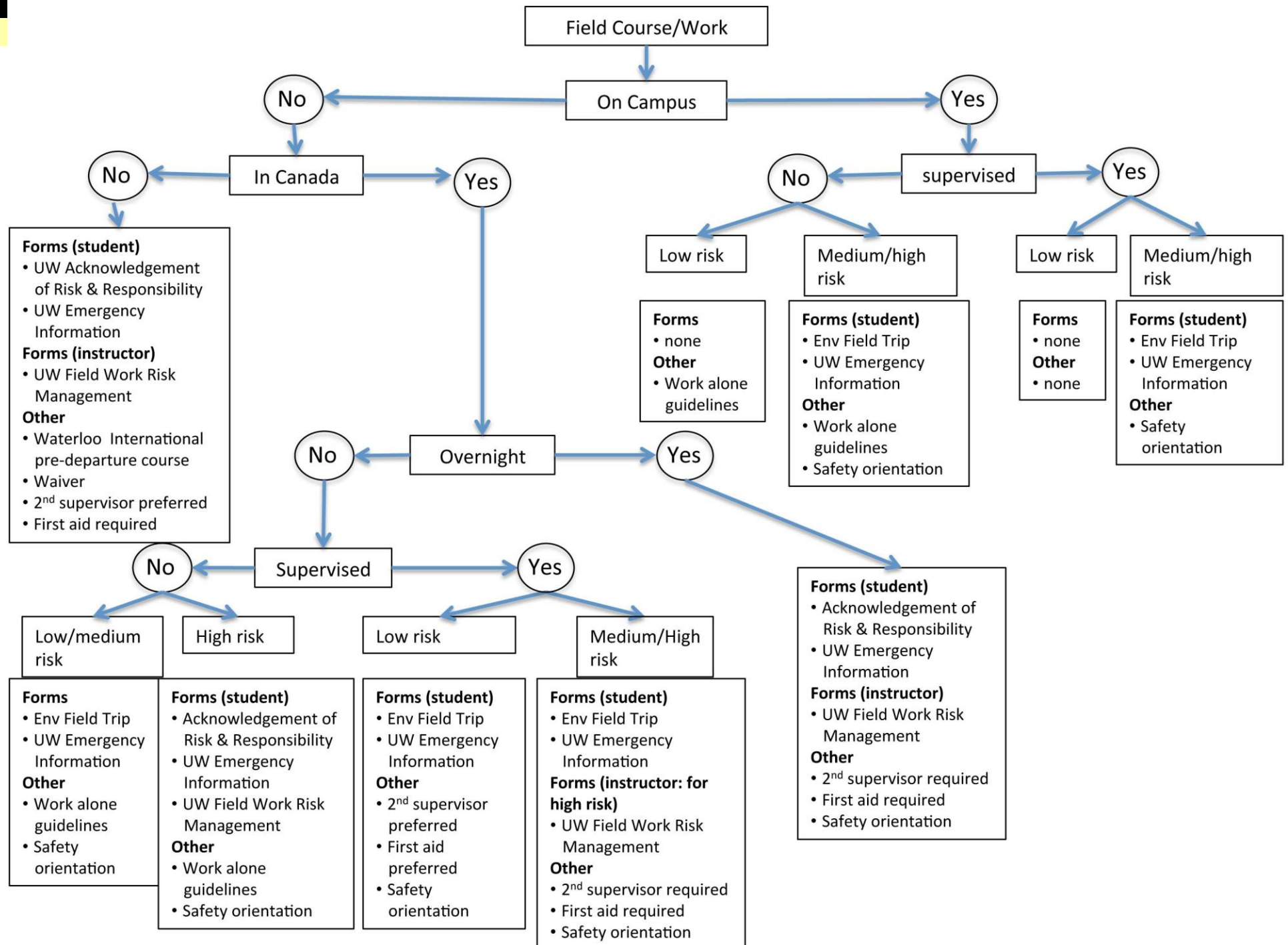
- Videos for bus cancellations and accessibility
- Train TA's each week
- Field site visits; tag and GPS locations; equip demos
- Additional safety TA with cell, water, food and first aid kit, paper emerg forms.

- **WE'LL SHARE OUR PRESENTATIONS AND TIPS WITH YOU!**

Field Trip and Field Work Guidelines

<https://uwaterloo.ca/environment/faculty-staff/policies-procedures-terms-reference/field-trip-and-field-work-guidelines>

- Definition of field trip (hours to weeks)
- Explains level of risk and examples
- What can change level of risk
- Guidelines for instructors & participants



Logistics summary

- Accessibility
- Videos, 3D immersive exp.
- Modified routes and sampling locations?
- Transportation
 - Bus availability and cost <https://shopify.uwaterloo.ca>
 - Renting vehicles
 - Own vehicles: <https://uwaterloo.ca/finance/insurance/insurance-coverage>
- Permissions
 - GRCA properties, parks
 - scientific research permit
 - City properties
 - Inform staff
- Private properties
 - Permission; certificate of insurance <https://uwaterloo.ca/finance/insurance>
 - UW properties –let Plant Ops know
- Safety
 - <https://uwaterloo.ca/safety-office/programs-and-procedures/fieldwork>
 - ENV <https://uwaterloo.ca/environment/faculty-staff/policies-procedures-terms-reference/field-trip-and-field-work-guidelines>
- Additional personnel

UW properties

- Did you know we have properties?
 - UW urban forest (5ha) behind HS
 - North campus ENV reserve (109ha)
 - Spongy bog (26ha) Baden, ON
 - Rockwood property (4ha)



Testimonials

Most valuable because of hands on analysis techniques...paid more attention to lab details

Cool microclimate in an adventurous setting

Felt like a real ecologist

Interactive, easy to enjoy

Hands on experience was cool

Connected to the environment

...because of deeper analysis

Actually used skills

Highly applicable

Best demonstration of lab and field techniques

Practical skills & useful

Learned about the campus and can appreciate nature

Love the labs!

Loved Laurel creek lab because of sampling & analysis

Ecology Lab EV1 ground floor



UWaterlooEcologyLab



@UWEcologyLab



@uwecologylab



UW Ecology Lab

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Waterloo ExL

Ontario Universities Program in Field Biology

- 15-18 Ontario institutions participate each year
- Run by coordinators at each institution and an annually rotating ‘super-coordinator’ (Service)
- Allows our students access to a wider diversity of field courses
- Currently, students can earn up to 4x 0.5 courses worth of credits with OUPFB courses: Biol 490 A,B,C,D



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Ontario Universities Program in Field Biology 2018

Welcome

By following links from the menu on the left, you will quickly discover the main advantage the OUPFB provides to you as a student from a participating Ontario university: a tremendously broad and varied selection of field courses. Such variety would be inconceivable without the pooling of field course offerings among cooperating universities. Furthermore, this variety is available to you without the hassles associated with transfer credits.

So, if you are interested in the natural world, and keen on gaining the experience and perspective uniquely offered through field-based learning and research, this is your opportunity.

Please contact the [OUPFB Coordinator](#) at your Home University for further detail.

Please Note : International courses may have to adjust their course fees to accommodate the dropping Canadian dollar

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Link: oupfb.ca

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How do students participate in an OUPFB course?

- Info session is run each January
- Students apply early February
- Placements occur in March, but sometimes later if field courses have not filled up
- <https://uwaterloo.ca/biology/undergraduate-studies/field-courses>

DEPARTMENT OF BIOLOGY

[Department of Biology](#) » [Undergraduate students](#) »

Field courses

2019 Ontario Universities Program in Field Biology (OUPFB)

The next round of field courses will begin in late April 2019. The 2019 information session will be held in January, 2019. To prepare yourself for 2019, please read the information below.

Quick link

- [Student Associations](#)

What Types of Courses Are Offered?

- Spans the range of ecological and environmental sub-disciplines
- Ornithology, entomology, fisheries, neotropical ecology, landscape ecology, marine ecology, behavioural ecology, monitoring, urban ecology
- Courses range from Waterloo to South America, Africa and Asia

19	Temperate Field Biology	2	Toronto	Koffler Scientific Reserve, Joker's Hill, King City, ON	May 29 - June 1	3
20	Arctic Ecology	2	Guelph	Churchill Northern Studies Centre, Churchill, Manitoba	July 7 - July 21	Full
21	Field Entomology & Ecology	2	McMaster	Queen's University Biological Station (QUBS)	July 29 - Aug 11	Cancelled
22	Subtropical Ecology: Biodiversity and its Sustainable Utilization	2	McMaster	Yunnan Province, China	Aug 1 - Aug 14 (Approx)	2
23	Marine Biology & Oceanography	2	Guelph	Huntsman Marine Science Centre, St. Andrew's, New Brunswick	Aug 4 - Aug 18	Full
24	Field Ecology - BIOL*4410	3	Guelph	Wildlife Research Station (WRS), Lake Sasajewun, Algonquin Provincial Park	Aug 5 - Aug 25	Full
25	Alpine Ecology	2	Ottawa	Rocky Mountain Biological Laboratory (RMBL), Colorado	Aug 10 - Aug 25	Full
26	Effect of Human development on aquatic environments and biodiversity in China	2	Queen's	Lower and middle reaches of the Yangtze River, China	Aug 13 - Aug 25	6
27	Tropical Biodiversity	2	Western	Ecuador (various locations)	Aug 13 - 31	Full
28	Experimental Studies in Marine Biology	2	Western	Huntsman Marine Science Centre, St. Andrew's, New Brunswick	Aug 18 - Sep 3	Full

<http://www.oupdfb.ca/modules.html>

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OUPFB Courses

- At least 10 days in the field
- Mixture of lecture and field
- Some courses are stationary (e.g., at a field station), whereas others involve a lot of traveling
- Research Projects
- Outlines must meet OUPFB review and be approved the December before the course runs.



Students completing a snorkeling-based research project

Running a course through Waterloo

- Currently would be a 'Biology' credit
- Safety: Through the Safety Office and Waterloo International (if applicable)
- Students are advised to purchase on medical and cancellation insurance for int'l trips
- OUPFB currently working with province-wide organizations to harmonize accessibility and safety policies and procedures



Costa Rica Field Course, 2015

Running a course through Waterloo

- The more courses we teach (or spots we offer), the more students we can place
- Currently: Costa Rica Rainforest and Reef
- In the past, have taught up to 3 field courses
- Current and past challenges: teaching credit, logistical support, student lack of experience with outdoors, mental health



Mt Arenal ecosystem, Costa Rica