OFFICIAL UNDERGRADUATE COURSE OUTLINE (page 1)

COURSE IMPLEMENTATION DATE: January 2007
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

GEOG 219	Geography	4
COURSE NAME/NUMBER	FACULTY/DEPARTMENT	UFV CREDITS

Biogeography
COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

Biogeography is the study of living things in space and time that integrates concepts and theory from geography, biology, geology, paleontology, and ecology. After an initial review of the history of biogeography, students will be introduced to patterns of distribution; mechanisms responsible for today's biodiversity; island biogeography; communities and ecosystems; and the influence of physical processes on species distribution. The course will also examine extinctions and radiations and the relevance of these processes for ecological forecasts. Field trips outside of class time are required.

Note: Students with credit for GEOG 317/BIO 317 may not take this course for further credit.
This course is offered as GEOG 219 and BIO 219. Students may only take one of these for credit.

PREREQUISITES: One of: AGRI 163; or BIO 105, 106, or 111; or CHEM 105, 110, 113, or 150; or GEOG 101, 102, 103, or 116; or PHYS 100, 101, 105, or 111.

COREQUISITES:

PRE or COREQUISITES:

SYNONYMOUS COURSE(S):
(a) Replaces: **GEOG 317/BIO 317**
(b) Cross-listed with: **BIO 219**
(c) Cannot take: **BIO 219, GEOG 317/BIO 317** 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: Annually
(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):	**Jonathan Hughes**		
Department Head:	**Michelle Rhodes**	Date approved:	**May 2, 2013**
Campus-Wide Consultation (CWC)		Date of meeting:	**October 11, 2013**
Curriculum Committee chair:	**David Fenske**	Date approved:	**October 18, 2013**
Dean/Associate VP:	**Lucy Lee**	Date approved:	**October 18, 2013**
Undergraduate Education Committee (UEC) approval		Date of meeting:	**November 22, 2013**

LEARNING OUTCOMES:

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

- Explain the mechanisms that regulate the distribution of organisms and be able to identify and compare biogeographical regions and discuss how these regions might change over time;
- Describe and summarize geologic time, evolution, ecology, and systematics in written and oral presentation;
- Use relevant data analysis and presentation software;
- Synthesize information from different disciplines, principally biology and geography;
- Build on advanced critical thinking, computation, and writing skills to produce scientific reports and oral presentations.

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:]

Cox, C.B. and P.D. Moore. 2010. Biogeography: An ecological and evolutionary approach, 8th edition. Wiley, 520 pp.
Articles from peer-reviewed journals and government reports.

SUPPLIES / MATERIALS:

Laboratory and field notebook.
Field-trip fee.

STUDENT EVALUATION:

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

Midterm exam:	20%
Presentation:	10%
Data analysis report:	20%
Field and lab journal:	20%
Final exam:	30%

COURSE CONTENT:

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

When offered as a lecture course with field and laboratory components:

1. A History of Biogeography
2. Patterns of Distribution
3. Communities and Ecosystems
4. Patterns of Biodiversity
5. The Engines of the Planet I: Plate Tectonics
6. The Engines of the Planet II: Evolution, the Source of Novelty
7. From Evolution to Patterns of Life
8. Life, Death, and Evolution on Islands
9. Drawing Lines in the Water
10. Living in the Past
11. The Geography of Life Today
12. Ice and Change
13. The Advent of Humanity

Possible field trip destinations include:
Fire history in Malcolm Knapp Research Forest
Biodiversity of Lodgepole pine forest near Chilliwack Lake
Invasive plants of urban parks (e.g., Mill Lake)
Eocene fossils in the Sumas Mountain quarry
Clear-cut biodiversity on Sumas Mountain

Course content continued:

Possible laboratory exercises include:
Introduction to micro- and macro-fossils suitable for paleoecology
Tree rings and their growth rate over time
Spreadsheet manipulation of data to calculate biodiversity

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.