



## GEOGRAPHY FINAL COURSE OUTLINE: FALL 2013

### GEOGRAPHY 603 H(3-3)

#### Remote Sensing: Basics and Beyond

Instructor: Mryka Hall-Beyer	Office: ES 458
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\*GEOG603 is offered in **online format only**. There are no scheduled lecture or lab periods, to allow full participation by remote students. All lecture material is available on the course Blackboard site. Labs are carried out individually using student-purchased software. Lectures, lab instructions and all supplementary material will be available using the Blackboard online courseware system <http://www.blackboard.ucalgary.ca>. Communication is normally handled through email, Blackboard-based discussion boards and Skype. Students will be automatically enrolled on the course Blackboard site once they have registered for the course and activated their University of Calgary IT accounts. Students may, as they wish and are able, arrange group study or lab sessions within the constraints of plagiarism guidelines. The professor is available via email and by appointment.

#### Official Course Description

Introduction to the theory and practice of remote sensing. Topics include physics or remote sensing, sensor systems, resolutions, geometric and radiometric correction, image analysis (enhancements, filtering, texture analysis, principal components, classification approaches and algorithms and accuracy). Specific image acquisition systems and their methodological requirements. Emphasis is on fundamental concepts. Laboratory provides experience with fundamental image processing techniques and project completion and writing.

#### Prerequisite

Consent of the Department.

**Students must have, or have access to, a computer able to install and run the required image processing software** (there is no Mac version and PC partitions on a Mac have not worked well in the past) **and have a connection able to upload and download large files.**

#### Supplementary Fees N/A

#### Text(s)/Readings

1. Jensen, J.R. Introductory Digital Image Processing 3rd ed. (2004) Prentice-Hall. ISBN-10: 0131453610; ISBN-13: 978-0201508031.
2. Northey, M., D.B. Knight and D. Draper. 2010. Making Sense in Geography and Environmental Sciences: A Student's Guide to Research and Writing. Oxford University Press: ISBN 978-0-19-544002-7
3. Warner, T.A and D.J. Campagna. 2009. Remote sensing with IDRISI® Idrisi Selva: A Beginner's Guide. Hong Kong: Geocarto International. ISBN 978-962-8226-27-6. (<http://www.geocarto.com>). Order through this website but allow time for delivery.

4. Recommended for students wanting detailed technical information: J.A. Richards and X. Jia, Remote Sensing Digital Image Analysis: an Introduction. 4th ed. 2005, Springer. ISBN-10 3-540-25128-6 or ISBN-13 978-3-540-25128-6.

### Software

All students need to purchase and install Idrisi Selva® image processing software, student starter edition, available at:

<http://www.clarklabs.org/buy/buy-online.cfm?method=main.chooseProducts&type=new&cat=STUD>

Detailed information is available on the course Blackboard site. Students are strongly advised not to use different image processing software, as all lecture demonstrations and labs are adapted to Idrisi Selva. Students electing to use different software will not receive technical support, and assignments will not be altered to accommodate their choice.

### Grading (Weighting)

Participation in online discussions, quizzes	10%
Formal labs: 4 @ 10%	40%
Term Test:	10%
Essay:	15%
Lab-based final project: Proposal 3% + Report 22%	25%

### There is no final examination for this course

**To pass the course** all components listed above must be *completed*. The average of all grades must be passing, but it is *not necessary to pass* each component in order to pass the course as a whole. Students are reminded that at the graduate level, they must receive a B- or better to count the course towards their program.

### Grading System

Numerical grades and the final course letter grade will be awarded according to the following scheme. Grades awarded on a letter basis (see below) will be converted at the midpoint of the range (e.g. A+ will be averaged as 96)

94-100 A+	75-79.99B	56-60.99C-
88-93.99 A	70-74.99B-	52-55.99D+
84-87.99A-	66-69.99C+	50-51.99D
80-83.99 B+	61-65.99C	0-49.99 F

For material graded with letters, the following meaning is applied:

A+ Outstanding performance

A Excellent-superior performance, showing comprehensive understanding of subject

A-

B+ Good – solid understanding of the material

B

B- Marginally satisfactory performance at the graduate level – basic understanding of the subject.

C+

C Basic understanding of the subject; inadequate for further work at the graduate level.

C-

D+ Minimal Pass-marginal performance for undergraduate level

D

F Fail - - poor performance

**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>

### **Student Accessibility Services Accommodations**

If you are a student with a documented disability who may require academic accommodation and have not registered with Student Accessibility Services, please contact their office at 220-8237. Students who have not registered with Student Accessibility Services 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 handled through Blackboard or personally.
- 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](mailto:suypaca@ucalgary.ca)
- SU Faculty Rep. Phone: 220-3913 and e-mail: [arts1@ucalgary.ca](mailto: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.

### **Faculty of Arts Program Advising and Student Information Resources**

- Have a question, but not sure where to start? The new Faculty of Arts Program Information Centre (PIC) is your information resource for everything in Arts! Drop in at SS110, call us at 403-220-3580 or email us at [artsads@ucalgary.ca](mailto:artsads@ucalgary.ca). You can also visit the Faculty of Arts website at <http://arts.ucalgary.ca/undergraduate> which has detailed information on common academic concerns.
- For program planning and advice, contact the Student Success Centre (formerly the Undergraduate programs Office) at (403) 220-5881 or visit them in their new space on the 3<sup>rd</sup> Floor of the Taylor Family Digital Library.
- For registration (add/drop/swap), paying fees and assistance with your Student Centre, contact Enrolment Services at (403) 210-ROCK [7625] or visit them at the MacKimmie Library Block.

Contact for Students Union Representatives for the Faculty of Arts:

[arts1@su.ucalgary.ca](mailto:arts1@su.ucalgary.ca), [arts2@su.ucalgary.ca](mailto:arts2@su.ucalgary.ca), [arts3@su.ucalgary.ca](mailto:arts3@su.ucalgary.ca), [arts4@su.ucalgary.ca](mailto:arts4@su.ucalgary.ca)