GEOM 2007C – Introduction to Geographic Information Systems

Course Outline

SECTION C - Winter 2014

Department of Geography and Environmental Studies

Carleton University

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Email: Scott.Mitchell@carleton.ca
Office Hours: Tuesdays 10-11, Thursdays 2-3, and any time my door is open

Teaching Assistants: Niloofar Alavi-Shoushtari – niloofaralavi@cmail.carleton.ca
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Course electronic resources: We will use cuLearn as the primary gateway to course information. Go to `http://culearn.carleton.ca` and log in using your student computing account.

Course calendar: Lectures (Tory 446): Mondays 8:35-10:25
Labs (Loeb A200): C1: Mondays 14:35-16:25
C2: Wednesdays 9:35-11:25

Course description: This course introduces geographic information systems (GIS) as a set of tools for the management, analysis, and presentation of spatial information. You will learn both conceptual and practical aspects of working with a GIS, and how to compile and work with spatial databases. You are expected to gain an understanding of both the strengths and weaknesses of the systems presented in solving geographic research problems. The course requires no prior knowledge of GIS itself, but some background in associated concepts in geomatics is assumed; if you have not taken GEOM 1004, GEOM 2004, or ERTH 2406 preceding this class, you will need to do some background reading.

Readings: Readings will be made available on cuLearn.

Evaluation: There will be 3 lab assignments of equal weight, several lab orientation exercises that will not be marked, an online test, and a final project. The grade weighting will be:

Lab assignments (3):	30%
Term test:	30%
Final project:	40%

Technical problems occasionally cause delays. Every effort will be made to prevent this from the lab systems perspective. **It is your responsibility to reduce your exposure to potential problems by reading and listening to all instructions thoroughly and carefully, and taking care to avoid risky practices.** You must practice careful file management (saving files in the proper directories, deleting all unwanted files, naming files thoughtfully, and keeping track of where everything is) at all times.

This course depends on a progression of practical exercises, with skills building upon each other across assignments. **Late labs will not be accepted**, except in extreme cases with legitimate, documented reasons. If you are not finished by the due date, it is best to turn in what you have at that time to get partial credit – it is very important that you do not get behind as new work is assigned.

Plagiarism is a serious offence and will not be tolerated. If you submit someone else's work (ideas or material) as your own, that is plagiarism. All ideas presented which are not your own must be properly referenced. This includes more than just verbatim presentation of the writings or ideas of others as one's own – it can also include near-verbatim copying, or even the use of someone else's ideas, from other students, books, the Internet, or anywhere else. All plagiarism offences will be reported to the Faculty Dean's office.

You will often be working collaboratively to prepare for an assignment and possibly even to collect data, but **you must ALWAYS submit individual course work**. This means that **every assignment must be written and submitted individually,** demonstrating your **personal understanding and interpretation of the assignment content**.

Term Test

Late in the term (week 10) there will be a test, with a combination of questions on course content and a practical component.

Final Projects

During the second half of term, you will be working on individual final projects, producing interactive electronic map-based presentations. Examples of past projects will be discussed in class. Normally the project will focus on the Ottawa area, with a theme of your choice. You will submit all the files needed for a working map project, as well as a written report.

Academic Accommodation

You may need special arrangements to meet your academic obligations during the term because of disability, pregnancy or religious obligations. Please review the course outline promptly and write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.

Students with disabilities requiring academic accommodations in this course must register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities could include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC, 613-520-6608, every term to ensure that your Instructor receives your Letter of Accommodation, no later than two weeks before the first assignment is due or the first in-class test/midterm requiring accommodations. If you only require accommodations for your formally scheduled exam(s) in this course, please submit your request for accommodations to PMC by Nov. 8, 2013 for the Fall term and March 7, 2014 for the Winter term.

You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at http://carleton.ca/equity/accommodation.

GEOM2007B – Winter 2014 – Term Schedule

The following indicates my plan for the term. Individual topics may shift as required (especially after Reading Week), but tests and due dates are fixed.

Week	Date of Lecture	Topic(s) (lecture)	Practical Work (labs)
1	Jan 6	Introduction to Course and GIS	Lab familiarity
2	Jan 13	Spatial data: coordinates and projections (review), data models	Assignment 1 starts
3	Jan 20	Attribute data: databases, attribute queries	Assignment 1 continues
4	Jan 27	Spatial queries, manipulating vector data	**Assignment 1 due** Assignment 2 starts
5	Feb 3	Data exchange, effective cartography Projects	Assignment 2 continues Project proposals assigned
6	Feb 10	Vector data input: creating layers and digitizing	**Assignment 2 due** Assignment 3 starts
RW		Study Break / Reading Week (no classes)	
7	Feb 24	Digitizing and creating layers (cont'd)	**Project proposals due**
8	Mar 3	Customizing ArcGIS – Building models and tools; tests **discussed**	Assignment 3 due Work on projects
9	Mar 10	Spatial analysis, 3D visualization, network analysis	Work on projects
10	Mar 17	Term test	**Test (theoretical and practical)**
11	Mar 24	Other extensions and other GIS software	Projects
12	Mar 31	Wrap-up / project work	Projects
13	Apr 8	NO scheduled class on April 7 (April 8 = last day of term – not a class)	**Final Project Due** by end of the day on April 8