

GEOGRAPHY 357
(formerly Geography 447)
H(3-3) Area III

Geographic Information Systems I

Timetable: See current Infonet information at: <http://www.ucalgary.ca/InfoNet/> **Catalogue #:** See current information on Infonet

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Official Course Description:

The technical and theoretical foundations of Geographic Information Systems (GIS). Explorations of data types and structures (raster, vector, object based), data input and manipulation, analytical basics and visualization techniques will be carried out in lecture and laboratory. Case studies of GIS analysis form the basis of assignments.

Prerequisite:

Geography 231 or both 333 and 339

Course Description

GIS (Geographic Information Systems) is a fundamental tool for geographic analyses. We will address a range of topics with both a practical and conceptual emphasis. ArcGIS and ArcView GIS will be used to learn and explore GIS. The goal in this course is to provide you with a basis in the understanding of GIS, how it is utilized in the real world, and what role geographers play in its use and development. This course places emphasis on laboratory activity. It also represents a starting point for those wishing to get into this dynamic and exciting field. Grading will be based on one midterm, lab activities, and a final exam.

Lab Activities

There is a strong lab component in a course that involves a computer based system like GIS. In this course, part of your weekly lab time will be devoted to working through tutorial assignments provided by the software developers to help you learn about ArcGIS software and concurrently, GIS and spatial analysis.

The other part of your weekly lab time will be spent working on GIS case studies which will utilize local data sources. The goal is to challenge you to use the skills and knowledge acquired working through the tutorial assignments, on more sophisticated GIS problems. Again, anyone can learn to *push buttons* and *use* a piece of software. I want you to be able to *understand* and *apply* GIS concepts to real world issues and problems.

A total of 4 assignments will be completed throughout the term and you will be responsible for handing in final products that include a combination of GIS and written work. The assignments will be due Monday at noon, in the dropbox outside ES 407 according to the following schedule:

- Assignment 1 (Monday, Jan. XX, 2006)
- Assignment 2 (Monday, Feb. XX, 2006)
- Assignment 3 (Monday, Nov. XX, 2006)
- Assignment 4 (Monday, Nov. XX, 2006)

Supplementary Fees: (*field trips etc*). N/A.

Text(s)/Readings:

There are a number of recent texts available in the Map Collection Room, 4th floor Earth Sciences. This material provides a useful resource for those of you that may want to explore class issues further. Furthermore, certain texts may come in handy when it comes time to write up assignments. The following texts are also available through the main library.

Aronoff, S. (1989) *Geographic Information Systems: A Management Perspective*

Berry, J. (1993) *Beyond Mapping, Concepts, Algorithms and issues in GIS* ,

Berry, J. (1995) *Spatial Reasoning for Effective GIS*

Birkin, Mark et al. (1996) *Intelligent GIS : location decisions and strategic planning*

Goodchild, M. and B. Parks (1993) *Environmental Modeling with GIS*

Huxold, W. and A.G. Levinsohn (1994) *Managing Geographic Information System Projects*

Martin (1991) *Geographic Information Systems and their Socio-Economic Applications*

Macquire, D.J., Goodchild, M. and D. W. Rhind (eds.) (1991) *Geographic Information Systems (Volumes 1 and 2)*

Marble, D.F. and D.J. Peuquet (1990) *Introductory Readings in Geographical Information Systems*

Laurini, R. and D. Thompson (1992) *Fundamentals of Spatial Information Systems*

Grading (Weighting):

Laboratory Assignments	50%
Midterm Examination	20%
Final Examination	30% (to be scheduled by the Registrar's Office)

It is not essential to pass any particular element to pass the course, but relative success in each affects the final grade.

The final examination is to be scheduled by the Registrar's Office and it is essential to pass all elements/components to pass the course as a whole.

Late Policy

Assignments are due **Mondays at noon** on the dates outlined in the section on lab activities. There are no exceptions and those assignments handed in late will be subject to an immediate 10% penalty followed by a 10% reduction in grade for each day thereafter (weekends and holidays included). Medical related circumstances will require a note from a physician.

Grading System:

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/>

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.

Re: Posting of Grades and Picking-up of Assignments

- Assignments will be handed back only in class or by the Professor at pre-arranged time(s).
- To receive your assignment back via mail, please include an appropriately sized self-addressed, stamped envelope with your assignment when handing in to the professor.
- Posting of grades will be at the discretion of each Professor and, if posted, they will be scrambled. 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: socialscirep@su.ucalgary.ca

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.