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**COURSE OUTLINE**  
**GEOG 476 ADVANCED STUDIES IN GEOMORPHOLOGY (CRN: 21680)**

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**Office Hours: Th 2:00 – 4:00 pm, or by appointment**

**Office Location:** DTB B124

**Contact:** [ekwooll@uvic.ca](mailto:ekwooll@uvic.ca)

**COURSE DESCRIPTION**

This course is an advanced, project-based investigation for senior students in geomorphology. In this course you will work on your own datasets to develop a testable hypothesis, conduct data analysis, and practice the presentation of findings in form of a poster and journal-style report. We will examine data analysis techniques using the R Software. Your performance will be evaluated based on the different project components (proposal, seminar, poster, report) and on the preparation of small assignments handed out during the R lectures on Thursday (s. schedule below). The projects are largely based on analysis of existing data, however we will learn to systematically plan and conduct a field campaign during lecture and conduct a short field survey on January 29<sup>th</sup>. More details on expectations regarding the different project components will be provided in class.

**PREREQUISITES**

GEOG 376; permission of the instructor

**LEARNING OUTCOMES**

At the end of this course, you should be able to

- Conduct a literature review and summarize key aspects of a geomorphological research problem
- Develop a testable hypothesis given a dataset, and write a proposal around the hypothesis
- Plan and conduct a small field campaign
- Detect pattern and processes in field data using advanced statistical techniques in R
- Prepare quality graphics for presentation of results in R
- Present your results in form of a poster to an audience of your peers
- Prepare a journal-style research report

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**RECOMMENDED TEXTS**

As part of your project preparation you will be asked to conduct a small literature review on your research topic. For this you are expected to use resources at the library to browse the peer-reviewed literature. In addition, I recommend the following two Ebooks that are downloadable through the library:

Shroder, John F et al. (2013) Treatise on Geomorphology, Elsevier/Academic Press, Amsterdam.  
Downloadable as EBook here: <http://www.sciencedirect.com/science/referenceworks/9780080885223>

Lafaye de Micheaux, Pierre et al. (2013) The R Software – Fundamentals of Programming and Statistical Analysis, Springer, New York. Downloadable as EBook here:  
<https://link.springer.com/book/10.1007%2F978-1-4614-9020-3>

## EVALUATION

In-class assignments and exercises:	15%
<b>Geomorphological project (should be done in pairs):</b>	
20-minute Proposal presentation and literature review (01.02-08.02)	20%
1-page written Proposal (due 11.02.2018)	10%
5-minute Poster Presentation (05.04.2018)	25%
Project Report (due 08.04.2018)	30%

## GRADING SYSTEM

As per the Academic Calendar:

Grade	Grade point value	Grade scale	Description
<b>A+</b> <b>A</b> <b>A-</b>	9 8 7	90-100% 85-89% 80-84%	<b>Exceptional, outstanding and excellent</b> performance. Normally achieved by a minority of students. These grades indicate a student who is self-initiating, exceeds expectation and has an insightful grasp of the subject matter.
<b>B+</b> <b>B</b> <b>B-</b>	6 5 4	77-79% 73-76% 70-72%	<b>Very good, good and solid</b> performance. Normally achieved by the largest number of students. These grades indicate a good grasp of the subject matter or excellent grasp in one area balanced with satisfactory grasp in the other area.
<b>C+</b> <b>C</b>	3 2	65-69% 60-64%	<b>Satisfactory, or minimally satisfactory.</b> These grades indicate a satisfactory performance and knowledge of the subject matter.
<b>D</b>	1	50-59%	<b>Marginal</b> Performance. A student receiving this grade demonstrated a superficial grasp of the subject matter.
<b>F</b>	0	0-49%	<b>Unsatisfactory</b> performance. Wrote final examination and completed course requirements; no supplemental.
<b>N</b>	0	0-49%	Did not write examination or complete course requirements by the end of term or session; no supplemental.

## GEOGRAPHY DEPARTMENT INFO

- Geography Department website: <http://geog.uvic.ca>
- Undergraduate Advisor: Dr. Phil Wakefield – [geogadvisor@uvic.ca](mailto:geogadvisor@uvic.ca)
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## **COURSESPACES**

I will upload material on coursespaces: <https://coursespaces.uvic.ca>

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## **POLICY ON LATE ASSIGNMENTS**

A deduction of 25% of the total mark per weekday (weekends count as 1 day) will be applied to all late assignments. Accommodations are made only for extenuating circumstances with proper medical or counselling documentation provided.

## **ACADEMIC INTEGRITY**

It is every student's responsibility to be aware of the university's policies on academic integrity, including policies on **cheating, plagiarism, unauthorized use of an editor, multiple submission, and aiding others to cheat.**

**Policy on Academic Integrity:** <http://web.uvic.ca/calendar/undergrad/info/regulations/academic-integrity.html>

If you have any questions or doubts, talk to me, your course instructor. For more information, see <http://www.uvic.ca/learningandteaching/students/resources/expectations/>.

## **ACCESSIBILITY**

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a documented disability or health consideration that may require accommodations, please feel free to approach me and/or the Centre for Accessible Learning (CAL as soon as possible <https://www.uvic.ca/services/cal/>). The RCSD staff is available by appointment to assess specific needs, provide referrals, and arrange appropriate accommodations. The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

## **POSITIVITY AND SAFETY**

The University of Victoria is committed to promoting, providing and protecting a positive and safe learning and working environment for all its members.

## **COURSE EXPERIENCE SURVEY (CES)**

I value your feedback on this course. Towards the end of term, as in all other courses at UVic, you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. The survey is accessed via MyPage and can be done on your laptop, tablet, or mobile device. I will remind you and provide you with more detailed information nearer the time but please be thinking about this important activity during the course.

## WEEKLY CALENDAR

I have designed this course to consist of more theoretical parts with lectures on Mondays and R practicals and hands-on coding on Thursdays. Please bring your own laptop on Thursdays, if you have one. There are two weeks where I have scheduled no classes, which should be used to work on your projects and to discuss your progress with the instructor. There are three dates scheduled for the proposal and review presentations on 01.02 / 05.02 / 08.02.2018.

W	Date	Monday	Date	Thursday
1			4.01	Course Outline and instructions, Fundamentals of Geomorphological Research
2	8.01	Literature Review / Writing a research proposal	11.01	R - Intro, Loading Data
3	15.01	Preparing a presentation / Working in teams	18.01	R - plotting, trends, statistics
4	22.01	Planning a field campaign (techniques)	25.01	R - Field Survey data
5	29.01	Field Survey	1.02	Proposal and Review Presentations
6	5.02	Proposal and Review Presentations	8.02	Proposal and Review Presentations
7	12.02	Reading Break	15.02	Reading Break
8	19.02	Data analysis	22.02	R - interpolation, smoothing, curve fitting
9	26.02	Scientific Writing I (Outline, Introduction, Methods, Results (Figures))	1.03	R - cross-correlation, spectral analysis
10	5.03	Group meetings (bring your figures + outline)	8.03	Group meetings (bring your figures + outline)
11	12.03	Scientific Writing II (Discussion, Conclusion)	15.03	R - Group specific problems
12	19.03	How to make a scientific poster	22.03	R - Advanced plotting
13	26.03	Individual meetings (bring posters)	29.03	Individual meetings (bring posters)
14	2.04	Holiday	5.04	Poster Presentations

## DISCLAIMER

The above schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances.