



COURSE IMPLEMENTATION DATE: January 2008
 COURSE REVISED IMPLEMENTATION DATE: May 2014
 COURSE TO BE REVIEWED: May 2020
(six years after UEC approval) *(month, year)*

OFFICIAL UNDERGRADUATE COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.
 Shaded headings are subject to change at the discretion of the department – see course syllabus available from instructor

<u>GEOG 319</u>	<u>Geography</u>	<u>4</u>
COURSE NAME/NUMBER	FACULTY/DEPARTMENT	UFV CREDITS
<u>Swamps and Bogs</u>		
COURSE DESCRIPTIVE TITLE		

CALENDAR DESCRIPTION:

Swamps and bogs, though typically representing a small portion of the ecosystems that maintain them, provide essential ecosystem function. In this course we will evaluate their function across environmental gradients, their biogeochemistry, and the flora and fauna that they support. In addition, we will evaluate wetland sediments from a variety of wetland types as proxies and archives of past environmental change at a variety of spatial and temporal scales. Field trips outside of class time (required) will emphasize local wetland form and function.

Note: Students with credit for GEOG 417 or BIO 417 cannot take this course for further credit.
 This course is offered as GEOG 319 and BIO 319. Students may only take one of these for credit.

PREREQUISITES: One of: AGRI 204 or 220; BIO 201, 202, 203, 210, or 220; or CHEM 213, 214, 221, or 241; or GEOG 201, 202, 211, 219, 252, or 253.

COREQUISITES:
 PRE or COREQUISITES:

SYNONYMOUS COURSE(S):

- (a) Replaces: GEOG 417/ BIO 417
- (b) Cross-listed with: BIO 319
- (c) Cannot take: BIO 319, GEOG417/BIO 417 for further credit.

SERVICE COURSE TO: *(department/program)*

TOTAL HOURS PER TERM: 75

STRUCTURE OF HOURS:

Lectures: 39 Hrs
 Seminar: _____ Hrs
 Laboratory: 12 Hrs
 Field experience: 24 Hrs
 Student directed learning: _____ Hrs
 Other (specify): _____ Hrs

TRAINING DAY-BASED INSTRUCTION:

Length of course: _____
 Hours per day: _____

OTHER:

Maximum enrolment: 25
 Expected frequency of course offerings: every other year
(every semester, annually, every other year, etc.)

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)

Yes No

WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)

Yes No

TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:

Yes No

Course designer(s): <u>Jonathan Hughes</u>	Date approved: <u>October 3, 2013</u>
Department Head: <u>Michelle Rhodes</u>	Date of meeting: <u>October 11, 2013</u>
Campus-Wide Consultation (CWC)	Date approved: <u>October 18, 2013</u>
Curriculum Committee chair: <u>David Fenske</u>	Date approved: <u>October 18, 2013</u>
Dean/Associate VP: <u>Lucy Lee</u>	Date of meeting: <u>November 22, 2013</u>
Undergraduate Education Committee (UEC) approval	

LEARNING OUTCOMES:

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

- Describe wetland classification at regional and global scales.
- Explain biogeochemical cycles that define swamps and bogs and regulate species distributions.
- Collect and describe organic sediments in the field for laboratory analysis.
- Determine and interpret physical qualities of wetland sediments.
- Build on advanced critical thinking, computation, and writing skills to produce scientific reports and oral presentations.
- Develop theoretical knowledge and field skills applicable to the profession of wetland science.

METHODS: *(Guest lecturers, presentations, online instruction, field trips, etc.)*

Course format will include lectures, presentations, discussions, laboratory sessions, and field trips.

METHODS OF OBTAINING PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Examination(s) Portfolio assessment Interview(s)

Other (specify):

PLAR cannot be awarded for this course for the following reason(s):

TEXTBOOKS, REFERENCES, MATERIALS:

[Textbook selection varies by instructor. An example of texts for this course might be:]

Mitsch, W.J. and Gosselink, J.G. 2007. *Wetlands* (Fourth Edition). New York: John Wiley and Sons, Inc. 600 pp.
van der Valk, A.G. 2012. *The Biology of Freshwater Wetlands*. Oxford University Press, 296 pp.
Articles from peer-reviewed journals and government reports.

SUPPLIES / MATERIALS:

Waterproof field notebook
Possible field-trip fee

STUDENT EVALUATION:

[An example of student evaluation for this course might be:]

Midterm exam:	20%
Presentation:	10%
Field and laboratory journal:	15%
Field report:	20%
Wetland plant identification quiz:	10%
Final exam:	25%

COURSE CONTENT:

[Course content varies by instructor. An example of course content might be:]

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
9. Climate Change and Wetlands
10. Values and Valuation of Wetlands
11. Wetland Creation and Restoration
12. Treatment Wetlands
13. Wetland Laws and Protection

Course Content Continued:

Example field-trip destinations include:

Cheam Lake wetlands
Chehalis River riparian
Great Blue Heron Reserve
Langley Bog and Derby Creek wetlands
Surrey Bend Park wetlands
Burns Bog
Blackie Spit Park and or Boundary Bay

Example laboratory activities include:

Organic matter content determination of wetland soils
Wetland plant identification
Plant macrofossil isolation and identification

When offered as a hybrid online course with field and laboratory components:

Using problem-based learning, field and laboratory components are combined with online instruction (hybrid model). An example problem-based exercise is to have students forecast the distribution of species in response to future climate change or develop conservation strategies in response to development or natural disturbance.

The course content listed above will be learned by students as they use inquiry-based methods to answer a suite of questions relevant to a specific problem.

Laboratory and field exercises will be completed on a weekly basis during regular class times over the course of the semester; in a condensed field-school format over one week; or in clusters of meetings over the course of the semester. Delivery format depends on when the course is offered.