



ORIGINAL COURSE IMPLEMENTATION DATE: January 2008  
 REVISED COURSE IMPLEMENTATION DATE: September 2017  
 COURSE TO BE REVIEWED: (six years after UEC approval) May 2020  
 Course outline form version: 09/15/14

## 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> GEOG 319	<b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>																
<b>Course Full Title:</b> Swamps and Bogs <b>Course Short Title (if title exceeds 30 characters):</b>																	
<b>Faculty:</b> Faculty of Social Sciences	<b>Department (or program if no department):</b> Geography and the Environment																
<b>Calendar Description:</b> Swamps, bogs, and other types of wetlands provide essential ecosystem functions to watersheds that support them. Using hydrology, soils, and vegetation, students will learn how to delineate wetland boundaries and assess biogeochemical cycling along environmental gradients.  Note: Field trips outside of class time will be required. Please refer to the department website for field trip scheduling information.  Note: This course is offered as GEOG 319 (formerly GEOG 417) and BIO 319 (formerly BIO 417). Students may take only one of these for credit.																	
<b>Prerequisites (or NONE):</b>	One of the following: AGRI 204, AGRI 220, BIO 201, BIO 202, BIO 203, BIO 210, BIO 220, CHEM 213, CHEM 214, CHEM 221, CHEM 241, GEOG 201, GEOG 202, GEOG 211, GEOG 219/BIO 219, GEOG 252, GEOG 253, or GEOG 257/CMNS 257.																
<b>Corequisites (if applicable, or NONE):</b>	None																
<b>Pre/corequisites (if applicable, or NONE):</b>	None																
<b>Equivalent Courses (cannot be taken for additional credit)</b> Former course code/number: <b>GEOG 417/BIO 417</b> Cross-listed with: <b>BIO 319</b> Equivalent course(s): <b>BIO 319, GEOG 417/BIO 417</b> <i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>	<b>Transfer Credit</b> Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  Transfer credit requested (OReg to submit to BCCAT): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form)  Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> .																
<b>Total Hours: 90</b> <b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr><td>Lecture hours</td><td style="text-align: right;">30</td></tr> <tr><td>Seminars/tutorials/workshops</td><td style="text-align: right;">12</td></tr> <tr><td>Laboratory hours</td><td style="text-align: right;">24</td></tr> <tr><td>Field experience hours</td><td style="text-align: right;">12</td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td style="text-align: right;">12</td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: right;"><b>90</b></td></tr> </table>	Lecture hours	30	Seminars/tutorials/workshops	12	Laboratory hours	24	Field experience hours	12	Experiential (practicum, internship, etc.)		Online learning activities	12	Other contact hours:		<b>Total</b>	<b>90</b>	<b>Special Topics</b> Will the course be offered with different topics? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  If yes, different lettered courses may be taken for credit: <input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit  <i>Note: The specific topic will be recorded when offered.</i>
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Other contact hours:																	
<b>Total</b>	<b>90</b>																
<b>Maximum enrolment (for information only): 25</b>  <b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> every other year																	
<b>Department / Program Head or Director:</b> Steve Marsh	<b>Date approved:</b> December 2016																
<b>Faculty Council approval</b>	<b>Date approved:</b> January 2017																
<b>Campus-Wide Consultation (CWC)</b>	<b>Date of posting:</b> March 17, 2017																
<b>Dean/Associate VP:</b> Lucy Lee	<b>Date approved:</b> January 2017																
<b>Undergraduate Education Committee (UEC) approval</b>	<b>Date of meeting:</b> March 24, 2017																

**Learning Outcomes**

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

1. Classify wetlands according to guidelines created by the BC Ministry of Forests, among others;
2. Identify the distribution of wetlands within watersheds of British Columbia;
3. Explain biogeochemical cycles that regulate wetland form and function;
4. Determine field characteristics that define wetland boundaries (wetland delineation);
5. Describe organic sediments/soils in the field;
6. Identify wetland plants;
7. Identify amphibians and other wildlife that frequent wetlands;
8. Evaluate ecosystem services that wetlands provide; and
9. Appreciate the value of wetlands to society and from multiple perspectives, including First Nations.

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

Yes       No, PLAR cannot be awarded for this course because

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

Lectures, presentations, discussions, laboratory sessions, field trips, and the use of Blackboard Learn.

**Grading system:** Letter Grades:  Credit/No Credit:  Labs to be scheduled independent of lecture hours: Yes  No

**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. McKenzie and Moran	Wetlands of British Columbia: A Guide to Identification	<input type="checkbox"/>	BC Ministry of Forests, Victoria	2004
2.	Articles from peer-reviewed journals and government reports.	<input type="checkbox"/>		2012
3.		<input type="checkbox"/>		
4.		<input type="checkbox"/>		
5.		<input type="checkbox"/>		

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)**

Waterproof field notebook.

**Typical Evaluation Methods and Weighting**

Final exam:	20%	Assignments:	20%	Midterm exam:	20%	Practicum:	%
Quizzes/tests:	10%	Lab work:	%	Field experience:	%	Shop work:	%
Presentation:	5%	Research paper:	15%	Participation:	10%	Total:	100%

**Details (if necessary):**

**Typical Course Content and Topics**

Each course offering includes a minimum of eight laboratory/field activities. Examples of such activities include a field assessment of wetland sediments as archives of past environmental change, and opportunities to process field-collected samples to identify microfossils (e.g., pollen, diatoms, and testate amoebae). Computer-assisted exercises provide practice with quantitative methods. Blackboard Learn is used to organize course material, discuss course topics, complete fossil-identification exercises, and write exams.

1. Wetlands: Human History, Use, and Science
2. Wetland Definitions with Global Examples
3. Wetland Hydrology
4. Wetland Biogeochemistry
5. Biological Adaptations to the Wetland Environment
6. Wetland Ecosystem Development
7. Wetland Classification
8. Human Impacts and Management of Wetlands
10. Climate Change and Wetlands
11. Values and Valuation of Wetlands
12. Wetland Creation and Restoration
13. Treatment Wetlands
14. Wetland Laws and Protection