GEOG 201 – Fall 2018
Introductory Geo-information Science

Tuesday & Thursday 10:05am – 11:25am Redpath Museum Auditorium	**Instructors** Dr. Margaret Kalacska (MK) **and** Dr. Grant McKenzie (GM) **Emails:** margaret.kalacska@mcgill.ca (MK); grant.mckenzie@mcgill.ca (GM)
Laboratory sections: Tue: 2:35PM-5:25PM Wed: 8:35AM-11:25AM Fri: 8:35AM-11:25AM **OR** Fri: 2:35PM-5:25PM	**Office:** Burnside Hall 622 (MK) / 308C (GM) **Office hours:** Wed 1:30 pm – 2:30 pm (MK) Thurs 11:30 am - 12:30 pm (GM) or by appointment (email)

Course Overview

This course will explore the structure, design, science, and applications of digital geospatial information and geospatial technologies. These include Geographic Information Systems (GIS), Global Positioning Systems (GPS) and Remote. Students will learn how to store, retrieve, manipulate, analyze, and display spatial data derived from various sources. This course will use the most popular programs, including ArcGIS, ENVI, Quantum GIS (Open Source) and Google Earth.

Teaching Assistants (office hours TBA)

- Rachel Kendall
- Xi (Luci) Lu
- Qianru Wang
- Patrick Osei Darko
- Florence Tan
- Oi Yin Lai

Required Textbook

Longley, P., Goodchild, M.F., Maguire, D., and Rhind, D., 2015. Geographic Information Science and Systems, 4th Edition. Wiley and Sons.

- Two copies of this textbook will be available on reserve at McLennan Library.
- The textbook is also available as an **ebook** from the Library
- Alternatively you can purchase the textbook: http://www.amazon.ca/Geographic-Information-Science-Systems-4th-ebook/dp/B00V8QE1E6/
- Additional required readings throughout the term will be presented in the lectures and posted on MyCourses. *You will also need to purchase a USB Key (at least 8GB) for this course*.

Recommended Textbook:

Jensen, J., and Jensen, R., 2013. Introductory Geographic Information Systems. Pearson. Available at Schulich Science & Engineering (Call no. G70.2 J63 2013)

Evaluation
Lab Assignments: 30% (Six (6) laboratory assignments worth 5% each)
Midterm: 30%
Take home Exam: 40%

Electronic Resources
Supplemental readings will also be posted on MyCourses. The material in these readings will not be directly examined but is intended as a resource for further study or clarification through examples.

Course policies
Regular attendance is expected at both lectures and laboratories. Laboratories will begin the week of *September 17th*.

Students are required to sign-up for one of the four laboratory sections. Students who choose not to attend the scheduled lab sessions must complete the assignments on their own and hand in the completed assignments by the due date specified on the assignment for the section for they are signed up on Minerva.

Late assignments will be penalized by 10% cumulative per 24 hr period unless permission to miss the deadline has been received in writing from the instructor. Lab assignments will be handed in via MyCourses. Any assignment not uploaded by the due date **and** time (EST) is considered late.

Excuses for a missed midterm exam will only be accepted in cases of medical necessity (physician's note required) or personal emergency. The midterm exam will be held during regular lecture hours, room(s) TBD.

We **strongly encourage** office hour visits in lieu of email for questions regarding course material. For questions pertaining to <u>laboratory</u> material, <u>your first point of contact is your TA during their stated office hours and not by email.</u>

Mobile computing and communications devices are permitted in class under the following condition(s):

- *When the "No technology time" is not in effect (e.g. not permitted during exams, unless otherwise stated)*
- *Only for the specified use; e.g. note taking, consulting online resources*
- *Personal activities such as updating social networking sites (e.g. Facebook, GTalk, Jabber, ICQ, IRC, AIM, MSN, LinkedIn, etc) phone text messaging, online shopping, emailing, etc., etc., are strictly prohibited during class.*

Schedule

Date	Topic	Lab
Sept 4	Introduction (MK)	
Sept 6	Data Collection (MK)	
Sept 11	Data Sources (GM)	
Sept 13	Spatial Data Models (GM)	
Sept 18	Levels of Measurement (MK)	Introduction
Sept 20	Projections (MK)	
Sept 25	Projections (MK)	Mapping and Projections
Sept 27	GNSS/GPS (MK)	
Oct 02	Vector Analysis (GM)	
Oct 04	Vector Analysis (GM)	
Oct 09	Raster (MK)	GPS
Oct 11	Raster (MK)	
Oct 16	*Review*	
Oct 18	**Midterm**	
Oct 23	Open Source Tools (GM)	Vector
Oct 25	Cartography (GM)	
Oct 30	Cartographic Modeling (MK)	
Nov 01	Remote Sensing (MK)	
Nov 06	Databases (GM)	Raster
Nov 08	Web GIS (GM)	
Nov 13	Mobile GIS (GM)	
Nov 15	Data Quality and Uncertainty (GM)	
Nov 20	GIS Customization (Guest Lecture)	Databases
Nov 22	Future of Geo-info. Sci. (GM)	
Nov 27	*Review*	
Nov 29	Integration	

NOTE: This outline may change based on class progress and the availability of speakers for presentations

McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/students/srr/honest/ for more information).

L'université McGill attache une haute importance à l'honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l'on entend par

tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l'étudiant et des procédures disciplinaires (pour de plus amples renseignements, veuillez consulter le site www.mcgill.ca/students/srr/honest/).

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

If you have a disability please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the Office for Students with Disabilities at 514-398-6009 before you do this.