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**COURSE OUTLINE**  
**GIS ANALYSIS**

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**Office Hours: Wednesdays at 2:00pm**

**Office Location:** DTB A237

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

**Class Meetings:** Tuesdays and Wednesdays 12:30 pm to 1:20 pm

**Classroom:** COR A129

**COURSE DESCRIPTION**

This course focuses on analysis for mapping and modeling, developing and using geographic data to answer spatial research questions, conducting basic spatial interpolations, and carrying-out multi-criteria modelling.

**LEARNING OUTCOMES**

1. Understand how GIS can be used to solve spatial problems (theoretically and practically) in Geography and other disciplines.
2. Build a foundation in using GIS to: create summary statistics for geographic data, conduct terrain analysis, calculate a least cost path and interpolate data with ArcMap Software.
3. Acquire a strong academic skills foundation - specifically research - to find the resources you need, to collect, analyze and interpret data, to present results effectively and communicate findings in a report format.
4. Be able to critically evaluate the capabilities and limitations of GIS analysis.

**REQUIRED TEXTS AND LEARNING RESOURCES**

Many of the assigned readings for this course will come from a free online e-resource entitled, Geospatial Analysis - 5th Edition, 2015 by: de Smith, Goodchild, Longley (<http://www.spatialanalysisonline.com/HTML/index.html>). In addition, a list of supplemental readings and learning materials will be posted on CourseSpaces.

If you are interested, the recommended print textbook for this course is below. You may be able to find a used copy in the Bookstore or Student Union. Chang, K. T., Introduction to Geographic Information Systems., New York: McGraw-Hill

## EVALUATION

Laboratory Assignments x 5	50% (10% each)
Midterm Exams x 2	20% (10% each)
Final Exam (during Final Exam period)	30%

Exam Format: The questions for the midterm exam and final exam will be based on lectures, course learning resources and in-class discussion. The midterm tests will only cover the topics discussed immediately preceding it. The final exam is comprehensive, but will be weighted more heavily on material not previously tested on. Format includes a combination of multiple-choice and short-answer questions. Examples will be provided in class.

## COURSE COMMUNICATION

CourseSpaces learning management systems (LMS) will serve as the main avenue of communication in this course (<http://coursespaces.uvic.ca>). This is where I will put important resources that I think will help you along including course information, topic handouts, important dates, announcements, lab materials, and TA information (email addresses and office hours). Please go here first and visit often. If you are having difficulty logging in or password problems, contact the Computer Help Desk Email: [helpdesk@uvic.ca](mailto:helpdesk@uvic.ca), Tel: 250-721-7687

## GEOGRAPHY DEPARTMENT INFORMATION

Geography Department website: <http://geog.uvic.ca>  
Undergraduate Advisor: Dr. Phil Wakefield [geogadvisor@uvic.ca](mailto:geogadvisor@uvic.ca)  
Department Chair: Dr. Johannes Feddema [geogchair@uvic.ca](mailto:geogchair@uvic.ca)

## 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.

## **IMPORTANT COURSE POLICIES**

Students are expected to attend all lectures and labs, take notes and be punctual. A high level of student cooperation and participation, involving asking and answering questions is expected.

Students must complete all evaluation components to obtain credit. Failure to complete an any evaluation component without permission from the instructor, will result in an 'N' grade, which equals a Grade Point Value of 0.

Topic handouts based on lecture presentations will be provided before the beginning of class meetings on CourseSpaces. These handouts will be removed 7 days after the posting date. Students are responsible for downloading/saving and completing notes packages. *If you miss any material, make arrangements to get handouts from a fellow student, not from the instructor.*

Late assignments will be penalized 20% per day (including weekends and holidays). Exceptions will only be granted for documented medical or compassionate reasons. Please inform the instructor of your situation promptly and present written proof within five working days. *Only the course instructor can grant exceptions.*

Students will not be permitted to write make-up tests except for documented medical or compassionate reasons. Any make-up test or examination may not follow the same format as the in-class one. Please inform the instructor of your situation promptly and present written proof within five working days. *Only the course instructor can grant exceptions.*

Cell phones must be turned off or silenced during lectures and labs and ONLY be used during field activities if pertinent to do so.

Conflicts with holidays or travel plans are not considered an acceptable reason to apply for a deferred exam or assignment extension.

Please attend only the laboratory section for which you are registered. If you must miss a lab for exceptional circumstances, please make arrangements with your TA and Instructor in advance to attend another section. In this situation, you may be asked to attend a specific lab section because of space requirements and this may result in you missing content from other classes. This however does not change the due date of your lab assignment.

Details regarding your labs and their marks are managed by the course TAs. Please discuss any issues or questions on labs with your TA first and then come to see me if you would like further clarification.

Unless otherwise stated students are expected to complete assignments independently.

## **PLAGIARISM**

Academic dishonesty (plagiarism, cheating) is a very serious matter in any academic institution and is dealt with severely at the University of Victoria. *The responsibility of the institution:* Instructors and academic units have the responsibility to ensure that standards of academic honesty are met. By doing so, the institution recognizes students for their hard work and assures them that other students do not have an unfair advantage through cheating on essays, exams, and projects. *The responsibility of the student:* Plagiarism sometimes occurs due to a misunderstanding regarding the rules of academic integrity, but it is the responsibility of the student to know them. If you are unsure about the standards

for citations, for referencing your sources, or unauthorized use of an editor, please familiarize yourself with the University policy on academic integrity found in the Undergraduate Calendar at the following website <http://web.uvic.ca/calendar/undergrad/info/regulations/academic-integrity.html>.

Please contact me if you have any questions.

Infractions will be dealt with in accordance with University policy. Commonly, the penalty for any form of cheating/plagiarism is a grade of F on the tests or laboratory assignments, or a final grade of F in the course. However, depending on the severity of the case other penalties may include a record on the student's transcript or expulsion.

### **ACCESSIBILITY**

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a documented disability/health consideration that may require accommodations, please feel free to approach me and/or the Centre for Accessible Learning (CAL) as soon as possible. The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations <http://www.uvic.ca/services/cal/>. 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. To ensure that all class members feel welcomed and equally able to contribute to class discussions, we will all endeavour to be respectful in our language, our examples, and the manner in which we conduct our discussions and group work. If you have any concerns about the climate of the class, please contact me.

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

We 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.

## TENTATIVE LECTURE SCHEDULE\*

Week	Dates	Topic
1	Jan 3	Topic 1
2	Jan 9 & 10	Topic 1 and Topic 2
3	Jan 16 & 17	Topic 2 continued
4	Jan 23 & 24	Topic 2 and Topic 3
5	Jan 30 & 31	Topic 3 continued
6	Feb 6 & 7	<b>Oct 10 Midterm Exam 1</b> (Topics 1-2) and Topic 4
7	Feb 13 & 14	<i>Reading Break – no classes</i>
8	Feb 20 & 21	Topic 4
9	Feb 27 & 28	Topic 4 continued and Topic 5
10	March 6 & 7	Topic 5
11	March 13 & 14	<b>Nov 7 Midterm 2</b> (Topics 3 and 4) and Topic 6
12	March 20 & 27	Topic 6
13	April 3 & 4	Catch up and Review!

\* *dates and topics may change*

Topic 1: Introductory Concepts and Review

Topic 2: Spatial Analysis Building Blocks

Topic 3: Terrain Analysis

Topic 4: Multi-criteria Modeling

Topic 5: Interpolation

Topic 6: Special Topics in Research

### **University of Victoria Important Dates**

*Sept 22 – Last day for adding courses that begin in the first term.*

*Oct 31 - Last day for withdrawing from first term courses without penalty of failure*

*Additional important dates can be accessed through the link below.*

<http://web.uvic.ca/calendar/general/dates.html>

## LAB INFORMATION

The laboratory component of this course is supported by Teaching Assistants (TAs) and Jessica Fitterer (Senior Laboratory Instructor - GIS). You can find lab supporting material and lab assignments on the course website below.

### LAB MANUAL ACCESS

<http://labs.geog.uvic.ca/geog328/>

username: geog328 password: gis328

### LAB ACCESS POLICY

The lab is open Monday through Friday from 8:30 am to 4:30 pm. A schedule of lab availability schedule is posted outside the door. For evenings and weekends and after-hours a key can be signed out from Rick Sykes.

You will have space on our servers to complete assignments – only materials relating to GEOG 328 can be stored – no personal or private material allowed.

Week	Dates	Lab	Due
Week 1	Jan 3 <sup>rd</sup> – Jan 5 <sup>th</sup>	<b>No Lab</b>	
Week 2	Jan 8 <sup>th</sup> – Jan 12 <sup>th</sup>	Lab 1 – Spatial Joins and Summary Statistics	
Week 3	Jan 15 <sup>th</sup> – Jan 19 <sup>th</sup>	Lab 1	
Week 4	Jan 22 <sup>nd</sup> – Jan 26 <sup>th</sup>	Lab 2 – Data Collection	Lab 1
Week 5	Jan 29 <sup>th</sup> – Feb 2 <sup>nd</sup>	Lab 2	
Week 6	Feb 5 <sup>th</sup> – Feb 9 <sup>th</sup>	Lab 3 – Terrain Analysis	Lab 2
<b>Week 7</b>	<b>Feb 12<sup>th</sup> - Feb 16<sup>th</sup></b>	<b>Reading Break</b>	
Week 8	Feb 19 <sup>th</sup> - Feb 23 <sup>rd</sup>	Lab 3	Lab 3
Week 9	Feb 26 <sup>th</sup> – March 2 <sup>nd</sup>	Lab 4 – Least Cost Path	
Week 10	March 5 <sup>th</sup> – March 9 <sup>th</sup>	Lab 4	Lab 4
Week 11	March 12 <sup>th</sup> – March 16 <sup>th</sup>	Lab 5 – Interpolation	
Week 12	March 19 <sup>th</sup> – March 23 <sup>rd</sup>	Lab 5	
Week 13	March 26 <sup>th</sup> – March 30 <sup>th</sup>	<b>No Lab</b>	Lab 5
Week 14	April 2 <sup>nd</sup> – April 6 <sup>th</sup>	<b>No Lab</b>	

### DISCLAIMER

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