

GEOGRAPHY 695.16

Business GIS: Practical Application of GIS in Business Planning and Operations

Timetable Spring 2006

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Course Content

In today's highly competitive and globalized economy, decision-makers face tough challenges in managing complex projects and businesses in a sustainable and profitable manner. Many corporations have become aware that understanding geography through mapping can be a strategic advantage in today's highly competitive marketplace. Significant cost savings and profit opportunities can result from an understanding of the geographic context of corporate activities such as sales and marketing, distribution and logistics, as well as competitor activity.

Business GIS involves the use of GIS and desktop mapping technology, as well as supporting Database Management Systems (DBMS), in the following business activities:

- Customer profiling
- Risk assessment and underwriting
- Facility planning and management
- Market segmentation
- Sales territory analysis
- Trade area profiling

Typically, businesses use GIS to answer questions such as:

- Who are my customers?
- Where do they live?
- Where can I find more of them?
- How can I reach them effectively?
- How many potential customers will there be in 1, 5 years and 10 years?

Once understood, businesses are able to take this information and leverage this into new business opportunities.

The course will explore many of the specialized aspects of geodemographic data acquisition and handling, manipulation of census data, as well as refining GIS skills to advance the use of GIS as a tool for decision-support. This will be accomplished through a combination of lectures, hands-on practical laboratory exercises, and a detailed project.

Topics Covered

- Introduction to GIS applications for business – tools, application/industry areas. This will include exposure to discussion of “real-world” applications from a variety of different industries including:
 - Retail
 - Insurance, Banking and Finance
 - Health Care
 - Real estate
 - Manufacturing and Packaged
 - Transportation
 - Telecommunications
- Data – types, acquisition, handling and manipulation
 - Review of census, postal and reference data types including Canadian and US government and industry sources for such related data as street network files
 - Spatial data handling techniques – developing processes to handle and modeling GIS data (e.g.,- trade area profiling)
 - Limitations inherent in socio-demographic and postal data
 - Geocoding – techniques and approaches
 - Overview to remote sensing data types, sources and usage
 - Error - Problems encountered in data collection, acquiring data from other sources, in entering data into the GIS, and in providing output of the information

- History of GIS/Business GIS Industry – case study review of developments, review of software vendors and associated product evolution
- Cartographic modeling
- Business GIS and the Internet – manner and techniques of rendering GIS/mapping data over the Internet
- Lab exercises will focus on hands-on exposure and exploration of key census, postal and street network data
- Term Project - including related research, development of a cartographic model, data acquisition and structuring, as well as the preparation of a final paper and presentation of the results.

Text Materials

There is no formal textbook for this course. The Internet will be a valuable resource for case studies, vendor websites/on-line conference proceedings (e.g., ESRI, MapInfo), on-line magazine sites (e.g., GeoPlace, Business Geographics, Directions Magazine, etc.). Students will be provided with copies of key articles during the course.

Three text books that can be used as supplemental material include:

- “Profiting from a Geographic Information System” - Gilbert Castle III
- “GIS for Business Service Planning” – Paul Longley and Graham Clarke
- “Bringing Geographical Information Systems Into Business” - David J. Grimshaw

Course Assessment

5% - Case Study Presentation

60% - Four Lab Assignments:

- Trade Area Analysis (15%)
- FSA Calgary Profile (15%)
- Demographic Segmentation (15%)
- Insurance Risk Assessment (15%)

35% - Term Project:

- Project Proposal and Presentation (10%)
- Project Results (25%)

(Note that there is no final exam)

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

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.

Contact Information for Student and Faculty Representation

- SU VP Academic Phone: 220-3911 and e-mail: suvpaca@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.