

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

<b>Course Code and Number:</b> BIO 442		<b>Number of Credits:</b> 8 <a href="#">Course credit policy (105)</a>															
<b>Course Full Title:</b> Biological Field School <b>Course Short Title:</b> <i>(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)</i>																	
<b>Faculty:</b> Faculty of Science		<b>Department (or program if no department):</b> Biology															
<b>Calendar Description:</b> <p>An opportunity for an intensive, prolonged, biological learning experience which takes place in unique locations away from the UFV campus. Students will participate in hands-on research in the field and will analyze and present their findings.</p> <p>Note: Students must check with the biology department to determine course availability and content area for a particular semester.</p> <p>Note: This course will be offered under different letter designations (e.g. C-Z) representing different topics. This course may be repeated for credit provided the letter designation differs. However, students can only take one BIO 442 topic for upper-level Biology credit for the Biology Honours, major, or minor.</p>																	
<b>Prerequisites (or NONE):</b>		Any three BIO courses numbered 200 or above and permission of the department.															
<b>Corequisites (if applicable, or NONE):</b>																	
<b>Pre/corequisites (if applicable, or NONE):</b>																	
<b>Antirequisite Courses</b> <i>(Cannot be taken for additional credit.)</i> Former course code/number: Cross-listed with: Dual-listed with: Equivalent course(s): <i>(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)</i>		<b>Special Topics</b> <i>(Double-click on boxes to select.)</i> This course is offered with different topics: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <i>(If yes, topic will be recorded when offered.)</i>															
		<b>Independent Study</b> If offered as an Independent Study course, this course may be repeated for further credit: <i>(If yes, topic will be recorded.)</i> <input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit															
		<b>Transfer Credit</b> Transfer credit already exists: <i>(See <a href="#">bctransferguide.ca</a>.)</i> <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Submit outline for (re)articulation: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <i>(If yes, fill in transfer credit form.)</i>															
<b>Typical Structure of Instructional Hours</b> <table border="1"> <tr> <td>Lecture/seminar hours</td> <td>15</td> </tr> <tr> <td>Tutorials/workshops</td> <td>30</td> </tr> <tr> <td>Supervised laboratory hours</td> <td>45</td> </tr> <tr> <td>Experiential (field experience, practicum, internship, etc.)</td> <td>90</td> </tr> <tr> <td>Supervised online activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td><b>Total hours</b></td> <td><b>180</b></td> </tr> </table>		Lecture/seminar hours	15	Tutorials/workshops	30	Supervised laboratory hours	45	Experiential (field experience, practicum, internship, etc.)	90	Supervised online activities		Other contact hours:		<b>Total hours</b>	<b>180</b>	<b>Grading System</b> <input checked="" type="checkbox"/> Letter Grades <input type="checkbox"/> Credit/No Credit	
Lecture/seminar hours	15																
Tutorials/workshops	30																
Supervised laboratory hours	45																
Experiential (field experience, practicum, internship, etc.)	90																
Supervised online activities																	
Other contact hours:																	
<b>Total hours</b>	<b>180</b>																
Labs to be scheduled independent of lecture hours: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		<b>Maximum enrolment (for information only):</b> 18-24 <b>Expected Frequency of Course Offerings:</b> As interest and instructor availability <i>(Every semester, Fall only, annually, etc.)</i>															
<b>Department / Program Head or Director:</b> Anthony Stea		<b>Date approved:</b> November 2019															
<b>Faculty Council approval</b>		<b>Date approved:</b> November 29, 2019															
<b>Dean/Associate VP:</b> Lucy Lee		<b>Date approved:</b> November 29, 2019															
<b>Campus-Wide Consultation (CWC)</b>		<b>Date of posting:</b> March 20, 2020															

Undergraduate Education Committee (UEC) approval

Date of meeting:

April 24, 2020

**Learning Outcomes:**

Upon successful completion of this course, students will be able to:

- Solve biological problems and conduct research in a field setting by applying critical thinking, specific biological knowledge and the scientific method.
- Maintain a field journal, make relevant observations, and support the journal with appropriate visual and written evidence of data collected in the field.
- Critically analyze field data using appropriate mathematical, graphical and/or statistical techniques.
- Communicate research results in visual and written presentations to both academic and non-academic audiences.
- Engage in discussions on contemporary biological, cultural, social and indigenous issues of the region being visited to enhance global citizenship.

**Prior Learning Assessment and Recognition (PLAR)**

☐ Yes ☒ No, PLAR cannot be awarded for this course because this is a unique experience to UFV

**Typical Instructional Methods** (*Guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion.*)

The student can expect a combination of lecture and student seminar presentation. There will be a large component of field work, which will vary depending on the site being visited, but may include small research projects, observational learning in the field, practical conservation field work, demonstrative learning from local experts in the field, site specific visits for experiential learning etc.

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials** (*If more space is required, download Supplemental Texts and Resource Materials form.*)

Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1.	Selection of appropriate scientific research articles	<input type="checkbox"/>		
2.		<input type="checkbox"/>		
3.		<input type="checkbox"/>		

**Required Additional Supplies and Materials** (*Software, hardware, tools, specialized clothing, etc.*)**Typical Evaluation Methods and Weighting**

Final exam:	%	Assignments:	15%	Field experience:	5%	Portfolio:	%
Midterm exam:	15%	Project:	%	Practicum:	%	Field journal:	20%
Term paper:		Seminar presentation:	15%	Project report:	30%	Total:	100%

**Details (if necessary):****Typical Course Content and Topics**

Course content presented is highly generalized, and is presented both in the classroom and in the field. This course is expected to vary each time it is offered, depending on the instructor and the unique region to be explored.

The list of potential topics below is based on content included in previous study tours:

**Topic 1: Introduction to Coastal Ecosystem Diversity (e.g. Tofino, Hawaii)**

- Explain the physical properties relating to ocean wave formation and tide changes
- Identify the key interactions among organisms in coastal forests
- Identify species present in coastal forests and adjacent marine systems including rocky shores, mudflats, open sand beaches, and coastal bog habitats
- Set up and utilize transects to assess diversity
- Operate a theodolite to survey landscapes
- Calculate diversity in various types of habitat
- Describe the impacts of introduced or invasive species on coastal ecosystems
- Cite examples of Indigenous cultural and ecological knowledge
- Explain the concept of a United Nations Biosphere Reserve
- Identify species interactions and foraging behaviour in shorebirds
- Describe the evolutionary history of marine mammals

**Topic 2: Introduction to Urban Ecology (e.g. New York, Paris)**

- Analyze the role of natural history museums in education and research
- Evaluate the impact of roads and humans on the distribution plants of animals
- Compare plant communities and relate them to abiotic influences
- Identify the impact of parks on the biodiversity of a mega-city
- Evaluate the conservation programs at aquaria and botanical gardens
- Utilize fossils in natural history museum to distinguish evolutionary trends
- Generate predictions and conduct an observational study on a research topic of your choice

**Topic 3: Introduction to Tropical Ecosystem Diversity (e.g. Ecuador):**

- What are the tropics: brief geographical and climatic overview
- Latitudinal and altitudinal patterns of diversity
- Neotropics vs. paleotropics diversity
- Influence of climate and topography on life zone distribution:
- Endangered species monitoring
- Causes and consequences of habitat loss
- Edge effects and other abiotic effects of fragmentation
- Identifying conservation priorities (hotspots, gap analysis, red-lists, GIS)
- Parks and reserves (successes, failures, buffer-zone management, private lands, ecotourism)
- In-situ vs. ex-situ conservation examples
- Wildlife management: hunting and farming for conservation