



**GEOGRAPHY FINAL COURSE OUTLINE: FALL 2011
GEOGRAPHY 537
H(2-3)**

Geographic Information Systems in Forest Ecology

Timetable: Fall block week, September 1 - September 10 2011

Location: Blue Lake Forest Education Centre, near Cranbrook, British Columbia

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| Instructor: Adam McLane | Office: ES 904 |
| Telephone: 210-8761 | Email: ajmclane@ucalgary.ca |

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| TA: Andrew Befus | Email: abbefus@ucalgary.ca |
| Course assts: David Birkigt | Email: dbbirkigt@gmail.ca |
| Rachel Cullen | Email: rmcullen@ucalgary.ca |
| Additional instructors: Greg McDermid | Email: mcdermid@ucalgary.ca |
| Baruch Laskin | Email: baruchlaskin@gmail.com |

Official Course Description:

This course uses problem-based learning approaches to investigate dynamic-forested landscapes using digital data in GIS environment. Students will gain hands-on experience with critical field and computer based method, such as 'ground truth' vegetation sampling adhering to Vegetation resource Inventory standards, GPS georeferencing, and strategies for performing environmental management activities.

Course Content

The goal of this course is to challenge students to use a variety of geospatial tools and resources to solve a sequence of practical 'problems' related to landscape-level GIS analysis in a forested environment. The toolset consists of field methods, computer resources, written material, lectures and tutorials. Success will require teamwork, project management, technical skills and critical thinking: the foundation of a successful GIS expert.

Course delivery will consist of a blend of lectures, field work, computer labs, readings and group discussions. The applications and principles of GIS analysis of the forest environment will be presented with an emphasis on the importance of a large-area, landscape scale applications in forest management. The Vegetation resource Inventory (VRI) is a key source of environmental information in British Columbia's forested environments, but these data must be firmly tied to field observations to ensure maximum effectiveness. We will examine these linkages by reviewing the AVI, alternative information sources (remote sensing imagery), field equipment and the data collection protocols necessary to assemble a geospatial data base that is capable of assessing the accuracy of the AVI. Students will then use their assembled data layers to solve an assigned forest management issue, and use the knowledge gained in the accuracy assessment to perform a sensitivity analysis. What impact does the accuracy of the input layers have on potential management solutions?

The following schedule is tentative. Tutorial sessions designed to allow each student team the opportunity to outline their questions and discuss potential solutions will be held each evening.

Required Text: Husch, B. et. Al., 2003: *Forest Mensuration*. Wiley, Hoboken, NJ

Readings/Manual: TBA

Grading (Weighting):

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| 1. | Labs | | |
| | Lab1. Variable and Fixed Area Plots | | 5% |
| | Lab2. Field Mapping Techniques | | 5% |
| 2. | Group Project | | |
| | Project Proposal | | 10% |
| | Sampling Design/Field Maps | | 5% |
| | Interim Report | | 10% |
| | Final Report | | 15% |
| | Group Oral Presentation | | 10% |
| 3. | Final Examination (short answer, 1.5 hour exam) | | 30% |
| 4. | Participation | | 10% |

Note: it is not necessary to pass each course component in order to pass the course.

Marks awarded for group work may be subject to re-distribution amongst group members in the event of extreme imbalances amongst the contributions of individuals. This possibility is at the discretion of the instructor.

The only acceptable reasons for missing an examination in this class, as listed in the Deferral of Final Examinations section of the University of Calgary Calendar are illness, domestic affliction, or religious conviction. If you miss an assignment or examination and you provide me with the appropriate documentation, you will have one opportunity to make arrangements for the missed work. Without appropriate documentation you will receive a zero for that portion of your grade.

Prerequisite: consent of the instructor.

Program Fees: the estimated program cost is \$648 which includes travel, tuition, accommodations and meals at the Blue Lake Forest Education Centre, near Cranbrook, British Columbia.

Grading System:

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|--------|----|-------|----|-------|----|
| 96-100 | A+ | 77-80 | B | 59-61 | C- |
| 90-95 | A | 71-76 | B- | 55-58 | D+ |
| 86-89 | A- | 65-70 | C+ | 50-54 | D |
| 81-85 | B+ | 62-64 | C | 0-49 | F |

For additional detailed course information posted by the Instructor see Blackboard at:
<http://blackboard.ucalgary.ca/>

Writing across the Curriculum

Writing skills are not exclusive to English courses and, in fact, should cross all disciplines. The University supports the belief that throughout their University careers, students should be taught how to write well so that when they graduate their writing abilities will be far above the minimal standards required at entrance. Consistent with this belief, students are expected to do a substantial amount of writing in their University courses and, where appropriate, members of faculty can and should use writing and the grading thereof as a factor in the evaluation of student work. The services provided by the Writing Centre in the Effective Writing Office can be utilized by all undergraduate and graduate students who feel they require further assistance.

Principles of conduct

The University of Calgary Calendar includes a statement on the Principles of conduct expected of all members of the University community (including students, faculty, administrators, any category of staff, practicum supervisors and volunteers) whether on or off the University's property. This statement applies in all situations where the members of the University community are acting in their University capacities. All Members of the University Community have a responsibility to familiarize themselves with this statement which is available at: <http://www.ucalgary.ca/pubs/calendar/current/j-2.html>

Plagiarism

Academic dishonesty is not an acceptable activity at the University of Calgary and students are **strongly advised** to read the Student Misconduct section in the University Calendar. Quite often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are 1) presenting another student's work as your own 2) presenting an author's work or ideas as your own without proper referencing and 3) using work completed for another course. This activity will not be tolerated in this course and students conducting themselves in this manner will be dealt with according to the procedures outlined in the calendar.

<http://www.ucalgary.ca/honesty/plagiarism>

Disability Resource Centre Accommodations

If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than fourteen (14) days after the start of this course.

Freedom of Information and Protection of Privacy

FOIP: The Freedom of Information and Protection of Privacy (FOIP) legislation disallows the practice of having students retrieve assignments from a public place, e.g., outside instructor's office, the department office, etc. Term assignments will be returned to students individually, during class or during the instructor's office hours; if students are unable to pick up their assignments from the instructor, they provide the instructor with a stamped, self-addressed envelope to be used for the return of the assignment.

Re: Posting of Grades and Picking-up of Assignments

- All assignments will be handles on Blackboard.
- Their own grades will be available to each student on Blackboard by password access. Grades will **not** be available at Geography's main office.

Contact Information for Student and Faculty Representation

- SU VP Academic Phone: 220-3911 and e-mail: suypaca@ucalgary.ca
- SU Faculty Rep. Phone: 220-3913 and e-mail: arts1@ucalgary.ca
- The students ombudsman office information can be found at:
<http://www.su.ucalgary.ca/page/affordability-accessibility/su-structure/contact-info>

Campus Safewalk

Campus Security, in partnership with the Students' Union, provides the Safewalk service, 24 hours a day, to any location on Campus including the LRT, parking lots, bus zones and University residences. Contact Campus Security at 220-5333 or use a help phone, and Safewalkers or a Campus Security officer will accompany you to your Campus destination.