

COURSE IMPLEMENTATION DATE: January 1997
 COURSE REVISED IMPLEMENTATION DATE: January 2009
 COURSE TO BE REVIEWED: November 2012
(four years after UPAC 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 402	Geography	4
COURSE NAME/NUMBER	FACULTY/DEPARTMENT	UCFV CREDITS
Quaternary Geology and Geomorphology		
COURSE DESCRIPTIVE TITLE		

CALENDAR DESCRIPTION:

This course will examine selected aspects of the stratigraphy, geomorphology, glacial geology, and long-term climate history of the Quaternary Period. Glacial and fluvial sedimentary models introduced in Geography 202 and 302 will be reviewed. Regional emphasis will be placed on southwestern British Columbia and adjacent regions. Fieldwork is an essential component of this course

PREREQUISITES: GEOG 302 or GEOG 304; or GEOG 202 with permission of the instructor
 COREQUISITES:
 PRE or COREQUISITES:

SYNONYMOUS COURSE(S):

- (a) Replaces: _____
- (b) Cross-listed with: _____
- (c) Cannot take: _____ for further credit.

SERVICE COURSE TO: *(department/program)*

TOTAL HOURS PER TERM: 75

STRUCTURE OF HOURS:

Lectures: 40 Hrs
 Seminar: _____ Hrs
 Laboratory: 35 Hrs
 Field experience: _____ Hrs
 Student directed learning: _____ Hrs
 Other (specify): _____ Hrs

TRAINING DAY-BASED INSTRUCTION:

Length of course: _____
 Hours per day: _____

OTHER:

Maximum enrolment: 20
 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): Dr. Olav Lian

Department Head: Dr. Ken Brealey

Date approved: January 2008

Supporting area consultation (UPACA1)

Date of meeting: February 8, 2008

Curriculum Committee chair: _____

Date approved: September 12, 2008

Dean/Associate VP: Eric Davis

Date approved: October 15, 2008

Undergraduate Program Advisory Committee (UPAC) approval

Date of meeting: November 21, 2008

LEARNING OUTCOMES:

Upon successful completion of this course, students will have applied, and built on, many of the skills and techniques developed in earlier physical geography courses to solve various field problems. The successful student will also be able to demonstrate an advanced understanding of regional Quaternary geology and geomorphology, and the mechanisms and evidence of long-term environmental (e.g., climate) change; will have gained knowledge about how Earth scientists date past environments and how fossil evidence can be used to reconstruct those environments; and will have gained an appreciation of how real research (in the field and the laboratory) is undertaken to solve problems in environmental science.

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

This course will be organized around a series of lectures, laboratory exercises, and field trips. The course will consist of a two-hour lecture, followed by a three-hour laboratory session. On many of the days, field trips will replace both the lecture and the lab components; at least one weekend field trip will be scheduled. In total, a minimum of five days will be spent in the field. The field trips will be to key sites in the Fraser Lowland and surrounding regions where research has been done to reconstruct environmental history. Field trips will also introduce the student to active research laboratories (e.g., Royal BC Museum, Pacific Geoscience Centre, Geological Survey of Canada).

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:]

Evans, D.J.A., and Benn, D.I. (2004). A practical guide to the study of glacial sediments. Arnold. London
Bennett, M.R. and Glasser, N.F., 1996. Glacial Geology: Ice Sheets and Landforms. Wiley.

SUPPLIES / MATERIALS:

All-weather clothing for field work; water-proof notebook; camera

STUDENT EVALUATION:

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

Field trip reports: 80%
Review (essay) of a selected research topic: 15%
Oral presentation of the selected research topic: 5%

COURSE CONTENT:

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

Lecture Topics

1. The Quaternary Period - an overview.
2. Mechanisms and records of long-term climate change
3. Quaternary sedimentological processes
4. Quaternary stratigraphy, facies analysis
5. Quaternary soils and fossil organic matter; microfossil and macrofossil records
6. Paraglacial sedimentation

7. Quaternary geochronological techniques and their uses and limitations
8. Glacial geology (structural geology of glacigenic sediments)
9. The Quaternary of North America with emphasis on southwestern BC.
10. Soils in the Quaternary record.