

COURSE IMPLEMENTATION DATE:	<u>September 2008</u>
COURSE REVISED IMPLEMENTATION DATE:	_____
COURSE TO BE REVIEWED:	<u>April 2012</u>
(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

<u>GEOG 303</u>	<u>Geography</u>	<u>4</u>
COURSE NAME/NUMBER	FACULTY/DEPARTMENT	UCFV CREDITS
<u>Principles of Hydrology</u>		
COURSE DESCRIPTIVE TITLE		

**CALENDAR DESCRIPTION:**

The hydrological cycle provides the mechanism by which the finite water resources on the Earth are cycled through the environment. This course will discuss the various processes that make up the hydrological cycle including precipitation, evaporation, run-off, flooding, and broader implications of water quality. Emphasis will be placed on the hydrology of British Columbia to provide context for the theoretical concepts being presented. Measurement and laboratory techniques will be introduced to provide important analysis skills. Field trips outside of class time will be required.

 PREREQUISITES: GEOG 201 or GEOG 202

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:	<u>38</u>	Hrs
Seminar:	_____	Hrs
Laboratory:	<u>25</u>	Hrs
Field experience:	<u>12</u>	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): Claire Beaney

 Department Head: Ken Brealey

Supporting area consultation (UPACA1) \_\_\_\_\_

 Curriculum Committee chair: Moira Gutteridge-Kloster

 Dean/Associate VP: Eric Davis

Undergraduate Program Advisory Committee (UPAC) approval \_\_\_\_\_

 Date approved: Feb. 15, 2008

 Date of meeting: Feb. 22, 2008

 Date approved: Mar. 14, 2008

 Date approved: Mar. 18, 2008

 Date of meeting: Apr. 25, 2008

**LEARNING OUTCOMES:**

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

1. Describe and explain the hydrological cycle;
2. Evaluate hydrological processes operating at a variety of local, regional, and global scales and show how they are integrated;
3. Measure and analyze hydrological processes and interpret the results appropriately;
4. Describe the key hydrological features of British Columbia;
5. Write an advanced lab/field report;
6. Show improved critical thinking, computation, and writing skills;
7. Transfer knowledge about hydrological processes to a career in the environmental field.

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

Instructional methods include lectures, 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 for this course might be:]*

Ward, RC and Robinson, M. 1999. Physical Hydrology. McGraw Hill. 4<sup>th</sup> edition.  
Newson, M. 1994. Hydrology and the River Environment. Oxford.

**SUPPLIES / MATERIALS:**

There will be a fee for field trip transportation and accomodation costs, if applicable.

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

Lab assignments	30%
Field/lab project	20%
Mid-term exam	25%
Final exam	25%

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

<u>Week</u>	<u>Topic</u>
1	Course introduction Lab: None
2	Water as a compound Lab: Long-term water balance
3	The hydrological cycle Lab: Open
4	Understanding watersheds and drainage basins Lab: Delineating watershed boundaries
5	Precipitation Lab: Precipitation distribution & integration
6	Interception Lab: Open
7	Evaporation Lab: Measuring evaporation and interception
8	Soil water Lab: Measuring soil water and calculating water pressure
9	Run-off Lab: Current metering, discharge ratings curves and hydrographs
10	Water Quality Lab: Project work
11	Hydrology and water issues in British Columbia Lab: Project work
12	Case study: glacial hydrology Lab: Project work
13	Mini conference to present project findings Lab: Project work