Geography 428
Advanced Topics in
Geographic Information
Science

Fall 2014

Instructor:	Dr. Rosaline Canessa (rosaline@uvic.ca)
	Tel: 721-7339; Office: DTB A239
	Office hours: Tuesday 12:30 – 2:00, Friday 10:30-12:00 or by appointment.
Teaching Assistant:	Bryan Mood (bjmood@uvic.ca)
Lectures:	Tuesday and Wednesday 12:30 -1:20, Clearihue A205
Lab:	Wednesday 14:30-17:20; 18:30-21:20 DTB A253

Learning Objectives:
- to continue to develop new GIS skills;
- to integrate and apply existing skills to a project of your own interest;
- to think critically about the broad application of and technological advances in GIS;
- to develop project design and management skills.

Pre-requisites: GEOG328 or GEOG329

Readings: Weekly readings will be assigned during the term.

Labs: There will be weekly lab periods during the term. The intent of the labs at the beginning of the term will be to develop and expand your GIS skills beyond previous courses (e.g., finding GIS datasets, programming). These labs are for your own benefit and there will not be an assignment associated with them. During the second half of the term, the main aim of the lab period is for you to work on your projects and get support from the TA. You are strongly advised to make use of this lab time as you will have the dedicated availability of the TA and computers.

Evaluation

Hot topic	5%
Research topic discussion	15%
Research project	60%
Project proposal report (10%)	
Project progress report (10%)	
Project presentation (15%)	
Project final paper (25%)	
Participation	20%

General submission information for all assignments
1-inch margins, 12 point font, 1½ line spacing, excluding figures, tables and appendices. Assignments must be submitted electronically on CourseSpace and in hardcopy to the instructor by the due date and time.

Hot topic **DUE DATE: January 16, noon**.
The intent is to initiate the process of selecting a research topic of your interest. Choose a current topic in GIS. It could be an application area such as epidemiology, wildlife movement, business; technology related such as web-based GIS, visualization, open source; or related to spatial analysis such as spatio-temporal analysis, spatial statistics, data uncertainty. Find 2 seminal or recent papers (at least one of which must be an academic paper) and write a 2-page typed essay that interrogates the articles and demonstrates your critical thinking. DO NOT just summarise the articles. Include a discussion on your ideas for developing a project on the topic covered in the articles.

Research Topic Discussion **DUE DATE: Throughout term (sign up)**
The intent is to explore the breadth and advances in GIS through reading, critical thinking and discussions. Students working in pairs will be responsible for presenting and facilitating a 35-minute discussion on their topic. The week before your discussion you must submit a reference to an article (if it is from an online journal) or a digital copy of the article for distribution to the class, 1 week before your discussion. Your discussion should engage the class, emphasise the advancements and challenges in this area, and critique the article (e.g., data, methods, analysis etc). To effectively facilitate your discussion you will be required to read and show evidence that you have read more than just the one article. For your discussion you may choose to present some information, pose questions, think-pair-share, present a case study for analysis to illustrate your points, do a demonstration, have students work through a problem etc. You will be evaluated on your presentation, critique and analysis of the topic and engagement of the class.

Research Project
The project is the main focus of the course and is intended to solidify and advance your GIS skills and to develop project design and management skills by developing research questions/objectives, undertake analysis and present results in an academic forum. Project topics are flexible but you must discuss them with your T.A. GIS software is also flexible but you can use either an Open Source GIS, e.g., QGIS, or ArcGIS (available in the lab). Several milestones and deliverables are scheduled throughout the term.

Project proposal **DUE DATE: Sep 24, noon**
A typed report (5-page max) describing (1) rationale/problem overview, (2) research question(s) or objective(s), (3) a literature review that provides the context and relevance of your project, (4) data sources and initial assessment of the quality and limitations of the data, (5) preliminary approach in a flow chart, (6) preliminary methods, (7) timeline including a general breakdown of tasks, and (7) potential issues.
Project progress report **DUE DATE: Oct 29, noon**
A typed report (5-page max) demonstrating how you (1) obtained data, (2) metadata issues, (3) more detailed research methods, (4) how your methods may

have changed from your initial flow chart, (5) a summary of analysis to date, and (6) challenges addressed.

Project final presentation **DUE DATE: Nov 25, noon**

A 15-minute oral presentation in (PowerPoint or PDF format) followed by 5 minutes of questions. Presentations are expected to be conference style, well-organised and illustrated and include an introduction, presentation outline, goal, data description, methods, results and discussion and conclusions. The conclusion should highlight three main messages to your audience. If you presentation includes a software demonstration, please make arrangements with the T.A. Project presentations will take place Nov 26, Dec 2 and Dec 3 during the lecture and lab periods.

Project final paper **DUE DATE: Dec 8, noon**

A 22-26 page typed paper (including figures, tables and references) written in *the International Journal of Geographic Information Science* format and following the authors' instructions.

Participation

Most of the lecture component of the course will follow a seminar style (as opposed to instructor-led delivery of content). Therefore, your active participation in class discussions with informed, relevant, and insightful comments and questions will be vital to its success.

Late Policy: 10% will be deducted from each assignment (hot topic synopsis, project proposal written submission, project update written submission, project final paper) for every day late. Exceptions will only be granted for medical reasons (requiring a written note from a medical practitioner stating your inability to attend class) or other documented significant personal circumstance.

GIS Journals: International Journal of Geographical Information Science
The Geographical Journal
Geoforum
Computers and GeoSciences
GeoInformatica
International Journal of Digital Earth
Journal of Geographical Sciences
Transactions in GIS
Journal of Spatial Science
Journal of Geographical Systems
Journal of Geographic Information Systems
Geocarto International
Geo-spatial Information Science
GeoJournal
Geographical Research
Geography Compass
GeoJournal
International Journal of Spatial Data Infrastructures Research

Grading Policy:

A+	A	A-	B+	B	B-	C+	C	D	F	N*
90-100%	85-89%	80-84%	77-79%	73-76%	70-72%	65-69%	60-64%	50-59%	0-49%	(Fail)

N grades:
Students who have completed the following elements will be considered to have completed the course and will be assigned a final grade:

- *Research topic discussion*
- *Research project (proposal report, progress report, oral presentation, final paper)*

Failure to complete one or more of these elements will result in a grade of "N" regardless of the cumulative percentage on other elements of the course. An N is a failing grade, and it factors into a student's GPA as 0 (zero). The maximum percentage that can accompany an N on a student's transcript is 49.

Passing Grades	Description
A+ A A-	Earned by work that is technically superior, shows mastery of the subject matter, and in the case of an A+ offers original insight and/or goes beyond course expectations. Normally achieved by a minority of students.
B+ B B-	Earned by work that indicates a good comprehension of the course material, a good command of the skills needed to work with the course material, and the student's full engagement with the course requirements and activities. A B+ represents a more complex understanding and/or application of the course material. Normally achieved by the largest number of students.
C+ C	Earned by work that indicates an adequate comprehension of the course material and the skills needed to work with the course material and that indicates the student has met the basic requirements for completing assigned work and/or participating in class activities.
D	Earned by work that indicates minimal command of the course materials and/or minimal participation in class activities that is worthy of course credit toward the degree.
F	Earned by work, which after the completion of course requirements, is inadequate and unworthy of course credit towards the degree.

* As stated in the 2014-2015 Calendar

Lab Policy The lab is open Monday through Friday from 8:30 am to 4:30 pm. You have priority During your designated lab periods, Wednesdays 2:30-5:30pm and 6:30pm-9:30pm. For access during evenings and weekends, a key fob can be signed out from Rick Sykes at a cost of $10. You are also allowed a maximum of 40 pages of printing for the course. To print you login with your netlink ID and your password is your student number (uppercase 'V').

Classroom Environment   My aim is to encourage an engaging, respectful, effective and inspiring learning environment for all. This includes using a variety of teaching tools, being on time and prepared, facilitating and participating in informed and attentive discussions, and minimizing distractions. Towards this end only electronic devices that are being used for lecture purposes (i.e., note-taking, accessing the web for discussion information) may be used in the class. Texting, tweeting, instagramming, facebooking, surfing, social networking, game playing etc are distracting and disrespectful to the instructor and your fellow students (Tindall and Bohlander 2011). Furthermore, studies have shown that using electronic devices in the classroom other than for note-taking leads to statistically lower grades (Duncan, Hoekstra and Wilcox 2012)! A student seen to be using an electronic device for reasons other than legitimate lecture purposes will first receive a warning. A second violation will result in confiscation of the device for the duration of the lecture.

Academic Integrity: Academic integrity requires commitment to the values of honesty, trust, fairness, respect and responsibility. Violations of academic integrity covered by the university's Policy on Academic Integrtity can take a number of forms, including
- plagiarism;
- multiple submission;
- falsifying materials subject to academic evaluation;
- cheating on assignments, tests and examinations; and
- aiding others to cheat.

Students are responsible for being familiar with the university's Policy on Academic Integrity. Students who are in doubt as to what constitutes a violation of academic integrity should consult their course instructor. I reserve the right to use Turnitin (http://web.uvic.ca/turnitin/) to deter and detect plagiarism.

'The University of Victoria is committed to promoting, providing and protecting

a positive, supportive and safe learning and working environment for all its members.'